# MAGAZINE REPORT

Material Handler(s) Ed Moss

Date: 4-11-13

| ITEMS | CODE NUMBERS | QUANT. (case) | QUANT. (lbs) | MAGAZINE OUT OF | MAGAZINE INTO |
|---|---|---|---|---|---|
| SMOKELESS | 84C | | 6@140 | 17AT25 | 6CC44 |
| SMOKELESS | 16.5C | | 12@140 | 17AT27 | 6CC44 |

CONTAINS HAZARDOUS MATERIALS

# STRAIGHT BILL OF LADING

# NOT NEGOTIABLE

RECEIVED, subject to the classification and tariffs in effect on the date of the issue of this Original Bill of Lading.
The property described below, in apparent good order, except as noted (contents and condition of contents of packages unknown) consigned, end destined as indicated below, which said carrier (the word carrier being understood throughout this contract meaning any person or corporation in possession of the property under the contract) agrees to curry its usual place of delivery of said destination. It on its route, otherwise to deliver to another carrier on the route to said destination. It is mutually agreed, as to each of all or any of said property over all or any portion of said route to destination, and as to each party at any time interested in all or any of said property, that every service lobe performed hereunder shall be subject to all the terms and conditions of the Uniform Domestic Straight Bill of Lading Set forth (t) in Uniform Freight Classification in effect on the date hereof. It this is a rail or rail-water shipment, or (2) in the applicable motor carrier classification or tariff it this is a motor carrier shipment.
Shipper hereby certifies that he is familiar with all the terms and conditions of the said bill of lading, set forth in the classification or tariff which governs the transportation of this shipment, and the sold terms and conditions are hereby agreed to by the shipper and accept for himself and his assigns.

Shipper: Explo Systems, Inc.
1600 Java Road
Minden, LA 71055

Shipper's No. 2936

Shipping Date 7-9-13

At

Purchase Order No.

By RRUK

Freight Charges: Collect _____ Prepaid XX

Location No. 6LC14

(Mail or Street Address of Consignee — For purposes of notification only)

Consigned to BRAKEFIELD EQ CO

Fed Lic. 5-OK-097-20-4F-00458

Exp. Date 6/1/14

Destination KEIMMIRE

State

State Lic.

Exp. Date

County 475458 E 270RD

Customer No.

Route VINITA OK 74301

Charge Account of 1-405-832-1205

Customer P.O. No.

Rel. No.

| SHIPPED No. of PKGS | SHIPPED No. of UNITS | PROPER SHIPPING NAME AND HAZARD CLASS | RETURNED No. of PKGS | RETURNED No. of UNITS | EMERGENCY RESPONSE PROCEDURE GUIDE NO. | EXEMPTION DOT-E | HM | Placards Applied to Railcar or Motor Vehicle |
|---|---|---|---|---|---|---|---|---|
| 252/14 | 42 PT | UN0161, Powder, Smokeless, 1.3C, PG II | | | #112 | 7010040603 | | EXPLOSIVES 1.3 |
| | | | | | | | | |
| | | | | | | | | |
| | | Shipped Load 32 | | | | | | Truck No. 6188 |
| | | Original Incoming BOL 2889 | | | | | | Trailer No. R171927 |
| | | | | | | | | Mileage |
| | | | | | | | | Total 252 IVFD @ 140 BEA Packages |
| | | | | | | | | Gross Weight # 39000 |
| | | Seal # | | | | | | Net Explosive Weight |
| | | 7084331 / 7084332 | | | | | | 35,280 |

This is to certify that the above-named materials are properly classified, described, packaged, marked, and labeled and are in proper condition for transportation, according to the applicable regulations of the Department of Transportation.

Signature [signature]

SL&C

Invoice No. _____

FOR CHEMICAL EMERGENCY, SPILL, LEAK, FIRE, EXPOSURE OR ACCIDENT CALL CHEMTREC — DAY OR NIGHT
IN THE USA CALL 800-424-9300 IN CANADA (ERP #2-0040) 800-561-3636 ELSEWHERE CALL (703) 527-3887 CCN644589

Permanent Address of Shipper:
**Explo Systems, Inc.**
1600 Java Road
Minden, Louisiana 71055
(3) 382-8700

Per _____

DOT Hazardous Material Handling Number _____
Local Federal Explosives License No. 5-LA-119-20-1A-00057
(Shipper)

I have been offered placards identifying the shipment as Specified in 49CFR Subpart F of Part 172. I have received the above goods in apparent good order and condition.

Received By [signature] Date 7.9.13
☐ CONSIGNEE ☐ CARRIER

By _____ Date _____
AUTHORIZED RECEIVER

CONTAINS HAZARDOUS MATERIALS

CONTAINS HAZARDOUS MATERIALS

019260

EXP_000894

019261

EXPLO SYSTEMS, INC.

B/L 2936

# LOAD/UNLOAD FORM

| CUSTOMER: B&Q | TRUCK LINE: RRVK | TRUCK# R. 6188 |
|---|---|---|
| DATE RECEIVED/LOADED: 7-9-13 | 6LC14 | R171927 Load 32 - Ref 2889 |

| DATE | PRODUCT DESCRIPTION | FROM | TO | TRL# | LOT# | NUMBER OF PLTS | NUMBER OF DRUMS | TOTAL WEIGHTS NET | TOTAL WEIGHTS GROSS |
|---|---|---|---|---|---|---|---|---|---|
| 7/9/13 | M-6 | 6LC14 | B&Q | R171927 | 1KD83E-070273 | 11 | | | 2 |
| | 6X140 | | | | 1KD84G-070326 | 111 | | | 3 |
| | | | | | 1KD83F-070276 | ~~1111~~ | 1111 | | 9 |
| | | | | | 1KD81L-070072 | ~~1111~~ | | | 5 |
| | | | | | 1KD83F-070274 | 1 | | | 1 |
| | | | | | 1KD82A-070015 | 111 | | | 3 |
| | | | | | 1KD83D-070139 | ~~1111~~ | ~~1111~~ | 11 | 12 |
| | | | | | 1KD81K-070063 | 11 | | | 2 |
| | | | | | 1KD86E-070616 | 1 | | | 1 |
| | | | | | 1KD83M-070322 | 1111 | | | 4 |
| | | | | | | | | | ~~42~~ 40 |
| | | | | | 35,280 | | | | |

SIGNATURE
Form #54

PAPERWORK PREPARED BY:

Original Print Date: 10/30/2012

EXP_000895

CONTAINS HAZARDOUS MATERIALS

# STRAIGHT BILL OF LADING — NOT NEGOTIABLE

RECEIVED, subject to the classification and tariffs in effect on the date of the issue of this Original Bill of Lading.
The property described below, in apparent good order, except as noted (contents and condition of contents of packages unknown) consigned, and destined as indicated below, which said carrier (the word carrier being understood throughout this contract meaning any person or corporation in possession of the property under the contract) agrees to carry to its usual place of delivery of said destination. It on its route, otherwise to deliver to another carrier on the route to said destination. It is mutually agreed, as to each of all or any of said property over all or any portion of said route to destination, and as to each party at any time interested in all or any of said property, that every service lobe performed hereunder shall be subject to all the terms and conditions of the Uniform Domestic Straight Bill of Lading Set forth (t) in Uniform Freight Classification in effect on the date hereof, if this is a rail or rail-water shipment, or (2) in the applicable motor carrier classification or tariff if this is a motor carrier shipment.
Shipper hereby certifies that he is familiar with all the terms and conditions of the said bill of lading, set forth in the classification or tariff which governs the transportation of this shipment, and the sold terms and conditions are hereby agreed to by the shipper and accept for himself and his assigns.

Shipper: Explo Systems, Inc.
1600 Java Road
Minden, LA 71055

Shipper's No.: 2935

Shipping Date: 7-9-13

At

Purchase Order No.

By RRuk

Freight Charges: Collect _____ Prepaid XXX

Location No. 6LL14

(Mail or Street Address of Consignee — For purposes of notification only)

Consigned to BRIMFIELD FQ Co

Fed Lic. 5-OR-037-20-4F-00458 Exp. Date 6/1/14

Destination Kilgore

State

State Lic. Exp. Date

County 475458 E 270120
Virginia, OR 74301

Customer No.

Route

Charge Account of

Customer P.O. No.

Rel. No.

| SHIPPED No. of PKGS | SHIPPED No. of UNITS | PROPER SHIPPING NAME AND HAZARD CLASS | RETURNED No. of PKGS | RETURNED No. of UNITS | EMERGENCY RESPONSE PROCEDURE GUIDE NO. | EXEMPTION DOT-E | H M | Placards Applied to Railcar or Motor Vehicle |
|---|---|---|---|---|---|---|---|---|
| 20/IV | 42PT | UN0161, Powder, Smokeless, 1.3C, PG II | | | #112 | 20.xx 6093 | X | EXPLOSIVES 1.3 |
| | | | | | | | | |
| | | | | | | | | |
| | | Shipped Load 33 | | | | | | Truck No. 6185 |
| | | Original Incoming BoL - 2893 | | | | | | Trailer No. 68/0017 |
| | | | | | | | | Mileage |
| | | | | | | | | Total 252 IVFD 2 140x15gm Packages |
| | | Seal # | | | | | | Gross Weight # 37,000 |
| | | 7084329 / 7084330 | | | | | | Net Explosive Weight |
| | | | | | | | | 35,280 |

This is to certify that the above-named materials are properly classified, described, packaged, marked, and labeled and are in proper condition for transportation, according to the applicable regulations of the Department of Transportation.

Signature _____ Invoice No. _____

FOR CHEMICAL EMERGENCY, SPILL, LEAK, FIRE, EXPOSURE OR ACCIDENT CALL CHEMTREC -- DAY OR NIGHT
IN THE USA CALL 800-424-9300 IN CANADA (ERP #2-0040) 800-561-3636 ELSEWHERE CALL (703) 527-3887 CCN644589

Permanent Address of Shipper:
**Explo Systems, Inc.**
1600 Java Road
Minden, Louisiana 71055
(318) 382-8700

Per _____

DOT Hazardous Material Handling Number _____
Local Federal Explosives License No. 5-LA-119-20-1A-00057
(Shipper)

I have been offered placards identifying the shipment as Specified in 49CFR Subpart F of Part 172. I have received the above goods in apparent good order and condition.

Received By X Michael Owen Date 7/9/13
☐ CONSIGNEE ☐ CARRIER

By _____ Date _____
AUTHDRIZED RECEIVER

CONTAINS HAZARDOUS MATERIALS

CONTAINS HAZARDOUS MATERIALS

CONTAINS HAZARDOUS MATERIALS

019262

EXP_000896

019263

B/L 2-5

EXPLO SYSTEMS, INC.

# LOAD/UNLOAD FORM

| CUSTOMER: BEQ | TRUCK LINE: RRWR | TRUCK# 6185 |
|---|---|---|
| DATE RECEIVED/LOADED: | | 6810017 |

7-9-13 62C14 LOAD 33 -2893

| DATE | PRODUCT DESCRIPTION | FROM | TO | TRL# | LOT# | NUMBER OF PLTS | NUMBER OF DRUMS | TOTAL WEIGHTS NET | TOTAL WEIGHTS GROSS |
|---|---|---|---|---|---|---|---|---|---|
| 7-9-13 | M-6 | 62C14 | BEQ | 6810017 | IND86E-070617 | ~~IIII~~ | ~~IIII~~ | IIII | 14 |
| | 6X140 | | | | IND82H-070168 | ~~IIII~~ | III | | 8 |
| | | | | | IND81L-070072 | II | | | 2 |
| | | | | | IND83G-070281 | ~~IIII~~ | IIII | | 9 |
| | | | | | IND85C-070512 | IIII | | | 4 |
| | | | | | IND85F-070588 | I | | | 1 |
| | | | | | IND87D-070450 | IIII | | | 4 |
| | | | | | | | | | 42 |
| | | | | | 35.280 LBS | | | | |

SIGNATURE

Form #54

PAPERWORK PREPARED BY:

Original Print Date: 10/30/2012

EXP_000897

CONTAINS HAZARDOUS MATERIALS

# STRAIGHT BILL OF LADING

# NOT NEGOTIABLE

RECEIVED, subject to the classification and tariffs in effect on the date of the issue of this Original Bill of Lading.
The property described below, in apparent good order, except as noted (contents and condition of contents of packages unknown) consigned, and destined as indicated below, h said carrier (the word carrier being understood throughout this contract meaning any person or corporation in possession of the property under the contract) agrees to curry s usual place of delivery of said destination. It on its route, otherwise to deliver to another carrier on the route to said destination. It is mutually agreed, as to each of all or any of said property over all or any portion of said route to destination, and as to each party at any time interested in all or any of said property, that every service lobe performed hereunder shall be subject to all the terms and conditions of the Uniform Domestic Straight Bill of Lading Set forth (t) in Uniform Freight Classification in effect on the date hereof. It this is a rail or rail-water shipment, or (2) in the applicable motor carrier classification or tariff it this is a motor carrier shipment.
Shipper hereby certifies that he is familiar with all the terms and conditions of the said bill of lading, set forth in the classification or tariff which governs the transportation of this shipment, and the sold terms and conditions are hereby agreed to by the shipper and accept for himself and his assigns.

Shipper: Explo Systems, Inc.
1600 Java Road
Minden, LA 71055

Shipper's No. 2934

Shipping Date 7/9/13

At

Purchase Order No.

By RRUK

Freight Charges: Collect _____ Prepaid XXX

Location No. 6LC14

(Mail or Street Address of Consignee — For purposes of notification only)

Consigned to BRAKEFIELD EQ CO
Destination KETMINE
County 475458 E 27000
Route VINITA OK 74301

State

Fed Lic. 5-OK-097-20-4F-00458
State Lic.
Customer No.

Exp. Date 6/1/14
Exp. Date

Charge Account of 1-405-832-1205

Customer P.O. No.

Rel. No.

| SHIPPED No. of PKGS | SHIPPED No. of UNITS | PROPER SHIPPING NAME AND HAZARD CLASS | RETURNED No. of PKGS | RETURNED No. of UNITS | EMERGENCY RESPONSE PROCEDURE GUIDE NO. | EXEMPTION DOT E | H M | Placards Applied to Railcar or Motor Vehicle |
|---|---|---|---|---|---|---|---|---|
| 252/14 | 42 PT | UN0161, Powder, Smokeless, 1.3C, PG II | | | #112 | 20100-603 | 4 | EXPLOSIVES 1.3 |
| | | | | | | | | |
| | | | | | | | | |
| | | Shipped Load 34 | | | | | | Truck No. 6375 |
| | | Original Incoming BOL - 2891 | | | | | | Trailer No. 6810007 |
| | | | | | | | | Mileage |
| | | | | | | | | Total 252 TY FD 1401 DEA Packages |
| | | | | | | | | Gross Weight # 37000 |
| | | Seal # | | | | | | Net Explosive Weight |
| | | 7084327/7084328 | | | | | | 35,280 |

This is to certify that the above-named materials are properly classified, described, packaged, marked, and labeled and are in proper condition for transportation, according to the applicable regulations of the Department of Transportation.

Signature [signature]

Invoice No. _____

FOR CHEMICAL EMERGENCY, SPILL, LEAK, FIRE, EXPOSURE OR ACCIDENT CALL CHEMTREC — DAY OR NIGHT
IN THE USA CALL 800-424-9300 IN CANADA (ERP #2-0040) 800-561-3636 ELSEWHERE CALL (703) 527-3887 CK644589

Permanent Address of Shipper:
**Explo Systems, Inc.**
1600 Java Road
en, Louisiana 71055
) 382-8700

Per _____

DOT Hazardous Material Handling Number _____
Local Federal Explosives License No. 5-LA-119-20-1A-00057
(Shipper)

I have been offered placards identifying the shipment as Specified in 49CFR Subpart F of Part 172. I have received the above goods in apparent good order and condition.

Received By X [signature] Date _____
☐ CONSIGNEE ☐ CARRIER

By _____ Date _____
AUTHORIZED RECEIVER

CONTAINS HAZARDOUS MATERIALS

019264

EXP_000898

019265

EXPLO SYSTEMS, INC.

B/L 2954

# LOAD/UNLOAD FORM

| CUSTOMER: BEQ | TRUCK LINE: RR | TRUCK# 6375 |
|---|---|---|
| DATE RECEIVED/LOADED: | | 6810007 |
| 7-9-13 | 62C14 | Load 34 - 2891 |

| DATE | PRODUCT DESCRIPTION | FROM | TO | TRL# | LOT# | NUMBER OF PLTS | NUMBER OF DRUMS | TOTAL WEIGHTS NET | TOTAL WEIGHTS GROSS |
|---|---|---|---|---|---|---|---|---|---|
| 7/9/13 | M-6 | 62C14 | BEQ | 6810007 | IND82E-070115 | ~~IIII~~ | I | | 6 |
| | 6X140 | | | | IND89D-071039 | ~~IIII~~ | ~~IIII~~ | IIII | 14 |
| | | | | | IND85C-070572 | III | | | 3 |
| | | | | | IND87B-070678 | I | | | 1 |
| | | | | | IND83E-070273 | ~~IIII~~ | I | | 6 |
| | | | | | IND82H-070167 | I | | | 1 |
| | | | | | IND81H-070063 | ~~IIII~~ | IIII | | 9 |
| | | | | | IND83K-070319 | I | | | 1 |
| | | | | | IND81L-070072 | I | | | 1 |
| | | | | | | | | | 42pt |
| | | | | | 35,280 LBS | | | | |

SIGNATURE

Form #54

PAPERWORK PREPARED BY:

Original Print Date: 10/30/2012

EXP_000899

CONTAINS HAZARDOUS MATERIALS

# STRAIGHT BILL OF LADING

**NOT NEGOTIABLE** Load 1

RECEIVED, subject to the classification and tariffs in effect on the date of the issue of this Original Bill of Lading.
The property described below, in apparent good order, except as noted (contents and condition of contents of packages unknown) consigned, end destined as indicated below, which said carrier (the word carrier being understood throughout this contract meaning any person or corporation in possession of the property under the contract) agrees to curry to its usual place of delivery of said destination. It on its route, otherwise to deliver to another carrier on the route to said destination. It is mutually agreed, as to each of all or any of said property over all or any portion of said route to destination, and as to each party at any time interested in all or any of said property, that every service lobe performed hereunder shall be subject to all the terms and conditions of the Uniform Domestic Straight Bill of Lading Set forth (t) in Uniform Freight Classification in effect on the date hereof, It this is a rail or rail-water shipment, or (2) in the applicable motor carrier classification or tariff it this is a motor carrier shipment.
Shipper hereby certifies that he is familiar with all the terms and conditions of the said bill of lading, set forth in the classification or tariff which governs the transportation of this shipment, and the sold terms and conditions are hereby agreed to by the shipper and accept for himself and his assigns.

Shipper: Explo Systems, Inc.
1600 Java Road
Minden, LA 71055

Shipper's No. 2801

Shipping Date 11/28/12

At

Purchase Order No.

By R/R

Freight Charges: Collect _____ Prepaid XXX

Location No. 2325

(Mail or Street Address of Consignee — For purposes of notification only)

Consigned to Austin Powder Co

Fed Lic. 5-AR-103-20-5E-00139 Exp. Date 5/1/15

Destination 72C-10 Blandy Rd State

State Lic. Exp. Date

County East Camden, AR 71701

Customer No.

Route

Charge Account of

Customer P.O. No.

Rel. No.

| SHIPPED No. of PKGS | SHIPPED No. of UNITS | PROPER SHIPPING NAME AND HAZARD CLASS | RETURNED No. of PKGS | RETURNED No. of UNITS | EMERGENCY RESPONSE PROCEDURE GUIDE NO. | EXEMPTION ~~DOT-E~~ | HM | Placards Applied to Railcar or Motor Vehicle |
|---|---|---|---|---|---|---|---|---|
| 270/14 | 45 pt | UN0161, Powder, Smokeless, 1.3C, PG II | | | #112 | 7010040603 | X | EXPLOSIVES 1.3 |
| | | See pk list | | | | | | |
| | | | | | | | | |
| | | Total wtt 37230 | | | | | | Truck No. 7323 |
| | | | | | | | | Trailer No. 6810016 |
| | | | | | | | | Mileage |
| | | LLC 11/28/12 Pat Hobbs | | | | | | Total 270 14 FD @ 140 LBS EACH Packages |
| | | | | | | | | Gross Weight # 40,635 |
| | | Seal # | | | | | | Net Explosive Weight |
| | | 7083769/7083770 | | | | | | 37800 |

RECEIVED
17AT05
NOV 28 2012
AUSTIN POWDER COMPANY
EAST CAMDEN PLANT

This is to certify that the above-named materials are properly classified, described, packaged, marked, and labeled and are in proper condition for transportation, according to the applicable regulations of the Department of Transportation.

Signature [signature]

Invoice No. _____

FOR CHEMICAL EMERGENCY, SPILL, LEAK, FIRE, EXPOSURE OR ACCIDENT CALL CHEMTREC — DAY OR NIGHT
IN THE USA CALL 800-424-9300 IN CANADA (ERP #2-0040) 800-561-3636 ELSEWHERE CALL (703) 527-3887 CCN644589

Permanent Address of Shipper:
**Explo Systems, Inc.**
1600 Java Road
Minden, Louisiana 71055
(318) 382-8700

Per _____

DOT Hazardous Material Handling Number _____
Local Federal Explosives License No. 5-LA-119-20-1A-00057
(Shipper)

I have been offered placards identifying the shipment as Specified in 49CFR Subpart F of Part 172. I have received the above goods in apparent good order and condition.

Received By [signature] Date 11/28/12
☐ CONSIGNEE ☐ CARRIER

By [signature] Date 11/28/12
AUTHORIZED RECEIVER

CONTAINS HAZARDOUS MATERIALS

019266

EXP_000900

AUSTIN POWDER PACKING LIST

SHIPMENT DATE 28 NOV 2012

B/L# 2801

M-6

IND87B-Y70678 3 PTS
IND87A-070677 2 PTS
IND84A-070323 10 PTS
IND86E-070617 2 PTS
IND82D-070113 1 PT
IND87D-Y70450 1 PT
IND82H-070168 6 PTS
IND82C-070018 2 PTS
IND83K-070319 2 PTS
IND82K-070175 4 PTS
IND83F-070278 2 PTS
IND83G-070281 1 PT
IND87L-070501 1 PT
IND84B-Y70325 1 PT
IND81E-070022 2 PTS
IND88J-070969 1 PT
IND85G-070592 1 PT
IND87L-070886 3 PTS

40 pallets @ 6 = 240 drums
x 140 lbs
33,600 lbs

5 pallets @ 6 = 30 drums
x 121 lbs
3630 lbs

45PTS WITH 6 FB @140 LBS PER DRUM

TOTAL 37,800 LBS

Total
37230

LIONEL KOONS

EXPLO SYSTEMS INC

1 Drum busted with product on floor.

Load 1
2801

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND85G070592** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 11 JULY 2012** |

| Other Information | Sample Data | | Solvent |
|---|---|---|---|
| M6 Propellant | #1 | 0.50 g 100 ml | ACN |

| Standards (ERG-006) | | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 0.803 | 32.3 | 546.9 | 1.693 |
| 2,4-DNDPA | 50.0 | 3.397 | 945.1 | 0 | 0.000 |
| 2,2' DNDPA | 50.0 | 5.155 | 1995.1 | 23089 | 0.000 |
| 2,4' DNDPA | 50.0 | 7.525 | 949.2 | 24.1 | 0.003 |
| 4NDPA | 50.0 | 9.04 | 1580.4 | 159.2 | 0.010 |
| 2NDPA | 50.0 | 10.278 | 2854 | 160.7 | 0.006 |
| DPA | 200.0 | 11.761 | 5473.7 | 133.8 | 0.010 |
| N-NitrosoDPA | 75.0 | 12.606 | 1672.4 | 0 | 0.000 |

1.721

| Avg. % Stabilizer for Lot | **1.721** |
|---|---|

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | |
|---|---|
| **Analyst** Takisha Dickerson | Avg. Tot. Stabilizers **1.72** % |
| Analyst Signature | Stable YES / Unstable |
| Lab. Supervisor Signature | Comments **CATEGORY: A** |
| | Actions to be Taken |

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND87L070886** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 4 Sep 2012** |

| Other Information | Sample Data | | Solvent |
|---|---|---|---|
| M6 Propellant | #1 | 0.50 g 100 ml | ACN |

| Standards (ERG-006) | | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 0.889 | 48.8 | 657.1 | 1.347 |
| 2,4-DNDPA | 50.0 | 3.418 | 914.3 | 0 | 0.000 |
| 2,2' DNDPA | 50.0 | 5.22 | 777.3 | 23257 | 0.000 |
| 2,4' DNDPA | 50.0 | 7.622 | 980.5 | 0 | 0.000 |
| 4NDPA | 50.0 | 9.134 | 1586.8 | 108.8 | 0.007 |
| 2NDPA | 50.0 | 10.417 | 2826.3 | 126.9 | 0.004 |
| DPA | 200.0 | 11.797 | 5671.5 | 558.2 | 0.039 |
| N-NitrosoDPA | 75.0 | 12.757 | 1337.5 | 0 | 0.000 |

| | | |
|---|---|---|
| | | 1.397 |
| | Avg. % Stabilizer for Lot | **1.397** |

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | |
|---|---|
| **Analyst** Mike Kile | Avg. Tot. Stabilizers **1.40** % |
| Analyst Signature | Stable YES / Unstable |
| | Comments **CATEGORY: A** |
| Lab. Supervisor Signature | |
| | Actions to be Taken |

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND88J070969** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 24 OCT 2012** |

| Other Information | Sample Data | | Solvent |
|---|---|---|---|
| M6 Propellant | #1 | 0.50 g 100 ml | ACN |

| Standards (ERG-006) | | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 0.784 | 163 | 776.6 | 0.476 |
| 2,4-DNDPA | 50.0 | 3.299 | 808.4 | 0 | 0.000 |
| 2,2' DNDPA | 50.0 | 4.947 | 2591.5 | 24054 | 0.000 |
| 2,4' DNDPA | 50.0 | 7.024 | 871.2 | 0 | 0.000 |
| 4NDPA | 50.0 | 8.466 | 1408.7 | 50.3 | 0.004 |
| 2NDPA | 50.0 | 9.578 | 2554.8 | 81.2 | 0.003 |
| DPA | 200.0 | 11.01 | 4783.9 | 969.1 | 0.081 |
| N-NitrosoDPA | 75.0 | 11.732 | 1511.1 | 286 | 0.000 |

| | | |
|---|---|---|
| | | 0.564 |
| Avg. % Stabilizer for Lot | | **0.564** |

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | |
|---|---|
| **Analyst** MIKE KILE | Avg. Tot. Stabilizers **0.56** % |
| Analyst Signature | Stable YES / Unstable |
| | Comments |
| Lab. Supervisor Signature | **CATEGORY: A** |
| | Actions to be Taken |

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND81E070022** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 29 JUNE 2012** |

| Other Information | Sample Data | | Solvent |
|---|---|---|---|
| M6 Propellant | #1 | 0.50 g 100 ml | ACN |

| Standards (ERG-006) | | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 0.88 | 48.7 | 108.6 | 0.223 |
| 2,4-DNDPA | 50.0 | 3.265 | 1031.8 | 26 | 0.003 |
| 2,2' DNDPA | 50.0 | 4.888 | 3957 | 30336 | 0.000 |
| 2,4' DNDPA | 50.0 | 6.927 | 1035.6 | 50.3 | 0.005 |
| 4NDPA | 50.0 | 8.235 | 1690.1 | 250.9 | 0.015 |
| 2NDPA | 50.0 | 9.279 | 3054.3 | 300.6 | 0.010 |
| DPA | 200.0 | 10.655 | 5843.7 | 588.9 | 0.040 |
| N-NitrosoDPA | 75.0 | 11.092 | 1725.8 | 0 | 0.000 |

| | | |
|---|---|---|
| | | 0.295 |
| Avg. % Stabilizer for Lot | | **0.295** |

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | |
|---|---|
| **Analyst** Kisha Dickerson | Avg. Tot. Stabilizers **0.30** % |
| Analyst Signature | Stable YES \| Unstable |
| Lab. Supervisor Signature | Comments **CATEGORY: A** |
| | Actions to be Taken |

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND84BY70325** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 4 AUGUST 2011** |

| Other Information | Sample Data | | Solvent |
|---|---|---|---|
| M6 Propellant | #1 | 0.50 g 100 ml | ACN |

| Standards (ERG-006) | | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 0.633 | 245.7 | 604.7 | 0.246 |
| 2,4-DNDPA | 50.0 | 3.489 | 1008 | 0 | 0.000 |
| 2,2' DNDPA | 50.0 | 5.345 | 162.1 | 23839 | 0.000 |
| 2,4' DNDPA | 50.0 | 7.825 | 1089.1 | 0 | 0.000 |
| 4NDPA | 50.0 | 9.38 | 1703.6 | 82.3 | 0.005 |
| 2NDPA | 50.0 | 10.682 | 3137.7 | 135.3 | 0.004 |
| DPA | 200.0 | 12.197 | 5674.1 | 602.8 | 0.042 |
| N-NitrosoDPA | 75.0 | 13.097 | 1505.3 | 0 | 0.000 |

0.298

| Avg. % Stabilizer for Lot | **0.298** |
|---|---|

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | |
|---|---|
| **Analyst** TAKISHA DICKERSON | Avg. Tot. Stabilizers **0.30** % |
| Analyst Signature | Stable YES / Unstable |
| | Comments **CATEGORY: A** |
| Lab. Supervisor Signature | |
| | Actions to be Taken |

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND83G070281** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 13 AUGUST 2012** |

| Other Information | Sample Data | | Solvent |
|---|---|---|---|
| M6 Propellant | #1 | 0.50 g 100 ml | ACN |

| Standards (ERG-006) | | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 0.874 | 41.1 | 199.6 | 0.486 |
| 2,4-DNDPA | 50.0 | 3.363 | 1017.6 | 13.9 | 0.001 |
| 2,2' DNDPA | 50.0 | 5.079 | 4556.2 | 21910 | 0.000 |
| 2,4' DNDPA | 50.0 | 7.471 | 1126.4 | 0 | 0.000 |
| 4NDPA | 50.0 | 8.907 | 1830.9 | 71.9 | 0.004 |
| 2NDPA | 50.0 | 10.084 | 3271.2 | 123.5 | 0.004 |
| DPA | 200.0 | 11.54 | 6554.9 | 888.5 | 0.054 |
| N-NitrosoDPA | 75.0 | 12.349 | 1509.1 | 0 | 0.000 |

| | | |
|---|---|---|
| | | 0.549 |
| Avg. % Stabilizer for Lot | | **0.549** |

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | | |
|---|---|---|
| **Analyst** Takisha Dickerson | Avg. Tot. Stabilizers | **0.55** % |
| Analyst Signature | Stable YES | Unstable |
| | Comments | |
| Lab. Supervisor Signature | **CATEGORY:** | **A** |
| | Actions to be Taken | |

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND83F070278** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 11 JULY 2012** |

| Other Information | Sample Data | | Solvent |
|---|---|---|---|
| M6 Propellant | #1 | 0.50 g 100 ml | ACN |

| | Standards (ERG-006) | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 0.803 | 32.3 | 256.2 | 0.793 |
| 2,4-DNDPA | 50.0 | 3.397 | 945.1 | 0 | 0.000 |
| 2,2' DNDPA | 50.0 | 5.155 | 1995.1 | 21574 | 0.000 |
| 2,4' DNDPA | 50.0 | 7.525 | 949.2 | 0 | 0.000 |
| 4NDPA | 50.0 | 9.04 | 1580.4 | 89.7 | 0.006 |
| 2NDPA | 50.0 | 10.278 | 2854 | 35.4 | 0.001 |
| DPA | 200.0 | 11.761 | 5473.7 | 589.5 | 0.043 |
| N-NitrosoDPA | 75.0 | 12.606 | 1672.4 | 0 | 0.000 |
| | | | | | 0.843 |
| | | Avg. % Stabilizer for Lot | | | **0.843** |

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | |
|---|---|
| **Analyst** Takisha Dickerson | Avg. Tot. Stabilizers **0.84** % |
| Analyst Signature | Stable YES \| Unstable |
| | Comments **CATEGORY: A** |
| Lab. Supervisor Signature | |
| | Actions to be Taken |

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND82K070175** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 6 AUG 2010** |

| Other Information | Sample Data | | Solvent |
|---|---|---|---|
| M6 Propellant | #1 | 0.5000 g 100 ml | ACN |

| | Standards (ERG-006) | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | | 1 | 0 | 0.000 |
| 2,4-DNDPA | 50.0 | 4.91 | 382.3 | 5134.1 | 1.343 |
| 2,2' DNDPA | 50.0 | 9.825 | 437 | 0 | 0.000 |
| 2,4' DNDPA | 50.0 | 11.341 | 632.4 | 87.4 | 0.014 |
| 4NDPA | 50.0 | 11.95 | 441.7 | 0 | 0.000 |
| 2NDPA | 50.0 | 12.713 | 827.6 | 192.5 | 0.023 |
| DPA | 200.0 | 14.06 | 2176 | 90.1 | 0.017 |
| N-NitrosoDPA | 75.0 | 14.999 | 558.4 | 254.6 | 0.068 |

1.465

| Avg. % Stabilizer for Lot | **1.465** |
|---|---|

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | |
|---|---|
| **Analyst** Mike Kile | Avg. Tot. Stabilizers **1.46** % |
| Analyst Signature | Stable YES / Unstable |
| Lab. Supervisor Signature | Comments **CATEGORY: A** |
| | Actions to be Taken |

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND83K070319** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 15 JUNE 2012** |

| Other Information | Sample Data | | Solvent |
|---|---|---|---|
| M6 Propellant | #1 | 0.50 g 100 ml | ACN |

| | Standards (ERG-006) | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 0.782 | 41.2 | 275.4 | 0.668 |
| 2,4-DNDPA | 50.0 | 3.401 | 926.1 | 0 | 0.000 |
| 2,2' DNDPA | 50.0 | 5.141 | 1554.2 | 22992 | 0.000 |
| 2,4' DNDPA | 50.0 | 7.435 | 1019.1 | 0 | 0.000 |
| 4NDPA | 50.0 | 8.937 | 1639.5 | 159.8 | 0.010 |
| 2NDPA | 50.0 | 10.056 | 2924.6 | 174.6 | 0.006 |
| DPA | 200.0 | 11.627 | 5690.8 | 138.2 | 0.010 |
| N-NitrosoDPA | 75.0 | 12.44 | 1376.8 | 0 | 0.000 |
| | | | | | 0.694 |
| | | Avg. % Stabilizer for Lot | | | **0.694** |

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | |
|---|---|
| **Analyst** Takisha Dickerson | Avg. Tot. Stabilizers **0.69** % |
| Analyst Signature | Stable YES \| Unstable |
| Lab. Supervisor Signature | Comments **CATEGORY: A** |
| | Actions to be Taken |

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND82C070018** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 1 FEB 2011** |

Other Information
M6 Propellant

| Sample Data | | | Solvent |
|---|---|---|---|
| #1 | 0.5000 g | 100 ml | ACN |

| Standards (ERG-006) | | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 4.156 | 1116 | 1700.7 | 0.152 |
| 2,4-DNDPA | 50.0 | 9.388 | 1191.2 | 25833.5 | 2.169 |
| 2,2' DNDPA | 50.0 | 10.987 | 1694.7 | 39.1 | 0.000 |
| 2,4' DNDPA | 50.0 | 11.73 | 1272.3 | 96.5 | 0.008 |
| 4NDPA | 50.0 | 12.459 | 2443.3 | 0 | 0.000 |
| 2NDPA | 50.0 | 13.939 | 5852.1 | 543.2 | 0.009 |
| DPA | 200.0 | 15.022 | 1753.1 | 0 | 0.000 |
| N-NitrosoDPA | 75.0 | 18.932 | 2535.1 | 835.5 | 0.000 |

2.338

| Avg. % Stabilizer for Lot | **2.338** |
|---|---|

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | |
|---|---|
| **Analyst** Mike Kile | Avg. Tot. Stabilizers **2.34** % |
| Analyst Signature | Stable YES / Unstable |
| Lab. Supervisor Signature | Comments **CATEGORY: A** |
| | Actions to be Taken |

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND82H070168** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 1 FEB 2011** |

| Other Information | Sample Data | | Solvent |
|---|---|---|---|
| M6 Propellant | #1 | 0.5000 g 100 ml | ACN |

| | Standards (ERG-006) | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 4.156 | 1116 | 2540.4 | 0.228 |
| 2,4-DNDPA | 50.0 | 9.388 | 1191.2 | 31231.4 | 2.622 |
| 2,2' DNDPA | 50.0 | 10.987 | 1694.7 | 51.5 | 0.000 |
| 2,4' DNDPA | 50.0 | 11.73 | 1272.3 | 143.2 | 0.011 |
| 4NDPA | 50.0 | 12.459 | 2443.3 | 0 | 0.000 |
| 2NDPA | 50.0 | 13.939 | 5852.1 | 838.5 | 0.014 |
| DPA | 200.0 | 15.022 | 1753.1 | 0 | 0.000 |
| N-NitrosoDPA | 75.0 | 18.932 | 2535.1 | 985.4 | 0.000 |

| | 2.875 |
|---|---|
| Avg. % Stabilizer for Lot | **2.875** |

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | |
|---|---|
| **Analyst** Mike Kile | Avg. Tot. Stabilizers **2.88** % |
| Analyst Signature | Stable YES / Unstable |
| | Comments **CATEGORY: A** |
| Lab. Supervisor Signature | |
| | Actions to be Taken |

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND82D070113** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 6 JAN 2012** |

| Other Information | Sample Data | | Solvent |
|---|---|---|---|
| M6 Propellant | #1 | 0.50 g 100 ml | ACN |

| | Standards (ERG-006) | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 0.65 | 119.1 | 328.4 | 0.276 |
| 2,4-DNDPA | 50.0 | 3.304 | 1019.8 | 16 | 0.002 |
| 2,2' DNDPA | 50.0 | 4.943 | 1734.6 | 21955 | 0.000 |
| 2,4' DNDPA | 50.0 | 7.018 | 1103.9 | 0 | 0.000 |
| 4NDPA | 50.0 | 8.439 | 1782.5 | 66.8 | 0.004 |
| 2NDPA | 50.0 | 9.513 | 3182.1 | 143.1 | 0.004 |
| DPA | 200.0 | 10.956 | 6219.8 | 790.9 | 0.051 |
| N-NitrosoDPA | 75.0 | 11.669 | 1532.4 | 0 | 0.000 |

| | 0.336 |
|---|---|
| Avg. % Stabilizer for Lot | **0.336** |

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | |
|---|---|
| **Analyst** TAKISHA DICKERSON | Avg. Tot. Stabilizers **0.34** % |
| Analyst Signature | Stable YES / Unstable |
| Lab. Supervisor Signature | Comments **CATEGORY: A** |
| | Actions to be Taken |

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND86E070617** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 18 JULY 2012** |

| Other Information | Sample Data | | Solvent |
|---|---|---|---|
| M6 Propellant | #1 | 0.50 g 100 ml | ACN |

| Standards (ERG-006) | | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 0.863 | 133.9 | 389.2 | 0.291 |
| 2,4-DNDPA | 50.0 | 3.365 | 949.7 | 0 | 0.000 |
| 2,2' DNDPA | 50.0 | 5.091 | 2605.4 | 22628 | 0.000 |
| 2,4' DNDPA | 50.0 | 7.514 | 1047.9 | 0 | 0.000 |
| 4NDPA | 50.0 | 8.946 | 1698.8 | 45.3 | 0.003 |
| 2NDPA | 50.0 | 10.142 | 3039.5 | 80.7 | 0.003 |
| DPA | 200.0 | 11.585 | 6044.7 | 861.6 | 0.057 |
| N-NitrosoDPA | 75.0 | 12.4 | 1395.6 | 0 | 0.000 |

| | | |
|---|---|---|
| | | 0.353 |
| Avg. % Stabilizer for Lot | | **0.353** |

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | |
|---|---|
| **Analyst** Takisha Dickerson | Avg. Tot. Stabilizers **0.35** % |
| Analyst Signature | Stable YES \| Unstable |
| | Comments |
| Lab. Supervisor Signature | **CATEGORY: A** |
| | Actions to be Taken |

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND84A070323** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 21 DEC 2011** |

| Other Information | Sample Data | | Solvent |
|---|---|---|---|
| M6 Propellant | #1 | 0.50 g 100 ml | ACN |

| Standards (ERG-006) | | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 0.67 | 192.9 | 675.2 | 0.350 |
| 2,4-DNDPA | 50.0 | 3.298 | 1077.6 | 0 | 0.000 |
| 2,2' DNDPA | 50.0 | 4.953 | 951.5 | 22469 | 0.000 |
| 2,4' DNDPA | 50.0 | 6.749 | 1136.2 | 0 | 0.000 |
| 4NDPA | 50.0 | 8.218 | 1880.4 | 46.5 | 0.002 |
| 2NDPA | 50.0 | 9.339 | 3292.9 | 89.5 | 0.003 |
| DPA | 200.0 | 10.48 | 6310.2 | 733.6 | 0.047 |
| N-NitrosoDPA | 75.0 | 11.073 | 1512.2 | 0 | 0.000 |

| | |
|---|---|
| | 0.402 |
| Avg. % Stabilizer for Lot | **0.402** |

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | |
|---|---|
| **Analyst** TAKISHA DICKERSON | Avg. Tot. Stabilizers **0.40** % |
| Analyst Signature | Stable YES / Unstable |
| | Comments **CATEGORY: A** |
| Lab. Supervisor Signature | |
| | Actions to be Taken |

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND87A070677** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 23 AUG 2010** |

Other Information
M6 Propellant

| Sample Data | | | Solvent |
|---|---|---|---|
| #1 | 0.5000 g | 100 ml | ACN |

| Standards (ERG-006) | | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | | 0 | | |
| 2,4-DNDPA | 50.0 | 4.884 | 715.1 | 0 | 0.000 |
| 2,2' DNDPA | 50.0 | 9.663 | 794.8 | 4280.5 | 0.539 |
| 2,4' DNDPA | 50.0 | 11.213 | 1155.8 | 0 | 0.000 |
| 4NDPA | 50.0 | 11.899 | 750.7 | 0 | 0.000 |
| 2NDPA | 50.0 | 12.536 | 1565 | 0 | 0.000 |
| DPA | 200.0 | 13.934 | 4151.3 | 0 | 0.000 |
| N-NitrosoDPA | 75.0 | 14.875 | 1080.5 | 171.4 | 0.024 |

0.563

| Avg. % Stabilizer for Lot | **0.563** |
|---|---|

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | |
|---|---|
| **Analyst** Kisha Dickerson | Avg. Tot. Stabilizers **0.56** % |
| Analyst Signature | Stable YES / Unstable |
| Lab. Supervisor Signature | Comments **CATEGORY: A** |
| | Actions to be Taken |

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND87BY70678** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 19 OCTOBER 2011** |

| Other Information | Sample Data | | Solvent |
|---|---|---|---|
| M6 Propellant | #1 | 0.50 g 100 ml | ACN |

| | Standards (ERG-006) | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 0.86 | 108.3 | 465.3 | 0.430 |
| 2,4-DNDPA | 50.0 | 3.439 | 927.1 | 0 | 0.000 |
| 2,2' DNDPA | 50.0 | 5.254 | 682.7 | 22447 | 0.000 |
| 2,4' DNDPA | 50.0 | 7.643 | 998.4 | 0 | 0.000 |
| 4NDPA | 50.0 | 9.185 | 1612.6 | 50 | 0.003 |
| 2NDPA | 50.0 | 10.427 | 2895.4 | 343.7 | 0.012 |
| DPA | 200.0 | 11.954 | 5562.6 | 261.2 | 0.019 |
| N-NitrosoDPA | 75.0 | 12.798 | 1360.9 | 0 | 0.000 |
| | | | | | 0.463 |
| | | Avg. % Stabilizer for Lot | | | **0.463** |

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | |
|---|---|
| **Analyst** TAKISHA DICKERSON | Avg. Tot. Stabilizers **0.46** % |
| Analyst Signature | Stable YES / Unstable |
| Lab. Supervisor Signature | Comments **CATEGORY: A** |
| | Actions to be Taken |

# STRAIGHT BILL OF LADING

**NOT NEGOTIABLE** Load 2

RECEIVED, subject to the classification and tariffs in effect on the date of the issue of this Original Bill of Lading.
The property described below, in apparent good order, except as noted (contents and condition of contents of packages unknown) consigned, end destined as indicated below, which said carrier (the word carrier being understood throughout this contract meaning any person or corporation in possession of the property under the contract) agrees to curry to its usual place of delivery of said destination. It on its route, otherwise to deliver to another carrier on the route to said destination. It is mutually agreed, as to each of all or any of said property over all or any portion of said route to destination, and as to each party at any time interested in all or any of said property, that every service lobe performed hereunder shall be subject to all the terms and conditions of the Uniform Domestic Straight Bill of Lading Set forth (t) in Uniform Freight Classification in effect on the date hereof, It this is a rail or rail-water shipment, or (2) in the applicable motor carrier classification or tariff it this is a motor carrier shipment.

Shipper hereby certifies that he is familiar with all the terms and conditions of the said bill of lading, set forth in the classification or tariff which governs the transportation of this shipment, and the sold terms and conditions are hereby agreed to by the shipper and accept for himself and his assigns.

Shipper: Explo Systems, Inc.
1600 Java Road
Minden, LA 71055

Shipper's No. 2802

Shipping Date 11/26/12

At

Purchase Order No.

By NEI

Freight Charges: Collect _____ Prepaid XXX

Location No. 2325

(Mail or Street Address of Consignee — For purposes of notification only)

Consigned to Austin Powder Co

Fed Lic. 5-AR-103-20-SE-00139

Exp. Date 5/1/15

Destination 7-LC-10 Blandy Rd

State

State Lic.

Exp. Date

County East Camden AR 71701

Customer No.

Route

Charge Account of 1-870-574-0580 Ft 302

Customer P.O. No.

Rel. No.

| SHIPPED No. of PKGS | SHIPPED No. of UNITS | PROPER SHIPPING NAME AND HAZARD CLASS | RETURNED No. of PKGS | RETURNED No. of UNITS | EMERGENCY RESPONSE PROCEDURE GUIDE NO. | EXEMPTION DOT-E | H M | Placards Applied to Railcar or Motor Vehicle |
|---|---|---|---|---|---|---|---|---|
| 270/1 | 45PT | UN0161, Powder, Smokeless, 1.3C, PG II | | | #112 | [illegible] | [illegible] | EXPLOSIVES 1.3 |
| | | | | | | | | |
| | | See PK list | | | | | | |
| | | | | | | | | Truck No. 2302 |
| | | | | | | | | Trailer No. [illegible] |
| | | | | | | | | Mileage |
| | | | | | | | | Total 270 TY FO @ 110 LBS EA Packages |
| | | | | | | | | Gross Weight # 40,635 |
| | | Seal # | | | | | | Net Explosive Weight |
| | | 7083771 / 7083772 | | | | | | ~~37,600~~ 36,660 |

RECEIVED
17AT05
NOV 29 2012
AUSTIN POWDER COMPANY
EAST CAMDEN PLANT

This is to certify that the above-named materials are properly classified, described, packaged, marked, and labeled and are in proper condition for transportation, according to the applicable regulations of the Department of Transportation.

Signature [signature]

Invoice No. _____

FOR CHEMICAL EMERGENCY, SPILL, LEAK, FIRE, EXPOSURE OR ACCIDENT CALL CHEMTREC — DAY OR NIGHT
IN THE USA CALL 800-424-9300 IN CANADA (ERP #2-0040) 800-561-3636 ELSEWHERE CALL (703) 527-3887 [illegible]

Permanent Address of Shipper:
**Explo Systems, Inc.**
1600 Java Road
Minden, Louisiana 71055
(318) 382-8700

Per _____

DOT Hazardous Material Handling Number _____
Local Federal Explosives License No. 5-LA-119-20-1A-00057
(Shipper)

I have been offered placards identifying the shipment as Specified in 49CFR Subpart F of Part 172. I have received the above goods in apparent good order and condition.

Received By [signature] Date 11-29-12
❑ CONSIGNEE ❑ CARRIER

By _____ Date _____
AUTHORIZED RECEIVER

CONTAINS HAZARDOUS MATERIALS

Agent must detach and retain this Shipping Order and must sign the original Bill of Lading

019284

EXP_000918

Load 2

AUSTIN POWDER PACKING LIST

SHIPMENT DATE 28 NOV 2012

B/L# 2802

M-6

35 @ 6 X 140 = 29,400 lbs
10 @ 6 X 121 = 7,260 lbs

Total 36,660

IND85G-070592 1 PT @ 121 = 6 drums
IND88J-070969 1 PT @ 121 = 6 drums
IND86E-070617 4 PTS
IND83G-070281 4 PTS
IND82H-070168 3 PTS
IND82C-070018 1 PT Load 1
IND87L-070886 4 PTS @ 121 = 24 drums - Load 1
IND82A-070101 2 PTS @ 121 = 12 drums
IND87D-070450 3 PTS
IND86H-070622 2 PTS
IND84A-070323 8 PTS
IND81E-070022 4 PTS
IND84F-070436 1 PT
IND85L-070599 1 PT
IND81E-070021 1 PT @ 121 = 6 drums
IND84B-Y70325 3 PTS - Load 1
IND82M-070224 1 PT @ 121 = 6 drums
IND83F-070278 1 PT

45PTS WITH 6 FB @140 LBS PER DRUM

TOTAL 37,800 LBS

LIONEL KOONS

EXPLO SYSTEMS INC

1 Drum Busted Product on Floor

Load 2

2802

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND84BY70325** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 4 AUGUST 2011** |

Other Information
M6 Propellant

| Sample Data | | | Solvent |
|---|---|---|---|
| #1 | 0.50 g | 100 ml | ACN |

| Standards (ERG-006) | | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 0.633 | 245.7 | 604.7 | 0.246 |
| 2,4-DNDPA | 50.0 | 3.489 | 1008 | 0 | 0.000 |
| 2,2' DNDPA | 50.0 | 5.345 | 162.1 | 23839 | 0.000 |
| 2,4' DNDPA | 50.0 | 7.825 | 1089.1 | 0 | 0.000 |
| 4NDPA | 50.0 | 9.38 | 1703.6 | 82.3 | 0.005 |
| 2NDPA | 50.0 | 10.682 | 3137.7 | 135.3 | 0.004 |
| DPA | 200.0 | 12.197 | 5674.1 | 602.8 | 0.042 |
| N-NitrosoDPA | 75.0 | 13.097 | 1505.3 | 0 | 0.000 |

0.298

Avg. % Stabilizer for Lot **0.298**

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | |
|---|---|
| **Analyst** TAKISHA DICKERSON | Avg. Tot. Stabilizers **0.30** % |
| Analyst Signature | Stable YES / Unstable |
| Lab. Supervisor Signature | Comments **CATEGORY: A** |
| | Actions to be Taken |

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND87L070886** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 4 Sep 2012** |

| Other Information | Sample Data | | Solvent |
|---|---|---|---|
| M6 Propellant | #1 | 0.50 g 100 ml | ACN |

| Standards (ERG-006) | | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 0.889 | 48.8 | 657.1 | 1.347 |
| 2,4-DNDPA | 50.0 | 3.418 | 914.3 | 0 | 0.000 |
| 2,2' DNDPA | 50.0 | 5.22 | 777.3 | 23257 | 0.000 |
| 2,4' DNDPA | 50.0 | 7.622 | 980.5 | 0 | 0.000 |
| 4NDPA | 50.0 | 9.134 | 1586.8 | 108.8 | 0.007 |
| 2NDPA | 50.0 | 10.417 | 2826.3 | 126.9 | 0.004 |
| DPA | 200.0 | 11.797 | 5671.5 | 558.2 | 0.039 |
| N-NitrosoDPA | 75.0 | 12.757 | 1337.5 | 0 | 0.000 |
| | | | | | 1.397 |
| | | | Avg. % Stabilizer for Lot | | **1.397** |

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | |
|---|---|
| **Analyst** Mike Kile | Avg. Tot. Stabilizers **1.40** % |
| Analyst Signature | Stable YES / Unstable |
| Lab. Supervisor Signature | Comments **CATEGORY: A** |
| | Actions to be Taken |

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND82C070018** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 1 FEB 2011** |

| Other Information | Sample Data | | Solvent |
|---|---|---|---|
| M6 Propellant | #1 | 0.5000 g 100 ml | ACN |

| Standards (ERG-006) | | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 4.156 | 1116 | 1700.7 | 0.152 |
| 2,4-DNDPA | 50.0 | 9.388 | 1191.2 | 25833.5 | 2.169 |
| 2,2' DNDPA | 50.0 | 10.987 | 1694.7 | 39.1 | 0.000 |
| 2,4' DNDPA | 50.0 | 11.73 | 1272.3 | 96.5 | 0.008 |
| 4NDPA | 50.0 | 12.459 | 2443.3 | 0 | 0.000 |
| 2NDPA | 50.0 | 13.939 | 5852.1 | 543.2 | 0.009 |
| DPA | 200.0 | 15.022 | 1753.1 | 0 | 0.000 |
| N-NitrosoDPA | 75.0 | 18.932 | 2535.1 | 835.5 | 0.000 |

| | |
|---|---|
| | 2.338 |
| Avg. % Stabilizer for Lot | **2.338** |

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | |
|---|---|
| **Analyst** Mike Kile | Avg. Tot. Stabilizers **2.34** % |
| Analyst Signature | Stable YES / Unstable |
| Lab. Supervisor Signature | Comments **CATEGORY: A** |
| | Actions to be Taken |

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND85G070592** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 30 JULY 2010** |

| Other Information | Sample Data | | Solvent |
|---|---|---|---|
| M6 Propellant | #1 | 0.5000 g 100 ml | ACN |

| Standards (ERG-006) | | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 2.1 | 114.5 | | 0.000 |
| 2,4-DNDPA | 50.0 | 4.911 | 913.975 | 1063.1 | 0.116 |
| 2,2' DNDPA | 50.0 | 6.723 | 539.15 | 0 | 0.000 |
| 2,4' DNDPA | 50.0 | 9.11 | 1139.55 | 8309 | 0.729 |
| 4NDPA | 50.0 | 10.528 | 1494 | 0 | 0.000 |
| 2NDPA | 50.0 | 11.725 | 2223.5 | 0 | 0.000 |
| DPA | 200.0 | 13.111 | 4965.5 | 460.1 | 0.037 |
| N-NitrosoDPA | 75.0 | 13.888 | 3100.4 | 0 | 0.000 |

| | | |
|---|---|---|
| | | 0.883 |
| Avg. % Stabilizer for Lot | | **0.883** |

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | |
|---|---|
| **Analyst** MARTY | Avg. Tot. Stabilizers **0.88** % |
| Analyst Signature | Stable YES / Unstable |
| Lab. Supervisor Signature | Comments **CATEGORY: A** |
| | Actions to be Taken |

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND88J070969** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 24 OCT 2012** |

| Other Information | Sample Data | | Solvent |
|---|---|---|---|
| M6 Propellant | #1 | 0.50 g 100 ml | ACN |

| Standards (ERG-006) | | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 0.784 | 163 | 776.6 | 0.476 |
| 2,4-DNDPA | 50.0 | 3.299 | 808.4 | 0 | 0.000 |
| 2,2' DNDPA | 50.0 | 4.947 | 2591.5 | 24054 | 0.000 |
| 2,4' DNDPA | 50.0 | 7.024 | 871.2 | 0 | 0.000 |
| 4NDPA | 50.0 | 8.466 | 1408.7 | 50.3 | 0.004 |
| 2NDPA | 50.0 | 9.578 | 2554.8 | 81.2 | 0.003 |
| DPA | 200.0 | 11.01 | 4783.9 | 969.1 | 0.081 |
| N-NitrosoDPA | 75.0 | 11.732 | 1511.1 | 286 | 0.000 |

| | | |
|---|---|---|
| | | 0.564 |
| Avg. % Stabilizer for Lot | | **0.564** |

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | |
|---|---|
| **Analyst** MIKE KILE | Avg. Tot. Stabilizers **0.56** % |
| Analyst Signature | Stable YES / Unstable |
| Lab. Supervisor Signature | Comments **CATEGORY: A** |
| | Actions to be Taken |

Form #158

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND86E070617** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 18 JULY 2012** |

Other Information
M6 Propellant

| Sample Data | | | Solvent |
|---|---|---|---|
| #1 | 0.50 g | 100 ml | ACN |

| Standards (ERG-006) | | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 0.863 | 133.9 | 389.2 | 0.291 |
| 2,4-DNDPA | 50.0 | 3.365 | 949.7 | 0 | 0.000 |
| 2,2' DNDPA | 50.0 | 5.091 | 2605.4 | 22628 | 0.000 |
| 2,4' DNDPA | 50.0 | 7.514 | 1047.9 | 0 | 0.000 |
| 4NDPA | 50.0 | 8.946 | 1698.8 | 45.3 | 0.003 |
| 2NDPA | 50.0 | 10.142 | 3039.5 | 80.7 | 0.003 |
| DPA | 200.0 | 11.585 | 6044.7 | 861.6 | 0.057 |
| N-NitrosoDPA | 75.0 | 12.4 | 1395.6 | 0 | 0.000 |

0.353

| Avg. % Stabilizer for Lot | **0.353** |
|---|---|

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | |
|---|---|
| **Analyst** Takisha Dickerson | Avg. Tot. Stabilizers **0.35** % |
| Analyst Signature TDickerson | Stable YES / Unstable |
| Lab. Supervisor Signature | Comments **CATEGORY: A** |
| | Actions to be Taken |

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND83G070281** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 4 April 2012** |

| Other Information | Sample Data | | Solvent |
|---|---|---|---|
| M6 Propellant | #1 | 0.50 g | 100 ml ACN |

| Standards (ERG-006) | | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 0.881 | 40.9 | 93.7 | 0.229 |
| 2,4-DNDPA | 50.0 | 3.279 | 928 | 0 | 0.000 |
| 2,2' DNDPA | 50.0 | 4.66 | 26957 | 26191 | 0.000 |
| 2,4' DNDPA | 50.0 | 6.571 | 992.8 | 0 | 0.000 |
| 4NDPA | 50.0 | 7.798 | 1662.7 | 158.3 | 0.010 |
| 2NDPA | 50.0 | 8.806 | 2938.9 | 98.9 | 0.003 |
| DPA | 200.0 | 10.221 | 5774.5 | 1004.4 | 0.070 |
| N-NitrosoDPA | 75.0 | 10.895 | 1475.9 | 0 | 0.000 |

| | | |
|---|---|---|
| | | 0.312 |
| | Avg. % Stabilizer for Lot | **0.312** |

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | |
|---|---|
| **Analyst** Takisha Dickerson | Avg. Tot. Stabilizers **0.31** % |
| Analyst Signature | Stable YES \| Unstable |
| Lab. Supervisor Signature | Comments **CATEGORY: A** |
| | Actions to be Taken |

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND83F070278** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 17 Feb 2012** |

| Other Information | Sample Data | | Solvent |
|---|---|---|---|
| M6 Propellant | #1 | 0.50 g 100 ml | ACN |

| Standards (ERG-006) | | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 0.869 | 12.6 | 73.1 | 0.580 |
| 2,4-DNDPA | 50.0 | 3.42 | 880.6 | 0 | 0.000 |
| 2,2' DNDPA | 50.0 | 5.218 | 1402 | 23243 | 0.000 |
| 2,4' DNDPA | 50.0 | 7.58 | 948.7 | 0 | 0.000 |
| 4NDPA | 50.0 | 9.121 | 1531.3 | 103.4 | 0.007 |
| 2NDPA | 50.0 | 10.346 | 2749.6 | 76.9 | 0.003 |
| DPA | 200.0 | 11.875 | 5397.5 | 554.2 | 0.041 |
| N-NitrosoDPA | 75.0 | 12.713 | 1315.5 | 0 | 0.000 |

| | |
|---|---|
| | 0.631 |
| Avg. % Stabilizer for Lot | **0.631** |

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | |
|---|---|
| **Analyst** Takisha Dickerson | Avg. Tot. Stabilizers **0.63** % |
| Analyst Signature | Stable YES / Unstable |
| Lab. Supervisor Signature | Comments **CATEGORY: A** |
| | Actions to be Taken |

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND82H070168** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 1 FEB 2011** |

Other Information
M6 Propellant

| Sample Data | | | Solvent |
|---|---|---|---|
| #1 | 0.5000 g | 100 ml | ACN |

| | Standards (ERG-006) | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 4.156 | 1116 | 2540.4 | 0.228 |
| 2,4-DNDPA | 50.0 | 9.388 | 1191.2 | 31231.4 | 2.622 |
| 2,2' DNDPA | 50.0 | 10.987 | 1694.7 | 51.5 | 0.000 |
| 2,4' DNDPA | 50.0 | 11.73 | 1272.3 | 143.2 | 0.011 |
| 4NDPA | 50.0 | 12.459 | 2443.3 | 0 | 0.000 |
| 2NDPA | 50.0 | 13.939 | 5852.1 | 838.5 | 0.014 |
| DPA | 200.0 | 15.022 | 1753.1 | 0 | 0.000 |
| N-NitrosoDPA | 75.0 | 18.932 | 2535.1 | 985.4 | 0.000 |

| | | |
|---|---|---|
| | | 2.875 |
| Avg. % Stabilizer for Lot | | **2.875** |

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | |
|---|---|
| **Analyst** Mike Kile | Avg. Tot. Stabilizers **2.88** % |
| Analyst Signature | Stable YES \| Unstable |
| Lab. Supervisor Signature | Comments<br>**CATEGORY:** **A** |
| | Actions to be Taken |

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND82A070101** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 28 June 2012** |

Other Information
M6 Propellant

| Sample Data | | | Solvent |
|---|---|---|---|
| #1 | 0.50 g | 100 ml | ACN |

| Standards (ERG-006) | | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 0.874 | 19.1 | 129.9 | 0.680 |
| 2,4-DNDPA | 50.0 | 3.347 | 961.1 | 0 | 0.000 |
| 2,2' DNDPA | 50.0 | 5.046 | 4032.7 | 23810 | 0.000 |
| 2,4' DNDPA | 50.0 | 6.347 | 22 | 0 | 0.000 |
| 4NDPA | 50.0 | 7.273 | 1080.1 | 0 | 0.000 |
| 2NDPA | 50.0 | 8.74 | 1782.9 | 45.1 | 0.003 |
| DPA | 200.0 | 9.886 | 3122.3 | 81.2 | 0.010 |
| N-NitrosoDPA | 75.0 | 11.353 | 6047.1 | 776.8 | 0.000 |

| | | |
|---|---|---|
| | | 0.693 |
| Avg. % Stabilizer for Lot | | **0.693** |

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | | | |
|---|---|---|---|
| **Analyst** Takisha Dickerson | | Avg. Tot. Stabilizers | **0.69** % |
| Analyst Signature | | Stable YES | Unstable |
| | | Comments | |
| Lab. Supervisor Signature | | **CATEGORY:** | **A** |
| | | Actions to be Taken | |

Form #158

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND87D070450** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 23 AUG 2010** |

| Other Information | Sample Data | | Solvent |
|---|---|---|---|
| M6 Propellant | #1 | 0.5000 g 100 ml | ACN |

| | Standards (ERG-006) | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | | 0 | | |
| 2,4-DNDPA | 50.0 | 4.884 | 715.1 | 0 | 0.000 |
| 2,2' DNDPA | 50.0 | 9.663 | 794.8 | 5124.3 | 0.645 |
| 2,4' DNDPA | 50.0 | 11.213 | 1155.8 | 0 | 0.000 |
| 4NDPA | 50.0 | 11.899 | 750.7 | 0 | 0.000 |
| 2NDPA | 50.0 | 12.536 | 1565 | 0 | 0.000 |
| DPA | 200.0 | 13.934 | 4151.3 | 0 | 0.000 |
| N-NitrosoDPA | 75.0 | 14.875 | 1080.5 | 46.7 | 0.006 |

| | 0.651 |
|---|---|
| Avg. % Stabilizer for Lot | **0.651** |

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | |
|---|---|
| **Analyst** Kisha Dickerson | Avg. Tot. Stabilizers **0.65** % |
| Analyst Signature | Stable YES / Unstable |
| Lab. Supervisor Signature | Comments **CATEGORY: A** |
| | Actions to be Taken |

Form #150

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND84A070323** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 21 DEC 2011** |

| Other Information | Sample Data | | Solvent |
|---|---|---|---|
| M6 Propellant | #1 | 0.50 g 100 ml | ACN |

| Standards (ERG-006) | | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 0.67 | 192.9 | 675.2 | 0.350 |
| 2,4-DNDPA | 50.0 | 3.298 | 1077.6 | 0 | 0.000 |
| 2,2' DNDPA | 50.0 | 4.953 | 951.5 | 22469 | 0.000 |
| 2,4' DNDPA | 50.0 | 6.749 | 1136.2 | 0 | 0.000 |
| 4NDPA | 50.0 | 8.218 | 1880.4 | 46.5 | 0.002 |
| 2NDPA | 50.0 | 9.339 | 3292.9 | 89.5 | 0.003 |
| DPA | 200.0 | 10.48 | 6310.2 | 733.6 | 0.047 |
| N-NitrosoDPA | 75.0 | 11.073 | 1512.2 | 0 | 0.000 |

| | |
|---|---|
| | 0.402 |
| Avg. % Stabilizer for Lot | **0.402** |

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | |
|---|---|
| **Analyst** TAKISHA DICKERSON | Avg. Tot. Stabilizers **0.40** % |
| Analyst Signature | Stable YES / Unstable |
| Lab. Supervisor Signature | Comments **CATEGORY: A** |
| | Actions to be Taken |

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND81E070022** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 29 JUNE 2012** |

| Other Information | Sample Data | | Solvent |
|---|---|---|---|
| M6 Propellant | #1 | 0.50 g 100 ml | ACN |

| | Standards (ERG-006) | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 0.88 | 48.7 | 108.6 | 0.223 |
| 2,4-DNDPA | 50.0 | 3.265 | 1031.8 | 26 | 0.003 |
| 2,2' DNDPA | 50.0 | 4.888 | 3957 | 30336 | 0.000 |
| 2,4' DNDPA | 50.0 | 6.927 | 1035.6 | 50.3 | 0.005 |
| 4NDPA | 50.0 | 8.235 | 1690.1 | 250.9 | 0.015 |
| 2NDPA | 50.0 | 9.279 | 3054.3 | 300.6 | 0.010 |
| DPA | 200.0 | 10.655 | 5843.7 | 588.9 | 0.040 |
| N-NitrosoDPA | 75.0 | 11.092 | 1725.8 | 0 | 0.000 |

| | | |
|---|---|---|
| | | 0.295 |
| Avg. % Stabilizer for Lot | | **0.295** |

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | |
|---|---|
| **Analyst** Kisha Dickerson | Avg. Tot. Stabilizers **0.30** % |
| Analyst Signature | Stable YES / Unstable |
| | Comments **CATEGORY: A** |
| Lab. Supervisor Signature | |
| | Actions to be Taken |

**CONTAINS HAZARDOUS MATERIALS**

# STRAIGHT BILL OF LADING

**NOT NEGOTIABLE** Load 3

RECEIVED, subject to the classification and tariffs in effect on the date of the issue of this Original Bill of Lading.
The property described below, in apparent good order, except as noted (contents and condition of contents of packages unknown) consigned, end destined as indicated below, which said carrier (the word carrier being understood throughout this contract meaning any person or corporation in possession of the property under the contract) agrees to curry to its usual place of delivery of said destination. It on its route, otherwise to deliver to another carrier on the route to said destination. It is mutually agreed, as to each of all or any of said property over all or any portion of said route to destination, and as to each party at any time interested in all or any of said property, that every service lobe performed hereunder shall be subject to all the terms and conditions of the Uniform Domestic Straight Bill of Lading Set forth (t) in Uniform Freight Classification in effect on the date hereof, It this is a rail or railwater shipment, or (2) in the applicable motor carrier classification or tariff it this is a motor carrier shipment.

Shipper hereby certifies that he is familiar with all the terms and conditions of the said bill of lading, set forth in the classification or tariff which governs the transportation of this shipment, and the sold terms and conditions are hereby agreed to by the shipper and accept for himself and his assigns.

Shipper: Explo Systems, Inc.
1600 Java Road
Minden, LA 71055

Shipper's No. 2808

Shipping Date 11/29/12

At

Purchase Order No.

By R/R DEI

Freight Charges: Collect _____ Prepaid XXX

Location No. 2325

(Mail or Street Address of Consignee — For purposes of notification only)

Consigned to Austin Powder Co.

Destination 712 Highway 80 State

County Union LA 71201

Route I-20 to 574 Exit 88

Charge Account of

Fed Lic. 5-LA-119-20-1A-00139 Exp. Date 5/1/15

State Lic. Exp. Date

Customer No.

Customer P.O. No. Rel. No.

| SHIPPED No. of PKGS | SHIPPED No. of UNITS | PROPER SHIPPING NAME AND HAZARD CLASS | RETURNED No. of PKGS | RETURNED No. of UNITS | EMERGENCY RESPONSE PROCEDURE GUIDE NO. | EXEMPTION DOT-E | H M | Placards Applied to Railcar or Motor Vehicle |
|---|---|---|---|---|---|---|---|---|
| 210/14 | 45 | UN0161, Powder, Smokeless, 1.3C, PG II | | | #112 | 7000 | X | EXPLOSIVES 1.3 |
| | | See VR List | | | | | | |
| | | | | | | | | |
| | | | | | | | | Truck No. 2300 |
| | | | | | | | | Trailer No. 7610104 |
| | | | | | | | | Mileage |
| | | | | | | | | Total 210 IVD @ 1800 LBS Packages |
| | | | | | | | | Gross Weight # 40000 |
| | | Seal # | | | | | | Net Explosive Weight |
| | | 7063777/7063778 | | | | | | 37500 |

RECEIVED
17A05
NOV 29 2012
AUSTIN POWDER COMPANY
EAST CAMDEN PLANT

This is to certify that the above-named materials are properly classified, described, packaged, marked, and labeled and are in proper condition for transportation, according to the applicable regulations of the Department of Transportation.

Signature _____ Invoice No. _____

FOR CHEMICAL EMERGENCY, SPILL, LEAK, FIRE, EXPOSURE OR ACCIDENT CALL CHEMTREC — DAY OR NIGHT
IN THE USA CALL 800-424-9300 IN CANADA (ERP #2-0040) 800-561-3636 ELSEWHERE CALL (703) 527-3887 CCN644589

Permanent Address of Shipper:
**Explo Systems, Inc.**
1600 Java Road
Minden, Louisiana 71055
(318) 382-8700

Per _____

DOT Hazardous Material Handling Number _____
Local Federal Explosives License No. 5-LA-119-20-1A-00057
(Shipper)

I have been offered placards identifying the shipment as Specified in 49CFR Subpart F of Part 172. I have received the above goods in apparent good order and condition.

Received By _____ Date 11-29-12
☐ CONSIGNEE ☐ CARRIER

By _____ Date 11/29/12
AUTHORIZED RECEIVER

CONTAINS HAZARDOUS MATERIALS

Load 3

45 @ 140

AUSTIN POWDER PACKING LIST

SHIPMENT DATE 29 NOV 2012

B/L# ~~2805~~ 2808

M-6

| | |
|---|---|
| IND85B-070507 | 12 PTS |
| IND84F-070436 | 4 PTS |
| IND88J-070969 | 7 PTS – Load 2 |
| IND86H-070622 | 9 PTS |
| IND87D-070450 | 4 PTS Load 2 |
| IND87A-Y70077 | 1 PT |
| IND84A-070323 | 2 PTS |
| IND87B-Y70678 | 2 PTS |
| IND85K-070598 | 1 PT |
| IND81E-070022 | 2 PTS |
| IND85B-070508 | 1 PT |

45PTS WITH 6 FB @140 LBS PER DRUM

TOTAL 37,800 LBS

LIONEL KOONS

EXPLO SYSTEMS INC

Load 3
2808

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND87D070450** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 23 AUG 2010** |

| Other Information | Sample Data | | Solvent |
|---|---|---|---|
| M6 Propellant | #1 | 0.5000 g 100 ml | ACN |

| Standards (ERG-006) | | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | | 0 | | |
| 2,4-DNDPA | 50.0 | 4.884 | 715.1 | 0 | 0.000 |
| 2,2' DNDPA | 50.0 | 9.663 | 794.8 | 5124.3 | 0.645 |
| 2,4' DNDPA | 50.0 | 11.213 | 1155.8 | 0 | 0.000 |
| 4NDPA | 50.0 | 11.899 | 750.7 | 0 | 0.000 |
| 2NDPA | 50.0 | 12.536 | 1565 | 0 | 0.000 |
| DPA | 200.0 | 13.934 | 4151.3 | 0 | 0.000 |
| N-NitrosoDPA | 75.0 | 14.875 | 1080.5 | 46.7 | 0.006 |

0.651

| Avg. % Stabilizer for Lot | **0.651** |
|---|---|

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | |
|---|---|
| **Analyst** Kisha Dickerson | Avg. Tot. Stabilizers **0.65** % |
| Analyst Signature | Stable YES / Unstable |
| Lab. Supervisor Signature | Comments **CATEGORY: A** |
| | Actions to be Taken |

Form #158

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND88J070969** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 24 OCT 2012** |

| Other Information | Sample Data | | Solvent |
|---|---|---|---|
| M6 Propellant | #1 | 0.50 g 100 ml | ACN |

| Standards (ERG-006) | | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 0.784 | 163 | 776.6 | 0.476 |
| 2,4-DNDPA | 50.0 | 3.299 | 808.4 | 0 | 0.000 |
| 2,2' DNDPA | 50.0 | 4.947 | 2591.5 | 24054 | 0.000 |
| 2,4' DNDPA | 50.0 | 7.024 | 871.2 | 0 | 0.000 |
| 4NDPA | 50.0 | 8.466 | 1408.7 | 50.3 | 0.004 |
| 2NDPA | 50.0 | 9.578 | 2554.8 | 81.2 | 0.003 |
| DPA | 200.0 | 11.01 | 4783.9 | 969.1 | 0.081 |
| N-NitrosoDPA | 75.0 | 11.732 | 1511.1 | 286 | 0.000 |

| | 0.564 |
|---|---|
| Avg. % Stabilizer for Lot | **0.564** |

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | |
|---|---|
| **Analyst** MIKE KILE | Avg. Tot. Stabilizers **0.56** % |
| Analyst Signature | Stable YES / Unstable |
| Lab. Supervisor Signature | Comments **CATEGORY: A** |
| | Actions to be Taken |

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND81E070022** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 23 AUG 2010** |

Other Information
M6 Propellant

| Sample Data | | | Solvent |
|---|---|---|---|
| #1 | 0.5000 g | 100 ml | ACN |

| Standards (ERG-006) | | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | | 0 | | |
| 2,4-DNDPA | 50.0 | 4.884 | 715.1 | 0 | 0.000 |
| 2,2' DNDPA | 50.0 | 9.663 | 794.8 | 17278.9 | 2.174 |
| 2,4' DNDPA | 50.0 | 11.213 | 1155.8 | 0 | 0.000 |
| 4NDPA | 50.0 | 11.899 | 750.7 | 0 | 0.000 |
| 2NDPA | 50.0 | 12.536 | 1565 | 0 | 0.000 |
| DPA | 200.0 | 13.934 | 4151.3 | 0 | 0.000 |
| N-NitrosoDPA | 75.0 | 14.875 | 1080.5 | 451.1 | 0.063 |

2.237

Avg. % Stabilizer for Lot **2.237**

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | |
|---|---|
| **Analyst** Kisha Dickerson | Avg. Tot. Stabilizers **2.24** % |
| Analyst Signature | Stable YES / Unstable |
| Lab. Supervisor Signature | Comments **CATEGORY: A** |
| | Actions to be Taken |

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND84A070323** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 21 DEC 2011** |

| Other Information | Sample Data | | Solvent |
|---|---|---|---|
| M6 Propellant | #1 | 0.50 g 100 ml | ACN |

| Standards (ERG-006) | | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 0.67 | 192.9 | 675.2 | 0.350 |
| 2,4-DNDPA | 50.0 | 3.298 | 1077.6 | 0 | 0.000 |
| 2,2' DNDPA | 50.0 | 4.953 | 951.5 | 22469 | 0.000 |
| 2,4' DNDPA | 50.0 | 6.749 | 1136.2 | 0 | 0.000 |
| 4NDPA | 50.0 | 8.218 | 1880.4 | 46.5 | 0.002 |
| 2NDPA | 50.0 | 9.339 | 3292.9 | 89.5 | 0.003 |
| DPA | 200.0 | 10.48 | 6310.2 | 733.6 | 0.047 |
| N-NitrosoDPA | 75.0 | 11.073 | 1512.2 | 0 | 0.000 |

| | | |
|---|---|---|
| | | 0.402 |
| Avg. % Stabilizer for Lot | | **0.402** |

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | | |
|---|---|---|
| **Analyst** TAKISHA DICKERSON | Avg. Tot. Stabilizers | **0.40** % |
| Analyst Signature | Stable YES | Unstable |
| | Comments | |
| Lab. Supervisor Signature | **CATEGORY:** | **A** |
| | Actions to be Taken | |

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND85B070507** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 16 JULY 2012** |

| Other Information | Sample Data | | Solvent |
|---|---|---|---|
| M6 Propellant | #1 | 0.50 g 100 ml | ACN |

| Standards (ERG-006) | | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 0.871 | 70.6 | 459.1 | 0.650 |
| 2,4-DNDPA | 50.0 | 3.368 | 934.1 | 0 | 0.000 |
| 2,2' DNDPA | 50.0 | 5.103 | 1888.6 | 22961 | 0.000 |
| 2,4' DNDPA | 50.0 | 7.516 | 1021.7 | 0 | 0.000 |
| 4NDPA | 50.0 | 8.938 | 1656.1 | 138.9 | 0.008 |
| 2NDPA | 50.0 | 10.131 | 2970.1 | 109.4 | 0.004 |
| DPA | 200.0 | 11.561 | 5887.3 | 342.8 | 0.023 |
| N-NitrosoDPA | 75.0 | 12.367 | 1376.5 | 0 | 0.000 |
| | | | | | 0.686 |
| | | | Avg. % Stabilizer for Lot | | **0.686** |

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | |
|---|---|
| **Analyst** Takisha Dickerson | Avg. Tot. Stabilizers **0.69** % |
| Analyst Signature Dickerson | Stable YES \| Unstable |
| Lab. Supervisor Signature | Comments **CATEGORY: A** |
| | Actions to be Taken |

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND85KY70598** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 22 AUGUST 2011** |

Other Information
M6 Propellant

| Sample Data | | | Solvent |
|---|---|---|---|
| #1 | 0.50 g | 100 ml | ACN |

| Standards (ERG-006) | | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 0.686 | 93.1 | 287.9 | 0.309 |
| 2,4-DNDPA | 50.0 | 3.459 | 919.4 | 0 | 0.000 |
| 2,2' DNDPA | 50.0 | 5.284 | 451.4 | 22897 | 0.000 |
| 2,4' DNDPA | 50.0 | 7.719 | 1000.1 | 0 | 0.000 |
| 4NDPA | 50.0 | 9.269 | 1596.1 | 116.7 | 0.007 |
| 2NDPA | 50.0 | 10.555 | 2887.6 | 160.7 | 0.006 |
| DPA | 200.0 | 12.066 | 5400.7 | 163 | 0.012 |
| N-NitrosoDPA | 75.0 | 12.95 | 1367.3 | 0 | 0.000 |

0.334

| Avg. % Stabilizer for Lot | **0.334** |
|---|---|

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | |
|---|---|
| **Analyst** KISHA DICKERSON | Avg. Tot. Stabilizers **0.33** % |
| Analyst Signature | Stable YES / Unstable |
| Lab. Supervisor Signature | Comments **CATEGORY: A** |
| | Actions to be Taken |

**CONTAINS HAZARDOUS MATERIALS**

# STRAIGHT BILL OF LADING

**NOT NEGOTIABLE** Load 4

RECEIVED, subject to the classification and tariffs in effect on the date of the issue of this Original Bill of Lading.
The property described below, in apparent good order, except as noted (contents and condition of contents of packages unknown) consigned, end destined as indicated below, which said carrier (the word carrier being understood throughout this contract meaning any person or corporation in possession of the property under the contract) agrees to curry to its usual place of delivery at said destination. It on its route, otherwise to deliver to another carrier on the route to said destination. It is mutually agreed, as to each of all or any of said property over all or any portion of said route to destination, and as to each party at any time interested in all or any of said property, that every service lobe performed hereunder shall be subject to all the terms and conditions of the Uniform Domestic Straight Bill of Lading Set forth (t) in Uniform Freight Classification in effect on the date hereof, It this is a rail or rail-water shipment, or (2) in the applicable motor carrier classification or tariff it this is a motor carrier shipment.

Shipper hereby certifies that he is familiar with all the terms and conditions of the said bill of lading, set forth in the classification or tariff which governs the transportation of this shipment, and the sold terms and conditions are hereby agreed to by the shipper and accept for himself and his assigns.

Shipper: Explo Systems, Inc.
1600 Java Road
Minden, LA 71055

Shipper's No. 2807

Shipping Date 11/29/12

At

Purchase Order No.

By SLTW Freight Charges: Collect _____ Prepaid YYY Location No. 2325

(Mail or Street Address of Consignee — For purposes of notification only) 25-SE-00139

Consigned to Austin Powder Co

Destination Tallulah Louisiana State

Fed Lic. 5-LA-119 Exp. Date 5/1/15

State Lic. Exp. Date

County East Carroll AR 71201

Customer No.

Route I-20 to 574 to 580 to 302

Charge Account of Customer P.O. No. Rel. No.

| SHIPPED No. of PKGS | SHIPPED No. of UNITS | PROPER SHIPPING NAME AND HAZARD CLASS | RETURNED No. of PKGS | RETURNED No. of UNITS | EMERGENCY RESPONSE PROCEDURE GUIDE NO. | EXEMPTION -DOT-E- | H M | Placards Applied to Railcar or Motor Vehicle |
|---|---|---|---|---|---|---|---|---|
| 210/M | 45 | UN0161, Powder, Smokeless, 1.3C, PG II | | | #112 | 20120 under 3 | X | EXPLOSIVES 1.3 |
| | | | | | | | | |
| | | See PP List | | | | | | |
| | | | | | | | | Truck No. 5106 |
| | | | | | | | | Trailer No. 78251 |
| | | | | | | | | Mileage |
| | | | | | | | | Total Packages 264 MAGS & MIC CA & MIC & 121 EM |
| | | | | | | | | Gross Weight # 42,000 |
| | | Seal # | | | | | | Net Explosive Weight |
| | | 708375 / 708376 | | | | | | 27686 |

RECEIVED
17A108
NOV 29 2012
AUSTIN POWDER COMPANY
EAST CAMDEN PLANT

This is to certify that the above-named materials are properly classified, described, packaged, marked, and labeled and are in proper condition for transportation, according to the applicable regulations of the Department of Transportation.

Signature _____ Invoice No. _____

FOR CHEMICAL EMERGENCY, SPILL, LEAK, FIRE, EXPOSURE OR ACCIDENT CALL CHEMTREC — DAY OR NIGHT
IN THE USA CALL 800-424-9300 IN CANADA (ERP #2-0040) 800-561-3636 ELSEWHERE CALL (703) 527-3887 CCN#11589

Permanent Address of Shipper:
**Explo Systems, Inc.**
1600 Java Road
Minden, Louisiana 71055
(318) 382-8700

Per _____

DOT Hazardous Material Handling Number _____
Local Federal Explosives License No. 5-LA-119-20-1A-00057
(Shipper)

I have been offered placards identifying the shipment as Specified in 49CFR Subpart F of Part 172. I have received the above goods in apparent good order and condition.

Received By _____ Date 11-29-12
❑ CONSIGNEE ❑ CARRIER

By Monie Kelly Date 11/29/12
AUTHORIZED RECEIVER

CONTAINS HAZARDOUS MATERIALS

AUSTIN POWDER PACKING LIST

SHIPMENT DATE 29 NOV 2012

B/L# ~~2804~~ 2807

M-6

IND88J-070969 2 PTS
IND86H-070622 16 PTS
IND81E-070022 8 PTS
IND84A-070323 4 PTS
IND84B-Y70325 ~~4~~ PTS
IND84K-070597 1 PT
IND85B-070507 5 PTS
IND87D-070450 1 PT
IND87A-070677 1 PT
IND87L-070886 1 PT
IND85L-070599 1 PT
IND853-070504 1 PT

UK

44PTS With 6FD @ 140 LBS PER DRUM
1PT With ~~5~~ FD @ 12 1LBS PER DRUM
TOTAL WT.: 37,686 LBS

LIONEL KOONS

EXPLO SYSTEMS INC

4

44 @ 140

36960
1 @ 121 726
37686

5

4 people 1 Hr OT This Load

mindy
Evan
Robert
Courtney Rogers

Lord 4
2807

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND88J070969** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 24 OCT 2012** |

| Other Information | Sample Data | | Solvent |
|---|---|---|---|
| M6 Propellant | #1 | 0.50 g | 100 ml ACN |

| Standards (ERG-006) | | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 0.784 | 163 | 776.6 | 0.476 |
| 2,4-DNDPA | 50.0 | 3.299 | 808.4 | 0 | 0.000 |
| 2,2' DNDPA | 50.0 | 4.947 | 2591.5 | 24054 | 0.000 |
| 2,4' DNDPA | 50.0 | 7.024 | 871.2 | 0 | 0.000 |
| 4NDPA | 50.0 | 8.466 | 1408.7 | 50.3 | 0.004 |
| 2NDPA | 50.0 | 9.578 | 2554.8 | 81.2 | 0.003 |
| DPA | 200.0 | 11.01 | 4783.9 | 969.1 | 0.081 |
| N-NitrosoDPA | 75.0 | 11.732 | 1511.1 | 286 | 0.000 |

| | 0.564 |
|---|---|
| Avg. % Stabilizer for Lot | **0.564** |

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | |
|---|---|
| **Analyst** MIKE KILE | Avg. Tot. Stabilizers **0.56** % |
| Analyst Signature | Stable YES / Unstable |
| Lab. Supervisor Signature | Comments **CATEGORY: A** |
| | Actions to be Taken |

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND84A070323** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 21 DEC 2011** |

| Other Information | Sample Data | | Solvent |
|---|---|---|---|
| M6 Propellant | #1 | 0.50 g 100 ml | ACN |

| Standards (ERG-006) | | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 0.67 | 192.9 | 675.2 | 0.350 |
| 2,4-DNDPA | 50.0 | 3.298 | 1077.6 | 0 | 0.000 |
| 2,2' DNDPA | 50.0 | 4.953 | 951.5 | 22469 | 0.000 |
| 2,4' DNDPA | 50.0 | 6.749 | 1136.2 | 0 | 0.000 |
| 4NDPA | 50.0 | 8.218 | 1880.4 | 46.5 | 0.002 |
| 2NDPA | 50.0 | 9.339 | 3292.9 | 89.5 | 0.003 |
| DPA | 200.0 | 10.48 | 6310.2 | 733.6 | 0.047 |
| N-NitrosoDPA | 75.0 | 11.073 | 1512.2 | 0 | 0.000 |

| | | |
|---|---|---|
| | | 0.402 |
| Avg. % Stabilizer for Lot | | **0.402** |

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | |
|---|---|
| **Analyst** TAKISHA DICKERSON | Avg. Tot. Stabilizers **0.40** % |
| Analyst Signature | Stable YES / Unstable |
| Lab. Supervisor Signature | Comments **CATEGORY: A** |
| | Actions to be Taken |

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND84BY70325** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 4 AUGUST 2011** |

| Other Information | Sample Data | | Solvent |
|---|---|---|---|
| M6 Propellant | #1 | 0.50 g 100 ml | ACN |

| Standards (ERG-006) | | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 0.633 | 245.7 | 604.7 | 0.246 |
| 2,4-DNDPA | 50.0 | 3.489 | 1008 | 0 | 0.000 |
| 2,2' DNDPA | 50.0 | 5.345 | 162.1 | 23839 | 0.000 |
| 2,4' DNDPA | 50.0 | 7.825 | 1089.1 | 0 | 0.000 |
| 4NDPA | 50.0 | 9.38 | 1703.6 | 82.3 | 0.005 |
| 2NDPA | 50.0 | 10.682 | 3137.7 | 135.3 | 0.004 |
| DPA | 200.0 | 12.197 | 5674.1 | 602.8 | 0.042 |
| N-NitrosoDPA | 75.0 | 13.097 | 1505.3 | 0 | 0.000 |
| | | | | | 0.298 |
| | | | Avg. % Stabilizer for Lot | | **0.298** |

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | |
|---|---|
| **Analyst** TAKISHA DICKERSON | Avg. Tot. Stabilizers **0.30** % |
| Analyst Signature | Stable YES / Unstable |
| Lab. Supervisor Signature | Comments **CATEGORY: A** |
| | Actions to be Taken |

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND85B070507** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 16 JULY 2012** |

| Other Information | Sample Data | | Solvent |
|---|---|---|---|
| M6 Propellant | #1 | 0.50 g 100 ml | ACN |

| Standards (ERG-006) | | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 0.871 | 70.6 | 459.1 | 0.650 |
| 2,4-DNDPA | 50.0 | 3.368 | 934.1 | 0 | 0.000 |
| 2,2' DNDPA | 50.0 | 5.103 | 1888.6 | 22961 | 0.000 |
| 2,4' DNDPA | 50.0 | 7.516 | 1021.7 | 0 | 0.000 |
| 4NDPA | 50.0 | 8.938 | 1656.1 | 138.9 | 0.008 |
| 2NDPA | 50.0 | 10.131 | 2970.1 | 109.4 | 0.004 |
| DPA | 200.0 | 11.561 | 5887.3 | 342.8 | 0.023 |
| N-NitrosoDPA | 75.0 | 12.367 | 1376.5 | 0 | 0.000 |

| | | |
|---|---|---|
| | | 0.686 |
| Avg. % Stabilizer for Lot | | **0.686** |

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | |
|---|---|
| **Analyst** Takisha Dickerson | Avg. Tot. Stabilizers **0.69** % |
| Analyst Signature Dickerson | Stable YES \| Unstable |
| Lab. Supervisor Signature | Comments **CATEGORY: A** |
| | Actions to be Taken |

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND87A070677** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 23 AUG 2010** |

Other Information
M6 Propellant

| Sample Data | | | Solvent |
|---|---|---|---|
| #1 | 0.5000 g | 100 ml | ACN |

| Standards (ERG-006) | | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | | 0 | | |
| 2,4-DNDPA | 50.0 | 4.884 | 715.1 | 0 | 0.000 |
| 2,2' DNDPA | 50.0 | 9.663 | 794.8 | 4280.5 | 0.539 |
| 2,4' DNDPA | 50.0 | 11.213 | 1155.8 | 0 | 0.000 |
| 4NDPA | 50.0 | 11.899 | 750.7 | 0 | 0.000 |
| 2NDPA | 50.0 | 12.536 | 1565 | 0 | 0.000 |
| DPA | 200.0 | 13.934 | 4151.3 | 0 | 0.000 |
| N-NitrosoDPA | 75.0 | 14.875 | 1080.5 | 171.4 | 0.024 |

0.563

Avg. % Stabilizer for Lot **0.563**

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | |
|---|---|
| **Analyst** Kisha Dickerson | Avg. Tot. Stabilizers **0.56** % |
| Analyst Signature | Stable YES / Unstable |
| Lab. Supervisor Signature | Comments **CATEGORY: A** |
| | Actions to be Taken |

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND87L070886** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 4 Sep 2012** |

| Other Information | Sample Data | | Solvent |
|---|---|---|---|
| M6 Propellant | #1 | 0.50 g 100 ml | ACN |

| | Standards (ERG-006) | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 0.889 | 48.8 | 657.1 | 1.347 |
| 2,4-DNDPA | 50.0 | 3.418 | 914.3 | 0 | 0.000 |
| 2,2' DNDPA | 50.0 | 5.22 | 777.3 | 23257 | 0.000 |
| 2,4' DNDPA | 50.0 | 7.622 | 980.5 | 0 | 0.000 |
| 4NDPA | 50.0 | 9.134 | 1586.8 | 108.8 | 0.007 |
| 2NDPA | 50.0 | 10.417 | 2826.3 | 126.9 | 0.004 |
| DPA | 200.0 | 11.797 | 5671.5 | 558.2 | 0.039 |
| N-NitrosoDPA | 75.0 | 12.757 | 1337.5 | 0 | 0.000 |

| | |
|---|---|
| | 1.397 |
| Avg. % Stabilizer for Lot | **1.397** |

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | |
|---|---|
| **Analyst** Mike Kile | Avg. Tot. Stabilizers **1.40** % |
| Analyst Signature | Stable YES / Unstable |
| | Comments **CATEGORY: A** |
| Lab. Supervisor Signature | |
| | Actions to be Taken |

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND87D070450** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 23 AUG 2010** |

| Other Information | Sample Data | | Solvent |
|---|---|---|---|
| M6 Propellant | #1 | 0.5000 g 100 ml | ACN |

| | Standards (ERG-006) | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | | 0 | | |
| 2,4-DNDPA | 50.0 | 4.884 | 715.1 | 0 | 0.000 |
| 2,2' DNDPA | 50.0 | 9.663 | 794.8 | 5124.3 | 0.645 |
| 2,4' DNDPA | 50.0 | 11.213 | 1155.8 | 0 | 0.000 |
| 4NDPA | 50.0 | 11.899 | 750.7 | 0 | 0.000 |
| 2NDPA | 50.0 | 12.536 | 1565 | 0 | 0.000 |
| DPA | 200.0 | 13.934 | 4151.3 | 0 | 0.000 |
| N-NitrosoDPA | 75.0 | 14.875 | 1080.5 | 46.7 | 0.006 |

| | | |
|---|---|---|
| | | 0.651 |
| Avg. % Stabilizer for Lot | | **0.651** |

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | | |
|---|---|---|
| **Analyst** Kisha Dickerson | Avg. Tot. Stabilizers | **0.65** % |
| Analyst Signature | Stable YES | Unstable |
| | Comments | |
| Lab. Supervisor Signature | **CATEGORY:** | **A** |
| | Actions to be Taken | |

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND81E070022** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 23 AUG 2010** |

| Other Information | Sample Data | | Solvent |
|---|---|---|---|
| M6 Propellant | #1 | 0.5000 g 100 ml | ACN |

| | Standards (ERG-006) | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | | 0 | | |
| 2,4-DNDPA | 50.0 | 4.884 | 715.1 | 0 | 0.000 |
| 2,2' DNDPA | 50.0 | 9.663 | 794.8 | 17278.9 | 2.174 |
| 2,4' DNDPA | 50.0 | 11.213 | 1155.8 | 0 | 0.000 |
| 4NDPA | 50.0 | 11.899 | 750.7 | 0 | 0.000 |
| 2NDPA | 50.0 | 12.536 | 1565 | 0 | 0.000 |
| DPA | 200.0 | 13.934 | 4151.3 | 0 | 0.000 |
| N-NitrosoDPA | 75.0 | 14.875 | 1080.5 | 451.1 | 0.063 |

2.237

| Avg. % Stabilizer for Lot | **2.237** |
|---|---|

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | |
|---|---|
| **Analyst** Kisha Dickerson | Avg. Tot. Stabilizers **2.24** % |
| Analyst Signature | Stable YES / Unstable |
| Lab. Supervisor Signature | Comments **CATEGORY: A** |
| | Actions to be Taken |

CONTAINS HAZARDOUS MATERIALS

# STRAIGHT BILL OF LADING

**NOT NEGOTIABLE** Load 5

RECEIVED, subject to the classification and tariffs in effect on the date of the issue of this Original Bill of Lading.
The property described below, in apparent good order, except as noted (contents and condition of contents of packages unknown) consigned, end destined as indicated below, which said carrier (the word carrier being understood throughout this contract meaning any person or corporation in possession of the property under the contract) agrees to curry to its usual place of delivery of said destination. It on its route, otherwise to deliver to another carrier on the route to said destination. It is mutually agreed, as to each of all or any of said property over all or any portion of said route to destination, and as to each party at any time interested in all or any of said property, that every service lobe performed hereunder shall be subject to all the terms and conditions of the Uniform Domestic Straight Bill of Lading Set forth (t) in Uniform Freight Classification in effect on the date hereof, It this is a rail or rail-water shipment, or (2) in the applicable motor carrier classification or tariff it this is a motor carrier shipment.

Shipper hereby certifies that he is familiar with all the terms and conditions of the said bill of lading, set forth in the classification or tariff which governs the transportation of this shipment, and the sold terms and conditions are hereby agreed to by the shipper and accept for himself and his assigns.

Shipper: Explo Systems, Inc.
1600 Java Road
Minden, LA 71055

Shipper's No. 2806

Shipping Date 11/29/12

At

Purchase Order No.

By SLTW

Freight Charges: Collect _____ Prepaid XXX

Location No. 2325

(Mail or Street Address of Consignee — For purposes of notification only)

Consigned to Austin Powder Co

Fed Lic. 5-AR-103-20-00139

Exp. Date 5/1/15

Destination 7-LC-10 Blandy Rd

State

State Lic.

Exp. Date

County East Camden AR 71701

Customer No.

Route 1-870-574-0580 ex 302

Charge Account of

Customer P.O. No.

Rel. No.

| SHIPPED No. of PKGS | SHIPPED No. of UNITS | PROPER SHIPPING NAME AND HAZARD CLASS | RETURNED No. of PKGS | RETURNED No. of UNITS | EMERGENCY RESPONSE PROCEDURE GUIDE NO. | EXEMPTION ~~DOT-E~~ | H M | Placards Applied to Railcar or Motor Vehicle |
|---|---|---|---|---|---|---|---|---|
| 270/1Y | 45PT | UN0161, Powder, Smokeless, 1.3C, PG II | | | #112 | 2010040603 | X | EXPLOSIVES 1.3 |
| | | | | | | | | |
| | | See PV List | | | | | | |
| | | | | | | | | Truck No. 5070 |
| | | | | | | | | Trailer No. 70319 |
| | | | | | | | | Mileage |
| | | | | | | | | Total 240 1YFD @ 140 lbs ea 30 1YFD @ 120 lbs ea Packages |
| | | | | | | | | Gross Weight # 40,000 |
| | | Seal # | | | | | | Net Explosive Weight |
| | | 7083773/7083774 | | | | | | 37,230 |

RECEIVED
17AT08
NOV 29 2012
AUSTIN POWDER COMPANY
EAST CAMDEN PLANT

This is to certify that the above-named materials are properly classified, described, packaged, marked, and labeled and are in proper condition for transportation, according to the applicable regulations of the Department of Transportation.

Signature [signature]

Invoice No. _____

FOR CHEMICAL EMERGENCY, SPILL, LEAK, FIRE, EXPOSURE OR ACCIDENT CALL CHEMTREC — DAY OR NIGHT
IN THE USA CALL 800-424-9300 IN CANADA (ERP #2-0040) 800-561-3636 ELSEWHERE CALL (703) 527-3887 CCN644589

Permanent Address of Shipper:
**Explo Systems, Inc.**
1600 Java Road
Minden, Louisiana 71055
(318) 382-8700

Per _____

DOT Hazardous Material Handling Number _____
Local Federal Explosives License No. 5-LA-119-20-1A-00057
(Shipper)

I have been offered placards identifying the shipment as Specified in 49CFR Subpart F of Part 172. I have received the above goods in apparent good order and condition.

Received By [signature] Date 11-29-12
☐ CONSIGNEE ☐ CARRIER

By [signature] Date 11/29/12
AUTHORIZED RECEIVER

CONTAINS HAZARDOUS MATERIALS

019317

EXP_000951

AUSTIN POWDER PACKING LIST

SHIPMENT DATE 29 NOV 2012

B/L# 2806

M-6

IND82H-070168 1 PT
IND83F-070278 1 PT
IND87D-070450 4 PTS
IND85B-070507 4 PTS
IND86E-070617 1 PT
IND84A-070323 3 PTS
IND81E-070022 11 PTS
IND87C-070886 2 PTS
IND85G-070592 1 PT
IND83L-Y70320 1 PT
IND84B-Y70325 7 PTS
IND85K-070598 1 PT
IND84B-070325 2 PTS
IND86H-070711 2 PTS
IND88J-070969 1 PT
IND85B-070508 1 PT
IND86H-070622 2 PT

121 LB

121 LB

5

140 ~~IIII~~ ~~IIII~~ ~~IIII~~ ~~IIII~~
~~IIII~~ ~~IIII~~ ~~IIII~~
~~IIII~~

33600
3630
37230

121 ~~IIII~~

40PTS WITH 6 FB @140 LBS PER DRUM

5 PTS WITH 6 FB @ 121 LBS PER DRUM

TOTAL 37,230 LBS

LIONEL KOONS

EXPLO SYSTEMS INC

4 people 3 Hrs OT This Load
Mindy
Evan
Courtney Rogers
Robert.

019318

EXP_000952

Load 5
2806

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND81E070022** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 23 AUG 2010** |

| Other Information | Sample Data | | Solvent |
|---|---|---|---|
| M6 Propellant | #1 | 0.5000 g 100 ml | ACN |

| | Standards (ERG-006) | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | | 0 | | |
| 2,4-DNDPA | 50.0 | 4.884 | 715.1 | 0 | 0.000 |
| 2,2' DNDPA | 50.0 | 9.663 | 794.8 | 17278.9 | 2.174 |
| 2,4' DNDPA | 50.0 | 11.213 | 1155.8 | 0 | 0.000 |
| 4NDPA | 50.0 | 11.899 | 750.7 | 0 | 0.000 |
| 2NDPA | 50.0 | 12.536 | 1565 | 0 | 0.000 |
| DPA | 200.0 | 13.934 | 4151.3 | 0 | 0.000 |
| N-NitrosoDPA | 75.0 | 14.875 | 1080.5 | 451.1 | 0.063 |

2.237

Avg. % Stabilizer for Lot **2.237**

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | |
|---|---|
| **Analyst** Kisha Dickerson | Avg. Tot. Stabilizers **2.24** % |
| Analyst Signature | Stable YES / Unstable |
| Lab. Supervisor Signature | Comments **CATEGORY: A** |
| | Actions to be Taken |

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND82H070168** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 1 FEB 2011** |

| Other Information | Sample Data | | Solvent |
|---|---|---|---|
| M6 Propellant | #1 | 0.5000 g 100 ml | ACN |

| Standards (ERG-006) | | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 4.156 | 1116 | 2540.4 | 0.228 |
| 2,4-DNDPA | 50.0 | 9.388 | 1191.2 | 31231.4 | 2.622 |
| 2,2' DNDPA | 50.0 | 10.987 | 1694.7 | 51.5 | 0.000 |
| 2,4' DNDPA | 50.0 | 11.73 | 1272.3 | 143.2 | 0.011 |
| 4NDPA | 50.0 | 12.459 | 2443.3 | 0 | 0.000 |
| 2NDPA | 50.0 | 13.939 | 5852.1 | 838.5 | 0.014 |
| DPA | 200.0 | 15.022 | 1753.1 | 0 | 0.000 |
| N-NitrosoDPA | 75.0 | 18.932 | 2535.1 | 985.4 | 0.000 |

| | |
|---|---|
| | 2.875 |
| Avg. % Stabilizer for Lot | **2.875** |

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | |
|---|---|
| **Analyst** Mike Kile | Avg. Tot. Stabilizers **2.88** % |
| Analyst Signature | Stable YES / Unstable |
| Lab. Supervisor Signature | Comments **CATEGORY: A** |
| | Actions to be Taken |

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND83F070278** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 11 JULY 2012** |

Other Information
M6 Propellant

| Sample Data | | | Solvent |
|---|---|---|---|
| #1 | 0.50 g | 100 ml | ACN |

| Standards (ERG-006) | | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 0.803 | 32.3 | 256.2 | 0.793 |
| 2,4-DNDPA | 50.0 | 3.397 | 945.1 | 0 | 0.000 |
| 2,2' DNDPA | 50.0 | 5.155 | 1995.1 | 21574 | 0.000 |
| 2,4' DNDPA | 50.0 | 7.525 | 949.2 | 0 | 0.000 |
| 4NDPA | 50.0 | 9.04 | 1580.4 | 89.7 | 0.006 |
| 2NDPA | 50.0 | 10.278 | 2854 | 35.4 | 0.001 |
| DPA | 200.0 | 11.761 | 5473.7 | 589.5 | 0.043 |
| N-NitrosoDPA | 75.0 | 12.606 | 1672.4 | 0 | 0.000 |

| | | |
|---|---|---|
| | | 0.843 |
| Avg. % Stabilizer for Lot | | **0.843** |

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | |
|---|---|
| **Analyst** Takisha Dickerson | Avg. Tot. Stabilizers **0.84** % |
| Analyst Signature | Stable YES / Unstable |
| Lab. Supervisor Signature | Comments **CATEGORY: A** |
| | Actions to be Taken |

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND84A070323** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 21 DEC 2011** |

| Other Information | Sample Data | | Solvent |
|---|---|---|---|
| M6 Propellant | #1 | 0.50 g 100 ml | ACN |

| Standards (ERG-006) | | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 0.67 | 192.9 | 675.2 | 0.350 |
| 2,4-DNDPA | 50.0 | 3.298 | 1077.6 | 0 | 0.000 |
| 2,2' DNDPA | 50.0 | 4.953 | 951.5 | 22469 | 0.000 |
| 2,4' DNDPA | 50.0 | 6.749 | 1136.2 | 0 | 0.000 |
| 4NDPA | 50.0 | 8.218 | 1880.4 | 46.5 | 0.002 |
| 2NDPA | 50.0 | 9.339 | 3292.9 | 89.5 | 0.003 |
| DPA | 200.0 | 10.48 | 6310.2 | 733.6 | 0.047 |
| N-NitrosoDPA | 75.0 | 11.073 | 1512.2 | 0 | 0.000 |

| | |
|---|---|
| | 0.402 |
| Avg. % Stabilizer for Lot | **0.402** |

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | | |
|---|---|---|
| **Analyst** TAKISHA DICKERSON | Avg. Tot. Stabilizers | **0.40** % |
| Analyst Signature | Stable YES | Unstable |
| | Comments | |
| Lab. Supervisor Signature | **CATEGORY:** | **A** |
| | Actions to be Taken | |

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND84BY70325** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 4 AUGUST 2011** |

| Other Information | Sample Data | | Solvent |
|---|---|---|---|
| M6 Propellant | #1 | 0.50 g 100 ml | ACN |

| Standards (ERG-006) | | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 0.633 | 245.7 | 604.7 | 0.246 |
| 2,4-DNDPA | 50.0 | 3.489 | 1008 | 0 | 0.000 |
| 2,2' DNDPA | 50.0 | 5.345 | 162.1 | 23839 | 0.000 |
| 2,4' DNDPA | 50.0 | 7.825 | 1089.1 | 0 | 0.000 |
| 4NDPA | 50.0 | 9.38 | 1703.6 | 82.3 | 0.005 |
| 2NDPA | 50.0 | 10.682 | 3137.7 | 135.3 | 0.004 |
| DPA | 200.0 | 12.197 | 5674.1 | 602.8 | 0.042 |
| N-NitrosoDPA | 75.0 | 13.097 | 1505.3 | 0 | 0.000 |

| | | |
|---|---|---|
| | | 0.298 |
| Avg. % Stabilizer for Lot | | **0.298** |

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | | |
|---|---|---|
| **Analyst** TAKISHA DICKERSON | Avg. Tot. Stabilizers | **0.30** % |
| Analyst Signature | Stable YES | Unstable |
| | Comments | |
| Lab. Supervisor Signature | **CATEGORY:** | **A** |
| | Actions to be Taken | |

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND85G070592** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 11 JULY 2012** |

Other Information
M6 Propellant

| Sample Data | | | Solvent |
|---|---|---|---|
| #1 | 0.50 g | 100 ml | ACN |

| Standards (ERG-006) | | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 0.803 | 32.3 | 546.9 | 1.693 |
| 2,4-DNDPA | 50.0 | 3.397 | 945.1 | 0 | 0.000 |
| 2,2' DNDPA | 50.0 | 5.155 | 1995.1 | 23089 | 0.000 |
| 2,4' DNDPA | 50.0 | 7.525 | 949.2 | 24.1 | 0.003 |
| 4NDPA | 50.0 | 9.04 | 1580.4 | 159.2 | 0.010 |
| 2NDPA | 50.0 | 10.278 | 2854 | 160.7 | 0.006 |
| DPA | 200.0 | 11.761 | 5473.7 | 133.8 | 0.010 |
| N-NitrosoDPA | 75.0 | 12.606 | 1672.4 | 0 | 0.000 |

| | | |
|---|---|---|
| | | 1.721 |
| Avg. % Stabilizer for Lot | | **1.721** |

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | |
|---|---|
| **Analyst** Takisha Dickerson | Avg. Tot. Stabilizers **1.72** % |
| Analyst Signature | Stable YES / Unstable |
| Lab. Supervisor Signature | Comments **CATEGORY: A** |
| | Actions to be Taken |

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND85B070507** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 16 JULY 2012** |

| Other Information | Sample Data | | Solvent |
|---|---|---|---|
| M6 Propellant | #1 | 0.50 g 100 ml | ACN |

| Standards (ERG-006) | | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 0.871 | 70.6 | 459.1 | 0.650 |
| 2,4-DNDPA | 50.0 | 3.368 | 934.1 | 0 | 0.000 |
| 2,2' DNDPA | 50.0 | 5.103 | 1888.6 | 22961 | 0.000 |
| 2,4' DNDPA | 50.0 | 7.516 | 1021.7 | 0 | 0.000 |
| 4NDPA | 50.0 | 8.938 | 1656.1 | 138.9 | 0.008 |
| 2NDPA | 50.0 | 10.131 | 2970.1 | 109.4 | 0.004 |
| DPA | 200.0 | 11.561 | 5887.3 | 342.8 | 0.023 |
| N-NitrosoDPA | 75.0 | 12.367 | 1376.5 | 0 | 0.000 |
| | | | | | 0.686 |
| | | Avg. % Stabilizer for Lot | | | **0.686** |

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | |
|---|---|
| **Analyst** Takisha Dickerson | Avg. Tot. Stabilizers **0.69** % |
| Analyst Signature | Stable YES / Unstable |
| Lab. Supervisor Signature | Comments **CATEGORY: A** |
| | Actions to be Taken |

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND85K070598** | **D533 / M6 propellant** |
| Date of analysis: | **Date:25 AUG 2010** |

Other Information
M6 Propellant

Sample Data #1 0.5000 g 100 ml Solvent ACN

| Standards (ERG-006) | | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 2.177 | 146.5 | 1423.9 | 0.972 |
| 2,4-DNDPA | 50.0 | 5.001 | 961.7 | 0 | 0.000 |
| 2,2' DNDPA | 50.0 | 7.038 | 2567.5 | 14670.5 | 0.000 |
| 2,4' DNDPA | 50.0 | 9.931 | 938.5 | 0 | 0.000 |
| 4NDPA | 50.0 | 11.434 | 1325.8 | 0 | 0.000 |
| 2NDPA | 50.0 | 12.813 | 1809.7 | 0 | 0.000 |
| DPA | 200.0 | 14.19 | 4886.9 | 403.2 | 0.033 |
| N-NitrosoDPA | 75.0 | 15.18 | 1296.7 | 0 | 0.000 |

1.005

Avg. % Stabilizer for Lot **1.005**

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

**Analyst** Kisha Dickerson

Avg. Tot. Stabilizers **1.00** %

Analyst Signature

Stable YES | Unstable

Comments
**CATEGORY: A**

Lab. Supervisor Signature

Actions to be Taken

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND86E070617** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 18 JULY 2012** |

| Other Information | Sample Data | | Solvent |
|---|---|---|---|
| M6 Propellant | #1 | 0.50 g 100 ml | ACN |

| | Standards (ERG-006) | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 0.863 | 133.9 | 389.2 | 0.291 |
| 2,4-DNDPA | 50.0 | 3.365 | 949.7 | 0 | 0.000 |
| 2,2' DNDPA | 50.0 | 5.091 | 2605.4 | 22628 | 0.000 |
| 2,4' DNDPA | 50.0 | 7.514 | 1047.9 | 0 | 0.000 |
| 4NDPA | 50.0 | 8.946 | 1698.8 | 45.3 | 0.003 |
| 2NDPA | 50.0 | 10.142 | 3039.5 | 80.7 | 0.003 |
| DPA | 200.0 | 11.585 | 6044.7 | 861.6 | 0.057 |
| N-NitrosoDPA | 75.0 | 12.4 | 1395.6 | 0 | 0.000 |

| | | |
|---|---|---|
| | | 0.353 |
| Avg. % Stabilizer for Lot | | **0.353** |

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | | | |
|---|---|---|---|
| **Analyst** | Takisha Dickerson | Avg. Tot. Stabilizers | **0.35** % |
| Analyst Signature | | Stable YES | Unstable |
| Lab. Supervisor Signature | | Comments **CATEGORY:** | **A** |
| | | Actions to be Taken | |

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND87D070450** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 23 AUG 2010** |

| Other Information | Sample Data | | Solvent |
|---|---|---|---|
| M6 Propellant | #1 | 0.5000 g 100 ml | ACN |

| Standards (ERG-006) | | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | | 0 | | |
| 2,4-DNDPA | 50.0 | 4.884 | 715.1 | 0 | 0.000 |
| 2,2' DNDPA | 50.0 | 9.663 | 794.8 | 5124.3 | 0.645 |
| 2,4' DNDPA | 50.0 | 11.213 | 1155.8 | 0 | 0.000 |
| 4NDPA | 50.0 | 11.899 | 750.7 | 0 | 0.000 |
| 2NDPA | 50.0 | 12.536 | 1565 | 0 | 0.000 |
| DPA | 200.0 | 13.934 | 4151.3 | 0 | 0.000 |
| N-NitrosoDPA | 75.0 | 14.875 | 1080.5 | 46.7 | 0.006 |

| | 0.651 |
|---|---|
| Avg. % Stabilizer for Lot | **0.651** |

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | |
|---|---|
| **Analyst** Kisha Dickerson | Avg. Tot. Stabilizers **0.65** % |
| Analyst Signature | Stable YES / Unstable |
| Lab. Supervisor Signature | Comments **CATEGORY: A** |
| | Actions to be Taken |

Form #158

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND88J070969** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 24 OCT 2012** |

Other Information
M6 Propellant

| Sample Data | | | Solvent |
|---|---|---|---|
| #1 | 0.50 g | 100 ml | ACN |

| Standards (ERG-006) | | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 0.784 | 163 | 776.6 | 0.476 |
| 2,4-DNDPA | 50.0 | 3.299 | 808.4 | 0 | 0.000 |
| 2,2' DNDPA | 50.0 | 4.947 | 2591.5 | 24054 | 0.000 |
| 2,4' DNDPA | 50.0 | 7.024 | 871.2 | 0 | 0.000 |
| 4NDPA | 50.0 | 8.466 | 1408.7 | 50.3 | 0.004 |
| 2NDPA | 50.0 | 9.578 | 2554.8 | 81.2 | 0.003 |
| DPA | 200.0 | 11.01 | 4783.9 | 969.1 | 0.081 |
| N-NitrosoDPA | 75.0 | 11.732 | 1511.1 | 286 | 0.000 |

0.564

Avg. % Stabilizer for Lot **0.564**

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | |
|---|---|
| **Analyst** MIKE KILE | Avg. Tot. Stabilizers **0.56** % |
| Analyst Signature | Stable YES / Unstable |
| Lab. Supervisor Signature | Comments **CATEGORY: A** |
| | Actions to be Taken |

Form #158

019329

EXP_000963

CONTAINS HAZARDOUS MATERIALS

# STRAIGHT BILL OF LADING

**NOT NEGOTIABLE** Load 6

RECEIVED, subject to the classification and tariffs in effect on the date of the issue of this Original Bill of Lading.
The property described below, in apparent good order, except as noted (contents and condition of contents of packages unknown) consigned, end destined as indicated below, which said carrier (the word carrier being understood throughout this contract meaning any person or corporation in possession of the property under the contract) agrees to curry to its usual place of delivery of said destination. It on its route, otherwise to deliver to another carrier on the route to said destination. It is mutually agreed, as to each of all or any of said property over all or any portion of said route to destination, and as to each party at any time interested in all or any of said property, that every service lobe performed hereunder shall be subject to all the terms and conditions of the Uniform Domestic Straight Bill of Lading Set forth (t) in Uniform Freight Classification in effect on the date hereof, It this is a rail or rail-water shipment, or (2) in the applicable motor carrier classification or tariff it this is a motor carrier shipment.

Shipper hereby certifies that he is familiar with all the terms and conditions of the said bill of lading, set forth in the classification or tariff which governs the transportation of this shipment, and the sold terms and conditions are hereby agreed to by the shipper and accept for himself and his assigns.

Shipper: Explo Systems, Inc.
1600 Java Road
Minden, LA 71055

Shipper's No. 2809

Shipping Date 11/29/12

At

Purchase Order No.

By R/R Freight Charges: Collect _____ Prepaid XXXX Location No. 2525

(Mail or Street Address of Consignee — For purposes of notification only)

Consigned to Austin Powder Co

Destination Tallulah LA State

County East Carroll Parish

Route I-20-574-0580 I-302

Charge Account of

Fed Lic. 5-AR-103-20-5E-00139 Exp. Date 5/1/15

State Lic. Exp. Date

Customer No.

Customer P.O. No. Rel. No.

| SHIPPED No. of PKGS | SHIPPED No. of UNITS | PROPER SHIPPING NAME AND HAZARD CLASS | RETURNED No. of PKGS | RETURNED No. of UNITS | EMERGENCY RESPONSE PROCEDURE GUIDE NO. | EXEMPTION DOT-E | H M | Placards Applied to Railcar or Motor Vehicle |
|---|---|---|---|---|---|---|---|---|
| 264/M | UNDT | UN0161, Powder, Smokeless, 1.3C, PG II | | | #112 | | X | EXPLOSIVES 1.3 |
| | | | | | | | | |
| | | See PK List | | | | | | |
| | | | | | | | | Truck No. 7523 |
| | | | | | | | | Trailer No. 6810016 |
| | | | | | | | | Mileage |
| | | | | | | | | Total 246 1Y FDE 10 LR 18 1Y FDE 12 LR Packages |
| | | | | | | | | Gross Weight # 38.000 |
| | | Seal # 7083779/7083780 | | | | | | Net Explosive Weight 36.618 |

RECEIVED
17ATO8
NOV 30 2012
AUSTIN POWDER COMPANY
EAST CAMDEN PLANT

This is to certify that the above-named materials are properly classified, described, packaged, marked, and labeled and are in proper condition for transportation, according to the applicable regulations of the Department of Transportation.

Signature _____ Invoice No. _____

FOR CHEMICAL EMERGENCY, SPILL, LEAK, FIRE, EXPOSURE OR ACCIDENT CALL CHEMTREC — DAY OR NIGHT
IN THE USA CALL 800-424-9300 IN CANADA (ERP #2-0040) 800-561-3636 ELSEWHERE CALL (703) 527-3887 CCN644589

Permanent Address of Shipper:
**Explo Systems, Inc.**
1600 Java Road
Minden, Louisiana 71055
(318) 382-8700

Per _____

DOT Hazardous Material Handling Number _____
Local Federal Explosives License No. 5-LA-119-20-1A-00057
(Shipper)

I have been offered placards identifying the shipment as Specified in 49CFR Subpart F of Part 172. I have received the above goods in apparent good order and condition.

Received By _____ Date 11/29/12
☐ CONSIGNEE ☑ CARRIER

By _____ Date 11/30/12
AUTHORIZED RECEIVER

CONTAINS HAZARDOUS MATERIALS

Load 6

AUSTIN POWDER PACKING LIST

SHIPMENT DATE 29 NOV 2012

B/L# 2809

M-6

IND84F-070436 5 PTS
IND86H-070622 17 PTS
IND85B-070507 9 PTS
IND87B-Y70678 2 PTS
IND88J-070969 2 PTS
IND84B-070325 3 PTS
IND85B-070508 2 PTS
IND87D-070450 1 PT
IND88J-070969 1 PT
IND87C-070886 1 PT
IND81E-070021 1 PT

41 PTS WITH 6 FB @140 LBS PER DRUM

3 PTS WITH 6 FB @ 121 LBS PER DRUM

TOTAL 36,618 LBS

LIONEL KOONS

EXPLO SYSTEMS INC

41 @ 140

3 @ 121

34440
2178
36618

Load 6

2809

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND85B070507** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 16 JULY 2012** |

Other Information
M6 Propellant

| Sample Data | | | Solvent |
|---|---|---|---|
| #1 | 0.50 g | 100 ml | ACN |

| Standards (ERG-006) | | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 0.871 | 70.6 | 459.1 | 0.650 |
| 2,4-DNDPA | 50.0 | 3.368 | 934.1 | 0 | 0.000 |
| 2,2' DNDPA | 50.0 | 5.103 | 1888.6 | 22961 | 0.000 |
| 2,4' DNDPA | 50.0 | 7.516 | 1021.7 | 0 | 0.000 |
| 4NDPA | 50.0 | 8.938 | 1656.1 | 138.9 | 0.008 |
| 2NDPA | 50.0 | 10.131 | 2970.1 | 109.4 | 0.004 |
| DPA | 200.0 | 11.561 | 5887.3 | 342.8 | 0.023 |
| N-NitrosoDPA | 75.0 | 12.367 | 1376.5 | 0 | 0.000 |

0.686

| Avg. % Stabilizer for Lot | **0.686** |
|---|---|

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | |
|---|---|
| **Analyst** Takisha Dickerson | Avg. Tot. Stabilizers **0.69** % |
| Analyst Signature TDickerson | Stable YES \| Unstable |
| Lab. Supervisor Signature | Comments **CATEGORY: A** |
| | Actions to be Taken |

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND87BY70678** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 19 OCTOBER 2011** |

| Other Information | Sample Data | | Solvent |
|---|---|---|---|
| M6 Propellant | #1 | 0.50 g 100 ml | ACN |

| Standards (ERG-006) | | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 0.86 | 108.3 | 465.3 | 0.430 |
| 2,4-DNDPA | 50.0 | 3.439 | 927.1 | 0 | 0.000 |
| 2,2' DNDPA | 50.0 | 5.254 | 682.7 | 22447 | 0.000 |
| 2,4' DNDPA | 50.0 | 7.643 | 998.4 | 0 | 0.000 |
| 4NDPA | 50.0 | 9.185 | 1612.6 | 50 | 0.003 |
| 2NDPA | 50.0 | 10.427 | 2895.4 | 343.7 | 0.012 |
| DPA | 200.0 | 11.954 | 5562.6 | 261.2 | 0.019 |
| N-NitrosoDPA | 75.0 | 12.798 | 1360.9 | 0 | 0.000 |

| | | |
|---|---|---|
| | | 0.463 |
| | Avg. % Stabilizer for Lot | **0.463** |

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | | |
|---|---|---|
| **Analyst** TAKISHA DICKERSON | Avg. Tot. Stabilizers | **0.46** % |
| Analyst Signature | Stable YES | Unstable |
| | Comments **CATEGORY:** **A** | |
| Lab. Supervisor Signature | | |
| | Actions to be Taken | |

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND87D070450** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 23 AUG 2010** |

| Other Information | Sample Data | | Solvent |
|---|---|---|---|
| M6 Propellant | #1 | 0.5000 g 100 ml | ACN |

| Standards (ERG-006) | | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | | 0 | | |
| 2,4-DNDPA | 50.0 | 4.884 | 715.1 | 0 | 0.000 |
| 2,2' DNDPA | 50.0 | 9.663 | 794.8 | 5124.3 | 0.645 |
| 2,4' DNDPA | 50.0 | 11.213 | 1155.8 | 0 | 0.000 |
| 4NDPA | 50.0 | 11.899 | 750.7 | 0 | 0.000 |
| 2NDPA | 50.0 | 12.536 | 1565 | 0 | 0.000 |
| DPA | 200.0 | 13.934 | 4151.3 | 0 | 0.000 |
| N-NitrosoDPA | 75.0 | 14.875 | 1080.5 | 46.7 | 0.006 |

0.651

| Avg. % Stabilizer for Lot | **0.651** |
|---|---|

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| **Analyst** Kisha Dickerson | Avg. Tot. Stabilizers **0.65** % |
|---|---|
| Analyst Signature | Stable YES / Unstable |
| Lab. Supervisor Signature | Comments **CATEGORY: A** |
| | Actions to be Taken |

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND88J070969** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 24 OCT 2012** |

Other Information
M6 Propellant

| Sample Data | | | Solvent |
|---|---|---|---|
| #1 | 0.50 g | 100 ml | ACN |

| Standards (ERG-006) | | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 0.784 | 163 | 776.6 | 0.476 |
| 2,4-DNDPA | 50.0 | 3.299 | 808.4 | 0 | 0.000 |
| 2,2' DNDPA | 50.0 | 4.947 | 2591.5 | 24054 | 0.000 |
| 2,4' DNDPA | 50.0 | 7.024 | 871.2 | 0 | 0.000 |
| 4NDPA | 50.0 | 8.466 | 1408.7 | 50.3 | 0.004 |
| 2NDPA | 50.0 | 9.578 | 2554.8 | 81.2 | 0.003 |
| DPA | 200.0 | 11.01 | 4783.9 | 969.1 | 0.081 |
| N-NitrosoDPA | 75.0 | 11.732 | 1511.1 | 286 | 0.000 |

0.564

| Avg. % Stabilizer for Lot | **0.564** |
|---|---|

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | |
|---|---|
| **Analyst** MIKE KILE | Avg. Tot. Stabilizers **0.56** % |
| Analyst Signature | Stable YES / Unstable |
| Lab. Supervisor Signature | Comments<br>**CATEGORY: A** |
| | Actions to be Taken |

CONTAINS HAZARDOUS MATERIALS

# STRAIGHT BILL OF LADING — NOT NEGOTIABLE Load 8

RECEIVED, subject to the classification and tariffs in effect on the date of the issue of this Original Bill of Lading.
The property described below, in apparent good order, except as noted (contents and condition of contents of packages unknown) consigned, end destined as indicated below which said carrier (the word carrier being understood throughout this contract meaning any person or corporation in possession of the property under the contract) agrees to carr to its usual place of delivery at said destination. It on its route, otherwise to deliver to another carrier on the route to said destination. It is mutually agreed, as to each of all or any o said property over all or any portion of said route to destination, and as to each party at any time interested in all or any of said property, that every service lobe performe hereunder shall be subject to all the terms and conditions of the Uniform Domestic Straight Bill of Lading Set forth (t) in Uniform Freight Classification in effect on the date hereo It this is a rail or rail-water shipment, or (2) in the applicable motor carrier classification or tariff it this is a motor carrier shipment.

Shipper hereby certifies that he is familiar with all the terms and conditions of the said bill of lading, set forth in the classification or tariff which governs the transportation of thi shipment, and the sold terms and conditions are hereby agreed to by the shipper and accept for himself and his assigns.

Shipper: Explo Systems, Inc.
1600 Java Road
Minden, LA 71055

Shipper's No. 2812

Shipping Date 12-5-12

At

Purchase Order No.

By R/R  Freight Charges: Collect ____  Prepaid X  Location No. 1629

(Mail or Street Address of Consignee — For purposes of notification only)

Consigned to Austin Powder Co
Destination Frisco Plant #16  State
County East Camden AR
Route I-530 to 574 to 530 to 278

Fed Lic. 5-AR-103-20-5L-00139  Exp. Date 3/1/13
State Lic.  Exp. Date
Customer No.
Charge Account of  Customer P.O. No.  Rel. No.

| SHIPPED No. of PKGS | SHIPPED No. of UNITS | PROPER SHIPPING NAME AND HAZARD CLASS | RETURNED No. of PKGS | RETURNED No. of UNITS | EMERGENCY RESPONSE PROCEDURE GUIDE NO. | EXEMPTION DOT-E | H M | Placards Applied to Railcar or Motor Vehicle |
|---|---|---|---|---|---|---|---|---|
| 1 Pkg | 42,500 | UN0161, Powder, Smokeless, 1.3C, PG II | | | #112 | | | EXPLOSIVES 1.3 |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | Truck No. 6465 |
| | | | | | | | | Trailer No. |
| | | | | | | | | Mileage |
| | | | | | | | | Total Packages |
| | | | | | | | | Gross Weight # |
| | | | | | | | | Net Explosive Weight |
| | | | | | | | | |

RECEIVED
17A710
DEC 6 2012
AUSTIN POWDER COMPANY
EAST CAMDEN PLANT

This is to certify that the above-named materials are properly classified, described, packaged, marked, and labeled and are in proper condition for transportatior according to the applicable regulations of the Department of Transportation.

Signature _____  Invoice No. _____

FOR CHEMICAL EMERGENCY, SPILL, LEAK, FIRE, EXPOSURE OR ACCIDENT CALL CHEMTREC — DAY OR NIGHT
IN THE USA CALL 800-424-9300  IN CANADA (ERP #2-0040) 800-561-3636  ELSEWHERE CALL (703) 527-3887 CCN04589

Permanent Address of Shipper:
**Explo Systems, Inc.**
1600 Java Road
Minden, Louisiana 71055
(318) 382-8700

Per _____

DOT Hazardous Material Handling Number _____
Local Federal Explosives License No. 5-LA-119-20-1A-00057
(Shipper)

I have been offered placards identifying the shipment as Specified in 49CFR Subpart of Part 172. I have received the above goods in apparent good order and condition.

Received By M&K Trucking  Date 12/5/12
☐ CONSIGNEE ☐ CARRIER

By Mark Richey as Received  Date 12/5/12
AUTHORIZED RECEIVER

CONTAINS HAZARDOUS MATERIALS  Agent must detach and retain this Shipping O

019336

EXP_000970

Load 8

AUSTIN POWDER PACKING LIST

SHIPMENT DATE 5 DEC 2012

B/L# 2812 TRL 7810152

M-6

IND86M-070673 32 PTS

IND82L-070178 4 PTS

IND84B-070323 3 PTS

IND84B-070327 1 PTS

IND82D-070172 2 PT

42 PTS WITH 6 FB @140 LBS PER DRUM

TOTAL 35,280 LBS

LIONEL KOONS

EXPLO SYSTEMS INC

IIII IIII IIII IIII

IIII IIII IIII IIII

II

Load 8
2812

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND82L070178** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 1 FEB 2011** |

| Other Information | Sample Data | | Solvent |
|---|---|---|---|
| M6 Propellant | #1 | 0.5000 g 100 ml | ACN |

| Standards (ERG-006) | | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 4.156 | 1116 | 1943.1 | 0.174 |
| 2,4-DNDPA | 50.0 | 9.388 | 1191.2 | 25869.9 | 2.172 |
| 2,2' DNDPA | 50.0 | 10.987 | 1694.7 | 97.6 | 0.000 |
| 2,4' DNDPA | 50.0 | 11.73 | 1272.3 | 145.3 | 0.011 |
| 4NDPA | 50.0 | 12.459 | 2443.3 | 0 | 0.000 |
| 2NDPA | 50.0 | 13.939 | 5852.1 | 388.6 | 0.007 |
| DPA | 200.0 | 15.022 | 1753.1 | 361.4 | 0.082 |
| N-NitrosoDPA | 75.0 | 18.932 | 2535.1 | 365.7 | 0.000 |

| | | |
|---|---|---|
| | | 2.446 |
| Avg. % Stabilizer for Lot | | **2.446** |

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | |
|---|---|
| **Analyst** Mike Kile | Avg. Tot. Stabilizers **2.45** % |
| Analyst Signature | Stable YES / Unstable |
| | Comments |
| Lab. Supervisor Signature | CATEGORY: A |
| | Actions to be Taken |

Form #158 Original Print Date:07/19/2010

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND84B070327** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 4 Sep 2012** |

| Other Information | Sample Data | | Solvent |
|---|---|---|---|
| M6 Propellant | #1 | 0.50 g 100 ml | ACN |

| | Standards (ERG-006) | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 0.889 | 48.8 | 501.9 | 1.028 |
| 2,4-DNDPA | 50.0 | 3.418 | 914.3 | 0 | 0.000 |
| 2,2' DNDPA | 50.0 | 5.22 | 777.3 | 23336 | 0.000 |
| 2,4' DNDPA | 50.0 | 7.622 | 980.5 | 0 | 0.000 |
| 4NDPA | 50.0 | 9.134 | 1586.8 | 95.7 | 0.006 |
| 2NDPA | 50.0 | 10.417 | 2826.3 | 104 | 0.004 |
| DPA | 200.0 | 11.797 | 5671.5 | 673.4 | 0.047 |
| N-NitrosoDPA | 75.0 | 12.757 | 1337.5 | 0 | 0.000 |

1.086

| Avg. % Stabilizer for Lot | **1.086** |
|---|---|

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | |
|---|---|
| **Analyst** Mike Kile | Avg. Tot. Stabilizers **1.09** % |
| Analyst Signature | Stable YES / Unstable |
| Lab. Supervisor Signature | Comments **CATEGORY: A** |
| | Actions to be Taken |

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND86MY70673** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 19 OCTOBER 2011** |

| Other Information | Sample Data | | | Solvent |
|---|---|---|---|---|
| M6 Propellant | #1 | 0.50 g | 100 ml | ACN |

| | Standards (ERG-006) | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 0.86 | 108.3 | 540.2 | 0.499 |
| 2,4-DNDPA | 50.0 | 3.439 | 927.1 | 0 | 0.000 |
| 2,2' DNDPA | 50.0 | 5.254 | 682.7 | 21945 | 0.000 |
| 2,4' DNDPA | 50.0 | 7.643 | 998.4 | 0 | 0.000 |
| 4NDPA | 50.0 | 9.185 | 1612.6 | 79.1 | 0.005 |
| 2NDPA | 50.0 | 10.427 | 2895.4 | 489.7 | 0.017 |
| DPA | 200.0 | 11.954 | 5562.6 | 82.2 | 0.006 |
| N-NitrosoDPA | 75.0 | 12.798 | 1360.9 | 0 | 0.000 |

| | | |
|---|---|---|
| | | 0.527 |
| Avg. % Stabilizer for Lot | | **0.527** |

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | | | |
|---|---|---|---|
| **Analyst** TAKISHA DICKERSON | | Avg. Tot. Stabilizers | **0.53** % |
| Analyst Signature | | Stable YES | Unstable |
| | | Comments | |
| Lab. Supervisor Signature | | **CATEGORY:** | **A** |
| | | Actions to be Taken | |

**CONTAINS HAZARDOUS MATERIALS**

# STRAIGHT BILL OF LADING — NOT NEGOTIABLE Load 9

RECEIVED, subject to the classification and tariffs in effect on the date of the issue of this Original Bill of Lading.
The property described below, in apparent good order, except as noted (contents and condition of contents of packages unknown) consigned, end destined as indicated below, which said carrier (the word carrier being understood throughout this contract meaning any person or corporation in possession of the property under the contract) agrees to curry to its usual place of delivery of said destination. It on its route, otherwise to deliver to another carrier on the route to said destination. It is mutually agreed, as to each of all or any of said property over all or any portion of said route to destination, and as to each party at any time interested in all or any of said property, that every service lobe performed hereunder shall be subject to all the terms and conditions of the Uniform Domestic Straight Bill of Lading Set forth (t) in Uniform Freight Classification in effect on the date hereof, It this is a rail or rail-water shipment, or (2) in the applicable motor carrier classification or tariff it this is a motor carrier shipment.

Shipper hereby certifies that he is familiar with all the terms and conditions of the said bill of lading, set forth in the classification or tariff which governs the transportation of this shipment, and the sold terms and conditions are hereby agreed to by the shipper and accept for himself and his assigns.

Shipper: Explo Systems, Inc.
1600 Java Road
Minden, LA 71055

Shipper's No. 2810

Shipping Date 12-5-12

At

Purchase Order No.

By R/R

Freight Charges: Collect XXX Prepaid

Location No. 1629

(Mail or Street Address of Consignee — For purposes of notification only)

Consigned to Austin Powder

Destination Zwolle, Louisiana State

County East Carroll Parish

Route I-20 to 574 to 0550 to 302

Fed Lic. 5-LA-103-20-00139 Exp. Date 5-1-15

State Lic. Exp. Date

Customer No.

Charge Account of

Customer P.O. No.

Rel. No.

| SHIPPED No. of PKGS | SHIPPED No. of UNITS | PROPER SHIPPING NAME AND HAZARD CLASS | RETURNED No. of PKGS | RETURNED No. of UNITS | EMERGENCY RESPONSE PROCEDURE GUIDE NO. | EXEMPTION DOT-E | H M | Placards Applied to Railcar or Motor Vehicle |
|---|---|---|---|---|---|---|---|---|
| 954 KG | 954 | UN0161, Powder, Smokeless, 1.3C, PG II | | | #112 | | | EXPLOSIVES 1.3 |
| | | SEE PK List | | | | | | |
| | | | | | | | | Truck No. 7336 |
| | | | | | | | | Trailer No. 2 |
| | | | | | | | | Mileage |
| | | | | | | | | Total Packages |
| | | | | | | | | Gross Weight # 42,504 |
| | | Sic | | | | | | Net Explosive Weight |
| | | 7083 M1/7085 771 | | | | | | 35,080 |

RECEIVED
17A T.O
DEC - 6 2012
AUSTIN POWDER COMPANY
EAST CAMDEN PLANT

This is to certify that the above-named materials are properly classified, described, packaged, marked, and labeled and are in proper condition for transportation, according to the applicable regulations of the Department of Transportation.

Signature

Invoice No.

FOR CHEMICAL EMERGENCY, SPILL, LEAK, FIRE, EXPOSURE OR ACCIDENT CALL CHEMTREC — DAY OR NIGHT
IN THE USA CALL 800-424-9300 IN CANADA (ERP #2-0040) 800-561-3636 ELSEWHERE CALL (703) 527-3887

Permanent Address of Shipper:
**Explo Systems, Inc.**
1600 Java Road
Minden, Louisiana 71055
(318) 382-8700

Per

DOT Hazardous Material Handling Number
Local Federal Explosives License No. 5-LA-119-20-1A-00057
(Shipper)

I have been offered placards identifying the shipment as Specified in 49CFR Subpart F of Part 172. I have received the above goods in apparent good order and condition.

Received By Date 12-5-12
☐ CONSIGNEE ☐ CARRIER

By Date 12/6/12
AUTHORIZED RECEIVER

CONTAINS HAZARDOUS MATERIALS

Load 9

AUSTIN POWDER PACKING LIST

SHIPMENT DATE 5 DEC 2012

B/L# 2810

M-6

IND86M-070673 13 PTS

IND82L-070178 21 PTS

IND84B-070323 4 PTS

IND86M-070623 1 PT

IND84B-070327 2 PTS

IND82D-070172 1 PT

42 PTS WITH 6 FB @140 LBS PER DRUM

TOTAL 35,280 LBS

LIONEL KOONS

EXPLO SYSTEMS INC

1111 1111 1111 1111

1111 1111 1111 1111

111

1 BUSTED

Lond 7
2810

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND82L070178** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 1 FEB 2011** |

Other Information
M6 Propellant

Sample Data
#1 0.5000 g 100 ml Solvent ACN

| Standards (ERG-006) | | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 4.156 | 1116 | 1943.1 | 0.174 |
| 2,4-DNDPA | 50.0 | 9.388 | 1191.2 | 25869.9 | 2.172 |
| 2,2' DNDPA | 50.0 | 10.987 | 1694.7 | 97.6 | 0.000 |
| 2,4' DNDPA | 50.0 | 11.73 | 1272.3 | 145.3 | 0.011 |
| 4NDPA | 50.0 | 12.459 | 2443.3 | 0 | 0.000 |
| 2NDPA | 50.0 | 13.939 | 5852.1 | 388.6 | 0.007 |
| DPA | 200.0 | 15.022 | 1753.1 | 361.4 | 0.082 |
| N-NitrosoDPA | 75.0 | 18.932 | 2535.1 | 365.7 | 0.000 |

2.446

| | |
|---|---|
| Avg. % Stabilizer for Lot | **2.446** |

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | |
|---|---|
| **Analyst** Mike Kile | Avg. Tot. Stabilizers **2.45** % |
| Analyst Signature | Stable YES / Unstable |
| Lab. Supervisor Signature | Comments<br>CATEGORY: A |
| | Actions to be Taken |

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND84B070327** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 4 Sep 2012** |

| Other Information | Sample Data | | Solvent |
|---|---|---|---|
| M6 Propellant | #1 | 0.50 g 100 ml | ACN |

| Standards (ERG-006) | | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 0.889 | 48.8 | 501.9 | 1.028 |
| 2,4-DNDPA | 50.0 | 3.418 | 914.3 | 0 | 0.000 |
| 2,2' DNDPA | 50.0 | 5.22 | 777.3 | 23336 | 0.000 |
| 2,4' DNDPA | 50.0 | 7.622 | 980.5 | 0 | 0.000 |
| 4NDPA | 50.0 | 9.134 | 1586.8 | 95.7 | 0.006 |
| 2NDPA | 50.0 | 10.417 | 2826.3 | 104 | 0.004 |
| DPA | 200.0 | 11.797 | 5671.5 | 673.4 | 0.047 |
| N-NitrosoDPA | 75.0 | 12.757 | 1337.5 | 0 | 0.000 |

| | | |
|---|---|---|
| | | 1.086 |
| | Avg. % Stabilizer for Lot | **1.086** |

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | | |
|---|---|---|
| **Analyst** Mike Kile | Avg. Tot. Stabilizers | **1.09** % |
| Analyst Signature | Stable YES | Unstable |
| | Comments | |
| Lab. Supervisor Signature | **CATEGORY:** | **A** |
| | Actions to be Taken | |

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND86M070673** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 7 FEB 2012** |

| Other Information | Sample Data | | Solvent |
|---|---|---|---|
| M6 Propellant | #1 | 0.50 g 100 ml | ACN |

| | Standards (ERG-006) | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 0.863 | 50.1 | 452.6 | 0.903 |
| 2,4-DNDPA | 50.0 | 3.336 | 893.6 | 0 | 0.000 |
| 2,2' DNDPA | 50.0 | 5.03 | 726.8 | 22299 | 0.000 |
| 2,4' DNDPA | 50.0 | 7.182 | 1225.5 | 0 | 0.000 |
| 4NDPA | 50.0 | 8.642 | 1532.1 | 67.5 | 0.004 |
| 2NDPA | 50.0 | 9.759 | 2784.7 | 120.3 | 0.004 |
| DPA | 200.0 | 11.235 | 5480.9 | 727.3 | 0.053 |
| N-NitrosoDPA | 75.0 | 11.979 | 1363.1 | 0 | 0.000 |

| | | |
|---|---|---|
| | | 0.965 |
| | Avg. % Stabilizer for Lot | **0.965** |

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | | |
|---|---|---|
| **Analyst** TAKISHA DICKERSON | Avg. Tot. Stabilizers | **0.97** % |
| Analyst Signature | Stable YES | Unstable |
| | Comments | |
| Lab. Supervisor Signature | **CATEGORY:** | **A** |
| | Actions to be Taken | |

CONTAINS HAZARDOUS MATERIALS

# STRAIGHT BILL OF LADING

**NOT NEGOTIABLE** Load 10

RECEIVED, subject to the classification and tariffs in effect on the date of the issue of this Original Bill of Lading.
The property described below, in apparent good order, except as noted (contents and condition of contents of packages unknown) consigned, end destined as indicated below, which said carrier (the word carrier being understood throughout this contract meaning any person or corporation in possession of the property under the contract) agrees to curry to its usual place of delivery of said destination. It on its route, otherwise to deliver to another carrier on the route to said destination. It is mutually agreed, as to each of all or any of said property over all or any portion of said route to destination, and as to each party at any time interested in all or any of said property, that every service lobe performed hereunder shall be subject to all the terms and conditions of the Uniform Domestic Straight Bill of Lading Set forth (t) in Uniform Freight Classification in effect on the date hereof, It this is a rail or rail-water shipment, or (2) in the applicable motor carrier classification or tariff it this is a motor carrier shipment.
Shipper hereby certifies that he is familiar with all the terms and conditions of the said bill of lading, set forth in the classification or tariff which governs the transportation of this shipment, and the sold terms and conditions are hereby agreed to by the shipper and accept for himself and his assigns.

Shipper: Explo Systems, Inc.
1600 Java Road
Minden, LA 71055

Shipper's No. 2814

Shipping Date 12-6-12

At

Purchase Order No.

By SLW

Freight Charges: Collect _____ Prepaid XVV

Location No. 1629

(Mail or Street Address of Consignee — For purposes of notification only)

Consigned to Austin Powder Co

Fed Lic. 5-AR-103-20-SE-00139

Exp. Date 5/1/15

Destination 7LL10 Blandy Rd

State

State Lic.

Exp. Date

County East Camden Ar 71711

Customer No.

Route

Charge Account of 1-870-574-0580 Ex 302

Customer P.O. No.

Rel. No.

| SHIPPED No. of PKGS | SHIPPED No. of UNITS | PROPER SHIPPING NAME AND HAZARD CLASS | RETURNED No. of PKGS | RETURNED No. of UNITS | EMERGENCY RESPONSE PROCEDURE GUIDE NO. | EXEMPTION DOT-E | HM | Placards Applied to Railcar or Motor Vehicle |
|---|---|---|---|---|---|---|---|---|
| 252 16 | 47 PT | UN0161, Powder, Smokeless, 1.3C, PG II | | | #112 | 20100406 05 | 1 | EXPLOSIVES 1.3 |
| | | | | | | | | |
| | | See DK List | | | | | | |
| | | | | | | | | Truck No. 2038 |
| | | | | | | | | Trailer No. 70357 |
| | | | | | | | | Mileage |
| | | | | | | | | Total 252 16 PD Packages |
| | | | | | | | | Gross Weight # 37000 |
| | | Seal | | | | | | Net Explosive Weight |
| | | 7083796 - 3797 | | | | | | 35,180 |

RECEIVED
17AT10
DEC - 6 2012
AUSTIN POWDER COMPANY
EAST CAMDEN PLANT

This is to certify that the above-named materials are properly classified, described, packaged, marked, and labeled and are in proper condition for transportation, according to the applicable regulations of the Department of Transportation.

Signature [signature]

Invoice No. _____

FOR CHEMICAL EMERGENCY, SPILL, LEAK, FIRE, EXPOSURE OR ACCIDENT CALL CHEMTREC — DAY OR NIGHT
IN THE USA CALL 800-424-9300 IN CANADA (ERP #2-0040) 800-561-3636 ELSEWHERE CALL (703) 527-3887 CLR644589

Permanent Address of Shipper:
**Explo Systems, Inc.**
1600 Java Road
Minden, Louisiana 71055
(318) 382-8700

Per _____

DOT Hazardous Material Handling Number _____
Local Federal Explosives License No. 5-LA-119-20-1A-00057
(Shipper)

I have been offered placards identifying the shipment as Specified in 49CFR Subpart F of Part 172. I have received the above goods in apparent good order and condition.

Received By [signature] Date 12-6-12
☐ CONSIGNEE ☐ CARRIER

By [signature] Date 12/06/12
AUTHORIZED RECEIVER

CONTAINS HAZARDOUS MATERIALS

Agent must detach and retain this Shipping Order

019346

EXP_000980

AUSTIN POWDER PACKING LIST

SHIPMENT DATE 6 DEC 2012

B/L# 2814 TRL 70357

M-6

IND86M-070673 12 PTS
IND82L-070178 7 PTS
IND84G-070326 2 PTS
IND83F-070278 2 PT
IND82D-070113 1 PT
IND83G-070281 2 PTS
IND82D-070110 6 PTS
IND82H-070168 2 PTS
IND83F-070276 8 PTS
42 PTS WITH 6 FB @140 LBS PER DRUM

TOTAL 35,280 LBS

LIONEL KOONS

EXPLO SYSTEMS INC

Load 10
2814

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND82L070178** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 1 FEB 2011** |

| Other Information | Sample Data | | Solvent |
|---|---|---|---|
| M6 Propellant | #1 | 0.5000 g 100 ml | ACN |

| Standards (ERG-006) | | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 4.156 | 1116 | 1943.1 | 0.174 |
| 2,4-DNDPA | 50.0 | 9.388 | 1191.2 | 25869.9 | 2.172 |
| 2,2' DNDPA | 50.0 | 10.987 | 1694.7 | 97.6 | 0.000 |
| 2,4' DNDPA | 50.0 | 11.73 | 1272.3 | 145.3 | 0.011 |
| 4NDPA | 50.0 | 12.459 | 2443.3 | 0 | 0.000 |
| 2NDPA | 50.0 | 13.939 | 5852.1 | 388.6 | 0.007 |
| DPA | 200.0 | 15.022 | 1753.1 | 361.4 | 0.082 |
| N-NitrosoDPA | 75.0 | 18.932 | 2535.1 | 365.7 | 0.000 |

2.446

| Avg. % Stabilizer for Lot | **2.446** |
|---|---|

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| **Analyst** Mike Kile | Avg. Tot. Stabilizers **2.45** % |
|---|---|
| Analyst Signature | Stable YES Unstable |
| | Comments |
| Lab. Supervisor Signature | CATEGORY: A |
| | Actions to be Taken |

Form #158 Original Print Date:07/19/2010

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND82D070113** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 6 JAN 2012** |

Other Information
M6 Propellant

| Sample Data | | | Solvent |
|---|---|---|---|
| #1 | 0.50 g | 100 ml | ACN |

| Standards (ERG-006) | | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 0.65 | 119.1 | 328.4 | 0.276 |
| 2,4-DNDPA | 50.0 | 3.304 | 1019.8 | 16 | 0.002 |
| 2,2' DNDPA | 50.0 | 4.943 | 1734.6 | 21955 | 0.000 |
| 2,4' DNDPA | 50.0 | 7.018 | 1103.9 | 0 | 0.000 |
| 4NDPA | 50.0 | 8.439 | 1782.5 | 66.8 | 0.004 |
| 2NDPA | 50.0 | 9.513 | 3182.1 | 143.1 | 0.004 |
| DPA | 200.0 | 10.956 | 6219.8 | 790.9 | 0.051 |
| N-NitrosoDPA | 75.0 | 11.669 | 1532.4 | 0 | 0.000 |

0.336

Avg. % Stabilizer for Lot **0.336**

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | |
|---|---|
| **Analyst** TAKISHA DICKERSON | Avg. Tot. Stabilizers **0.34** % |
| Analyst Signature | Stable YES / Unstable |
| | Comments **CATEGORY: A** |
| Lab. Supervisor Signature | |
| | Actions to be Taken |

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND82D070110** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 27 JULY 2011** |

| Other Information | Sample Data | | Solvent |
|---|---|---|---|
| M6 Propellant | #1 | 0.50 g 100 ml | ACN |

| | Standards (ERG-006) | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 0.694 | 112.8 | 437.7 | 0.388 |
| 2,4-DNDPA | 50.0 | 3.477 | 942.8 | 0 | 0.000 |
| 2,2' DNDPA | 50.0 | 5.339 | 77.4 | 22925 | 0.000 |
| 2,4' DNDPA | 50.0 | 7.842 | 1020.3 | 0 | 0.000 |
| 4NDPA | 50.0 | 9.392 | 1634.2 | 119.1 | 0.007 |
| 2NDPA | 50.0 | 10.693 | 2956.2 | 134.9 | 0.005 |
| DPA | 200.0 | 12.201 | 5630.5 | 218.4 | 0.016 |
| N-NitrosoDPA | 75.0 | 13.103 | 1385.2 | 0 | 0.000 |

| | | |
|---|---|---|
| | | 0.415 |
| Avg. % Stabilizer for Lot | | **0.415** |

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | |
|---|---|
| **Analyst** Mike Kile | Avg. Tot. Stabilizers **0.42** % |
| Analyst Signature | Stable YES \| Unstable |
| Lab. Supervisor Signature | Comments **CATEGORY: A** |
| | Actions to be Taken |

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND82H070168** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 1 FEB 2011** |

| Other Information | Sample Data | | Solvent |
|---|---|---|---|
| M6 Propellant | #1 | 0.5000 g 100 ml | ACN |

| Standards (ERG-006) | | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 4.156 | 1116 | 2540.4 | 0.228 |
| 2,4-DNDPA | 50.0 | 9.388 | 1191.2 | 31231.4 | 2.622 |
| 2,2' DNDPA | 50.0 | 10.987 | 1694.7 | 51.5 | 0.000 |
| 2,4' DNDPA | 50.0 | 11.73 | 1272.3 | 143.2 | 0.011 |
| 4NDPA | 50.0 | 12.459 | 2443.3 | 0 | 0.000 |
| 2NDPA | 50.0 | 13.939 | 5852.1 | 838.5 | 0.014 |
| DPA | 200.0 | 15.022 | 1753.1 | 0 | 0.000 |
| N-NitrosoDPA | 75.0 | 18.932 | 2535.1 | 985.4 | 0.000 |

| | | |
|---|---|---|
| | | 2.875 |
| Avg. % Stabilizer for Lot | | **2.875** |

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | |
|---|---|
| **Analyst** Mike Kile | Avg. Tot. Stabilizers **2.88** % |
| Analyst Signature | Stable YES \| Unstable |
| Lab. Supervisor Signature | Comments **CATEGORY: A** |
| | Actions to be Taken |

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND83F070278** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 11 JULY 2012** |

| Other Information | Sample Data | | Solvent |
|---|---|---|---|
| M6 Propellant | #1 | 0.50 g 100 ml | ACN |

| | Standards (ERG-006) | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 0.803 | 32.3 | 256.2 | 0.793 |
| 2,4-DNDPA | 50.0 | 3.397 | 945.1 | 0 | 0.000 |
| 2,2' DNDPA | 50.0 | 5.155 | 1995.1 | 21574 | 0.000 |
| 2,4' DNDPA | 50.0 | 7.525 | 949.2 | 0 | 0.000 |
| 4NDPA | 50.0 | 9.04 | 1580.4 | 89.7 | 0.006 |
| 2NDPA | 50.0 | 10.278 | 2854 | 35.4 | 0.001 |
| DPA | 200.0 | 11.761 | 5473.7 | 589.5 | 0.043 |
| N-NitrosoDPA | 75.0 | 12.606 | 1672.4 | 0 | 0.000 |
| | | | | | 0.843 |
| | | Avg. % Stabilizer for Lot | | | **0.843** |

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | |
|---|---|
| **Analyst** Takisha Dickerson | Avg. Tot. Stabilizers **0.84** % |
| Analyst Signature | Stable YES / Unstable |
| Lab. Supervisor Signature | Comments **CATEGORY: A** |
| | Actions to be Taken |

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND83F070276** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 8 SEPTEMBER 2** |

| Other Information | Sample Data | | Solvent |
|---|---|---|---|
| M6 Propellant | #1 | 0.50 g 100 ml | ACN |

| Standards (ERG-006) | | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 0.661 | 105 | 324.9 | 0.309 |
| 2,4-DNDPA | 50.0 | 3.445 | 956.3 | 26.6 | 0.003 |
| 2,2' DNDPA | 50.0 | 5.251 | 1621.3 | 24641 | 0.000 |
| 2,4' DNDPA | 50.0 | 7.652 | 1041.4 | 23.8 | 0.002 |
| 4NDPA | 50.0 | 9.199 | 1675.3 | 187.8 | 0.011 |
| 2NDPA | 50.0 | 10.475 | 2996.6 | 224.7 | 0.007 |
| DPA | 200.0 | 11.998 | 5813.2 | 455.7 | 0.031 |
| N-NitrosoDPA | 75.0 | 12.869 | 1403.1 | 0 | 0.000 |

| | | |
|---|---|---|
| | | 0.365 |
| Avg. % Stabilizer for Lot | | **0.365** |

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | |
|---|---|
| **Analyst** KISHA DICKERSON | Avg. Tot. Stabilizers **0.36** % |
| Analyst Signature | Stable YES / Unstable |
| Lab. Supervisor Signature | Comments **CATEGORY: A** |
| | Actions to be Taken |

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND83G070281** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 13 AUGUST 2012** |

| Other Information | Sample Data | | Solvent |
|---|---|---|---|
| M6 Propellant | #1 | 0.50 g 100 ml | ACN |

| | Standards (ERG-006) | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 0.874 | 41.1 | 199.6 | 0.486 |
| 2,4-DNDPA | 50.0 | 3.363 | 1017.6 | 13.9 | 0.001 |
| 2,2' DNDPA | 50.0 | 5.079 | 4556.2 | 21910 | 0.000 |
| 2,4' DNDPA | 50.0 | 7.471 | 1126.4 | 0 | 0.000 |
| 4NDPA | 50.0 | 8.907 | 1830.9 | 71.9 | 0.004 |
| 2NDPA | 50.0 | 10.084 | 3271.2 | 123.5 | 0.004 |
| DPA | 200.0 | 11.54 | 6554.9 | 888.5 | 0.054 |
| N-NitrosoDPA | 75.0 | 12.349 | 1509.1 | 0 | 0.000 |
| | | | | | 0.549 |
| | | Avg. % Stabilizer for Lot | | | **0.549** |

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | |
|---|---|
| **Analyst** Takisha Dickerson | Avg. Tot. Stabilizers **0.55** % |
| Analyst Signature | Stable YES / Unstable |
| Lab. Supervisor Signature | Comments **CATEGORY: A** |
| | Actions to be Taken |

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND84G070326** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 18 JULY 2012** |

| Other Information | Sample Data | | Solvent |
|---|---|---|---|
| M6 Propellant | #1 | 0.50 g 100 ml | ACN |

| Standards (ERG-006) | | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 0.863 | 133.9 | 498.4 | 0.372 |
| 2,4-DNDPA | 50.0 | 3.365 | 949.7 | 0 | 0.000 |
| 2,2' DNDPA | 50.0 | 5.091 | 2605.4 | 24044 | 0.000 |
| 2,4' DNDPA | 50.0 | 7.514 | 1047.9 | 0 | 0.000 |
| 4NDPA | 50.0 | 8.946 | 1698.8 | 49.1 | 0.003 |
| 2NDPA | 50.0 | 10.142 | 3039.5 | 84.6 | 0.003 |
| DPA | 200.0 | 11.585 | 6044.7 | 789.2 | 0.052 |
| N-NitrosoDPA | 75.0 | 12.4 | 1395.6 | 0 | 0.000 |

| | 0.430 |
|---|---|
| Avg. % Stabilizer for Lot | **0.430** |

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | |
|---|---|
| **Analyst** Takisha Dickerson | Avg. Tot. Stabilizers **0.43** % |
| Analyst Signature Dickerson | Stable YES \| Unstable |
| Lab. Supervisor Signature | Comments **CATEGORY: A** |
| | Actions to be Taken |

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND86M070673** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 7 FEB 2012** |

Other Information
M6 Propellant

| Sample Data | | | Solvent |
|---|---|---|---|
| #1 | 0.50 g | 100 ml | ACN |

| | Standards (ERG-006) | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 0.863 | 50.1 | 452.6 | 0.903 |
| 2,4-DNDPA | 50.0 | 3.336 | 893.6 | 0 | 0.000 |
| 2,2' DNDPA | 50.0 | 5.03 | 726.8 | 22299 | 0.000 |
| 2,4' DNDPA | 50.0 | 7.182 | 1225.5 | 0 | 0.000 |
| 4NDPA | 50.0 | 8.642 | 1532.1 | 67.5 | 0.004 |
| 2NDPA | 50.0 | 9.759 | 2784.7 | 120.3 | 0.004 |
| DPA | 200.0 | 11.235 | 5480.9 | 727.3 | 0.053 |
| N-NitrosoDPA | 75.0 | 11.979 | 1363.1 | 0 | 0.000 |

| | | |
|---|---|---|
| | | 0.965 |
| Avg. % Stabilizer for Lot | | **0.965** |

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | |
|---|---|
| **Analyst** TAKISHA DICKERSON | Avg. Tot. Stabilizers **0.97** % |
| Analyst Signature | Stable YES / Unstable |
| Lab. Supervisor Signature | Comments **CATEGORY: A** |
| | Actions to be Taken |

CONTAINS HAZARDOUS MATERIALS

# STRAIGHT BILL OF LADING

**NOT NEGOTIABLE** Load 11

RECEIVED, subject to the classification and tariffs in effect on the date of the issue of this Original Bill of Lading.
The property described below, in apparent good order, except as noted (contents and condition of contents of packages unknown) consigned, end destined as indicated below, which said carrier (the word carrier being understood throughout this contract meaning any person or corporation in possession of the property under the contract) agrees to curry to its usual place of delivery of said destination. It on its route, otherwise to deliver to another carrier on the route to said destination. It is mutually agreed, as to each of all or any of said property over all or any portion of said route to destination, and as to each party at any time interested in all or any of said property, that every service lobe performed hereunder shall be subject to all the terms and conditions of the Uniform Domestic Straight Bill of Lading Set forth (t) in Uniform Freight Classification in effect on the date hereof, It this is a rail or rail-water shipment, or (2) in the applicable motor carrier classification or tariff it this is a motor carrier shipment.
Shipper hereby certifies that he is familiar with all the terms and conditions of the said bill of lading, set forth in the classification or tariff which governs the transportation of this shipment, and the sold terms and conditions are hereby agreed to by the shipper and accept for himself and his assigns.

Shipper: Explo Systems, Inc.
1600 Java Road
Minden, LA 71055

Shipper's No. 2815

Shipping Date 12-6-12

At

Purchase Order No.

By SL+W

Freight Charges: Collect _____ Prepaid XXXX

Location No. 1629

(Mail or Street Address of Consignee — For purposes of notification only)

Consigned to AUSTIN POWDER CO

Fed Lic. 5-HR-103-20-SE-00139-

Exp. Date 5/1/15

Destination 7-LE-10 BLANDY RD

State

State Lic.

Exp. Date

County EAST CAMDEN AR 71711

Customer No.

Route

Charge Account of 1-870-574-0580 Ex 302

Customer P.O. No.

Rel. No.

| SHIPPED No. of PKGS | SHIPPED No. of UNITS | PROPER SHIPPING NAME AND HAZARD CLASS | RETURNED No. of PKGS | RETURNED No. of UNITS | EMERGENCY RESPONSE PROCEDURE GUIDE NO. | EXEMPTION DOT-E | H M | Placards Applied to Railcar or Motor Vehicle |
|---|---|---|---|---|---|---|---|---|
| 253/16 | 42 | UN0161, Powder, Smokeless, 1.3C, PG II | | | #112 | 2010040603 | X | EXPLOSIVES 1.3 |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | Truck No. 8106 |
| | | | | | | | | Trailer No. 30030 |
| | | | | | | | | Mileage |
| | | | | | | | | Total Packages |
| | | | | | | | | Gross Weight # |
| | | | | | | | | Net Explosive Weight |
| | | | | | | | | |

RECEIVED
17AT11
DEC - 6 2012
AUSTIN POWDER COMPANY
EAST CAMDEN PLANT

This is to certify that the above-named materials are properly classified, described, packaged, marked, and labeled and are in proper condition for transportation, according to the applicable regulations of the Department of Transportation.

Signature _____

Invoice No. _____

FOR CHEMICAL EMERGENCY, SPILL, LEAK, FIRE, EXPOSURE OR ACCIDENT CALL CHEMTREC — DAY OR NIGHT
IN THE USA CALL 800-424-9300 IN CANADA (ERP #2-0040) 800-561-3636 ELSEWHERE CALL (703) 527-3887 CCK644589

Permanent Address of Shipper:
**Explo Systems, Inc.**
1600 Java Road
Minden, Louisiana 71055
(318) 382-8700

Per _____

DOT Hazardous Material Handling Number _____
Local Federal Explosives License No. 5-LA-119-20-1A-00057
(Shipper)

I have been offered placards identifying the shipment as Specified in 49CFR Subpart F of Part 172. I have received the above goods in apparent good order and condition.

Received By _____ Date 12-6-12
☐ CONSIGNEE ☐ CARRIER

By _____ Date 12/06/12
AUTHORIZED RECEIVER

CONTAINS HAZARDOUS MATERIALS

Agent must detach and retain this Shipping Order

019357

EXP_000991

AUSTIN POWDER PACKING LIST

SHIPMENT DATE 6 DEC 2012

B/L# 2815 TRL 30030

M-6

IND83F-070278 4 PTS
IND82D-070113 2 PTS
IND83G-070281 2 PTS
IND82H-070168 5 PTS
IND83F-070276 27 PTS
IND83F-070018 2 PTS

IND83F-070276 8 PTS
42 PTS WITH 6 FB @140 LBS PER DRUM

TOTAL 35,280 LBS

LIONEL KOONS

EXPLO SYSTEMS INC

019358

EXP_000992

11
28/5

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND83G070281** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 4 April 2012** |

| Other Information | Sample Data | | Solvent |
|---|---|---|---|
| M6 Propellant | #1 | 0.50 g 100 ml | ACN |

| | Standards (ERG-006) | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 0.881 | 40.9 | 93.7 | 0.229 |
| 2,4-DNDPA | 50.0 | 3.279 | 928 | 0 | 0.000 |
| 2,2' DNDPA | 50.0 | 4.66 | 26957 | 26191 | 0.000 |
| 2,4' DNDPA | 50.0 | 6.571 | 992.8 | 0 | 0.000 |
| 4NDPA | 50.0 | 7.798 | 1662.7 | 158.3 | 0.010 |
| 2NDPA | 50.0 | 8.806 | 2938.9 | 98.9 | 0.003 |
| DPA | 200.0 | 10.221 | 5774.5 | 1004.4 | 0.070 |
| N-NitrosoDPA | 75.0 | 10.895 | 1475.9 | 0 | 0.000 |

0.312

| Avg. % Stabilizer for Lot | **0.312** |
|---|---|

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| **Analyst** Takisha Dickerson | Avg. Tot. Stabilizers **0.31** % |
|---|---|
| Analyst Signature | Stable YES \| Unstable |
| Lab. Supervisor Signature | Comments **CATEGORY: A** |
| | Actions to be Taken |

Form #158

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND83F070278** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 11 JULY 2012** |

| Other Information | Sample Data | | Solvent |
|---|---|---|---|
| M6 Propellant | #1 | 0.50 g 100 ml | ACN |

| | Standards (ERG-006) | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 0.803 | 32.3 | 256.2 | 0.793 |
| 2,4-DNDPA | 50.0 | 3.397 | 945.1 | 0 | 0.000 |
| 2,2' DNDPA | 50.0 | 5.155 | 1995.1 | 21574 | 0.000 |
| 2,4' DNDPA | 50.0 | 7.525 | 949.2 | 0 | 0.000 |
| 4NDPA | 50.0 | 9.04 | 1580.4 | 89.7 | 0.006 |
| 2NDPA | 50.0 | 10.278 | 2854 | 35.4 | 0.001 |
| DPA | 200.0 | 11.761 | 5473.7 | 589.5 | 0.043 |
| N-NitrosoDPA | 75.0 | 12.606 | 1672.4 | 0 | 0.000 |

| | | |
|---|---|---|
| | | 0.843 |
| | Avg. % Stabilizer for Lot | **0.843** |

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | |
|---|---|
| **Analyst** Takisha Dickerson | Avg. Tot. Stabilizers **0.84** % |
| Analyst Signature | Stable YES \| Unstable |
| | Comments **CATEGORY: A** |
| Lab. Supervisor Signature | |
| | Actions to be Taken |

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND83F070276** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 4 Sep 2012** |

Other Information
M6 Propellant

| Sample Data | | | Solvent |
|---|---|---|---|
| #1 | 0.50 g | 100 ml | ACN |

| Standards (ERG-006) | | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 0.889 | 48.8 | 578.6 | 1.186 |
| 2,4-DNDPA | 50.0 | 3.418 | 914.3 | 0 | 0.000 |
| 2,2' DNDPA | 50.0 | 5.22 | 777.3 | 23990 | 0.000 |
| 2,4' DNDPA | 50.0 | 7.622 | 980.5 | 0 | 0.000 |
| 4NDPA | 50.0 | 9.134 | 1586.8 | 40.6 | 0.003 |
| 2NDPA | 50.0 | 10.417 | 2826.3 | 88.7 | 0.003 |
| DPA | 200.0 | 11.797 | 5671.5 | 812.6 | 0.057 |
| N-NitrosoDPA | 75.0 | 12.757 | 1337.5 | 0 | 0.000 |
| | | | | | 1.249 |
| | | | Avg. % Stabilizer for Lot | | **1.249** |

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | |
|---|---|
| **Analyst** Mike Kile | Avg. Tot. Stabilizers **1.25** % |
| Analyst Signature | Stable YES / Unstable |
| Lab. Supervisor Signature | Comments **CATEGORY: A** |
| | Actions to be Taken |

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND82H070168** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 1 FEB 2011** |

| Other Information | Sample Data | | Solvent |
|---|---|---|---|
| M6 Propellant | #1 | 0.5000 g 100 ml | ACN |

| Standards (ERG-006) | | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 4.156 | 1116 | 2540.4 | 0.228 |
| 2,4-DNDPA | 50.0 | 9.388 | 1191.2 | 31231.4 | 2.622 |
| 2,2' DNDPA | 50.0 | 10.987 | 1694.7 | 51.5 | 0.000 |
| 2,4' DNDPA | 50.0 | 11.73 | 1272.3 | 143.2 | 0.011 |
| 4NDPA | 50.0 | 12.459 | 2443.3 | 0 | 0.000 |
| 2NDPA | 50.0 | 13.939 | 5852.1 | 838.5 | 0.014 |
| DPA | 200.0 | 15.022 | 1753.1 | 0 | 0.000 |
| N-NitrosoDPA | 75.0 | 18.932 | 2535.1 | 985.4 | 0.000 |

| | |
|---|---|
| | 2.875 |
| Avg. % Stabilizer for Lot | **2.875** |

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | |
|---|---|
| **Analyst** Mike Kile | Avg. Tot. Stabilizers **2.88** % |
| Analyst Signature | Stable YES / Unstable |
| | Comments |
| Lab. Supervisor Signature | **CATEGORY: A** |
| | Actions to be Taken |

Form #150

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND82D070113** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 6 JAN 2012** |

Other Information
M6 Propellant

| Sample Data | | | Solvent |
|---|---|---|---|
| #1 | 0.50 g | 100 ml | ACN |

| | Standards (ERG-006) | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 0.65 | 119.1 | 328.4 | 0.276 |
| 2,4-DNDPA | 50.0 | 3.304 | 1019.8 | 16 | 0.002 |
| 2,2' DNDPA | 50.0 | 4.943 | 1734.6 | 21955 | 0.000 |
| 2,4' DNDPA | 50.0 | 7.018 | 1103.9 | 0 | 0.000 |
| 4NDPA | 50.0 | 8.439 | 1782.5 | 66.8 | 0.004 |
| 2NDPA | 50.0 | 9.513 | 3182.1 | 143.1 | 0.004 |
| DPA | 200.0 | 10.956 | 6219.8 | 790.9 | 0.051 |
| N-NitrosoDPA | 75.0 | 11.669 | 1532.4 | 0 | 0.000 |

0.336

| Avg. % Stabilizer for Lot | **0.336** |
|---|---|

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | |
|---|---|
| **Analyst** TAKISHA DICKERSON | Avg. Tot. Stabilizers **0.34** % |
| Analyst Signature | Stable YES / Unstable |
| Lab. Supervisor Signature | Comments **CATEGORY: A** |
| | Actions to be Taken |

CONTAINS HAZARDOUS MATERIALS

# STRAIGHT BILL OF LADING

# NOT NEGOTIABLE

RECEIVED, subject to the classification and tariffs in effect on the date of the issue of this Original Bill of Lading.
The property described below, in apparent good order, except as noted (contents and condition of contents of packages unknown) consigned, and destined as indicated below, which said carrier (the word carrier being understood throughout this contract meaning any person or corporation in possession of the property under the contract) agrees to carry to its usual place of delivery of said destination. It on its route, otherwise to deliver to another carrier on the route to said destination. It is mutually agreed, as to each of all or any of said property over all or any portion of said route to destination, and as to each party at any time interested in all or any of said property, that every service lobe performed hereunder shall be subject to all the terms and conditions of the Uniform Domestic Straight Bill of Lading Set forth (1) in Uniform Freight Classification in effect on the date hereof, if this is a rail or rail-water shipment, or (2) in the applicable motor carrier classification or tariff if this is a motor carrier shipment.
Shipper hereby certifies that he is familiar with all the terms and conditions of the said bill of lading, set forth in the classification or tariff which governs the transportation of this shipment, and the sold terms and conditions are hereby agreed to by the shipper and accept for himself and his assigns.

Shippor: Explo Systems, Inc.
1600 Java Road
Minden, LA 71055

Shipper's No. 2816

Shipping Date 12-11-12

At

Purchase Order No.

By [illegible]

Freight Charges: Collect ___ Prepaid [illegible]

Location No. 1629

(Mail or Street Address of Consignee - For purposes of notification only)

Consigned to [illegible]

Fed Lic. [illegible] Exp. Date 5-1-15

Destination [illegible] State

State Lic. Exp. Date

County [illegible]

Customer No.

Route

Charge Account of [illegible]

Customer P.O. No.

Rel. No.

| SHIPPED No. of PKGS | SHIPPED No. of UNITS | PROPER SHIPPING NAME AND HAZARD CLASS | RETURNED No. of PKGS | RETURNED No. of UNITS | EMERGENCY RESPONSE PROCEDURE GUIDE NO. | EXEMPTION DOTE | HM | Placards Applied to Railcar or Motor Vehicle |
|---|---|---|---|---|---|---|---|---|
| [illegible] | 4427 | UN0161, Powder, Smokeless, 1.3C, PG II | | | #112 | [illegible] | Y | EXPLOSIVES 1.3 |
| | | [illegible] | | | | | | |
| | | | | | | | | Truck No. [illegible] |
| | | | | | | | | Trailer No. [illegible] |
| | | | | | | | | Mileage |
| | | | | | | | | Total [illegible] Packages |
| | | | | | | | | Gross Weight # [illegible] |
| | | [illegible] | | | | | | Net Explosive Weight [illegible] |

This is to certify that the above-named materials are properly classified, described, packaged, marked, and labeled and are in proper condition for transportation, according to the applicable regulations of the Department of Transportation.

Signature [illegible]

Invoice No. ___

FOR CHEMICAL EMERGENCY, SPILL, LEAK, FIRE, EXPOSURE OR ACCIDENT CALL CHEMTREC — DAY OR NIGHT
IN THE USA CALL 800-424-9300 IN CANADA (ERP #2-0040) 800-561-3636 ELSEWHERE CALL (703) 527-3887 [illegible]

Permanent Address of Shipper:
**Explo Systems, Inc.**
1600 Java Road
Minden, Louisiana 71055
(318) 382-8700

Per ___

DOT Hazardous Material Handling Number ___
Local Federal Explosives License No. 5-LA-119-20-1A-00057
(Shipper)

I have been offered placards identifying the shipment as Specified in 49CFR Subpart F of Part 172. I have received the above goods in apparent good order and condition.

Received By [illegible] Date 12-11-12
☐ CONSIGNEE ☐ CARRIER

By ___ Date ___
AUTHORIZED RECEIVER

CONTAINS HAZARDOUS MATERIALS

10/02/13 10:02 AM Wright 3187472049 Page 1

019364

EXP_000998

AUSTIN POWDER PACKING LIST

SHIPMENT DATE 11 DEC 2012

B/L# 2816 TRL 30075

M-6

IND83F-070278 4 PTS
IND84B-070323 4 PTS
IND83G-070281 1 PT
IND83F-070276 9 PTS
IND82D-070110 6 PTS
IND84B-070327 10 PTS
IND82J-070172 4 PTS
IND82K-070175 1 PT
IND81L-070072 1 PT
IND86M-070673 2 PTS
IND82L-070178 2 PTS

44 PTS WITH 6 FB @140 LBS PER DRUM

TOTAL 36,960

LIONEL KOONS

EXPLO SYSTEMS INC

12

2816

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND86M070673** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 7 FEB 2012** |

| Other Information | Sample Data | | Solvent |
|---|---|---|---|
| M6 Propellant | #1 | 0.50 g 100 ml | ACN |

| | Standards (ERG-006) | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 0.863 | 50.1 | 452.6 | 0.903 |
| 2,4-DNDPA | 50.0 | 3.336 | 893.6 | 0 | 0.000 |
| 2,2' DNDPA | 50.0 | 5.03 | 726.8 | 22299 | 0.000 |
| 2,4' DNDPA | 50.0 | 7.182 | 1225.5 | 0 | 0.000 |
| 4NDPA | 50.0 | 8.642 | 1532.1 | 67.5 | 0.004 |
| 2NDPA | 50.0 | 9.759 | 2784.7 | 120.3 | 0.004 |
| DPA | 200.0 | 11.235 | 5480.9 | 727.3 | 0.053 |
| N-NitrosoDPA | 75.0 | 11.979 | 1363.1 | 0 | 0.000 |

| | | |
|---|---|---|
| | | 0.965 |
| Avg. % Stabilizer for Lot | | **0.965** |

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | |
|---|---|
| **Analyst** TAKISHA DICKERSON | Avg. Tot. Stabilizers **0.97** % |
| Analyst Signature | Stable YES \| Unstable |
| | Comments **CATEGORY: A** |
| Lab. Supervisor Signature | |
| | Actions to be Taken |

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND84B070327** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 4 Sep 2012** |

| Other Information | Sample Data | | Solvent |
|---|---|---|---|
| M6 Propellant | #1 | 0.50 g 100 ml | ACN |

| Standards (ERG-006) | | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 0.889 | 48.8 | 501.9 | 1.028 |
| 2,4-DNDPA | 50.0 | 3.418 | 914.3 | 0 | 0.000 |
| 2,2' DNDPA | 50.0 | 5.22 | 777.3 | 23336 | 0.000 |
| 2,4' DNDPA | 50.0 | 7.622 | 980.5 | 0 | 0.000 |
| 4NDPA | 50.0 | 9.134 | 1586.8 | 95.7 | 0.006 |
| 2NDPA | 50.0 | 10.417 | 2826.3 | 104 | 0.004 |
| DPA | 200.0 | 11.797 | 5671.5 | 673.4 | 0.047 |
| N-NitrosoDPA | 75.0 | 12.757 | 1337.5 | 0 | 0.000 |
| | | | | | 1.086 |
| | | | Avg. % Stabilizer for Lot | | **1.086** |

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | |
|---|---|
| **Analyst** Mike Kile | Avg. Tot. Stabilizers **1.09** % |
| Analyst Signature | Stable YES / Unstable |
| Lab. Supervisor Signature | Comments **CATEGORY: A** |
| | Actions to be Taken |

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND84A070323** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 21 DEC 2011** |

| Other Information | Sample Data | | Solvent |
|---|---|---|---|
| M6 Propellant | #1 | 0.50 g 100 ml | ACN |

| Standards (ERG-006) | | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 0.67 | 192.9 | 675.2 | 0.350 |
| 2,4-DNDPA | 50.0 | 3.298 | 1077.6 | 0 | 0.000 |
| 2,2' DNDPA | 50.0 | 4.953 | 951.5 | 22469 | 0.000 |
| 2,4' DNDPA | 50.0 | 6.749 | 1136.2 | 0 | 0.000 |
| 4NDPA | 50.0 | 8.218 | 1880.4 | 46.5 | 0.002 |
| 2NDPA | 50.0 | 9.339 | 3292.9 | 89.5 | 0.003 |
| DPA | 200.0 | 10.48 | 6310.2 | 733.6 | 0.047 |
| N-NitrosoDPA | 75.0 | 11.073 | 1512.2 | 0 | 0.000 |
| | | | | | 0.402 |
| | | Avg. % Stabilizer for Lot | | | **0.402** |

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | |
|---|---|
| **Analyst** TAKISHA DICKERSON | Avg. Tot. Stabilizers **0.40** % |
| Analyst Signature | Stable YES / Unstable |
| Lab. Supervisor Signature | Comments **CATEGORY: A** |
| | Actions to be Taken |

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND83F070276** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 4 Sep 2012** |

| Other Information | Sample Data | | Solvent |
|---|---|---|---|
| M6 Propellant | #1 | 0.50 g | 100 ml ACN |

| Standards (ERG-006) | | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 0.889 | 48.8 | 578.6 | 1.186 |
| 2,4-DNDPA | 50.0 | 3.418 | 914.3 | 0 | 0.000 |
| 2,2' DNDPA | 50.0 | 5.22 | 777.3 | 23990 | 0.000 |
| 2,4' DNDPA | 50.0 | 7.622 | 980.5 | 0 | 0.000 |
| 4NDPA | 50.0 | 9.134 | 1586.8 | 40.6 | 0.003 |
| 2NDPA | 50.0 | 10.417 | 2826.3 | 88.7 | 0.003 |
| DPA | 200.0 | 11.797 | 5671.5 | 812.6 | 0.057 |
| N-NitrosoDPA | 75.0 | 12.757 | 1337.5 | 0 | 0.000 |

| | | |
|---|---|---|
| | | 1.249 |
| Avg. % Stabilizer for Lot | | **1.249** |

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | |
|---|---|
| **Analyst** Mike Kile | Avg. Tot. Stabilizers **1.25** % |
| Analyst Signature | Stable YES \| Unstable |
| | Comments **CATEGORY: A** |
| Lab. Supervisor Signature | |
| | Actions to be Taken |

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND83G070281** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 4 April 2012** |

| Other Information | Sample Data | | Solvent |
|---|---|---|---|
| M6 Propellant | #1 | 0.50 g 100 ml | ACN |

| Standards (ERG-006) | | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 0.881 | 40.9 | 93.7 | 0.229 |
| 2,4-DNDPA | 50.0 | 3.279 | 928 | 0 | 0.000 |
| 2,2' DNDPA | 50.0 | 4.66 | 26957 | 26191 | 0.000 |
| 2,4' DNDPA | 50.0 | 6.571 | 992.8 | 0 | 0.000 |
| 4NDPA | 50.0 | 7.798 | 1662.7 | 158.3 | 0.010 |
| 2NDPA | 50.0 | 8.806 | 2938.9 | 98.9 | 0.003 |
| DPA | 200.0 | 10.221 | 5774.5 | 1004.4 | 0.070 |
| N-NitrosoDPA | 75.0 | 10.895 | 1475.9 | 0 | 0.000 |

| | |
|---|---|
| | 0.312 |
| Avg. % Stabilizer for Lot | **0.312** |

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | |
|---|---|
| **Analyst** Takisha Dickerson | Avg. Tot. Stabilizers **0.31** % |
| Analyst Signature | Stable YES / Unstable |
| Lab. Supervisor Signature | Comments **CATEGORY: A** |
| | Actions to be Taken |

Form #158

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND83F070278** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 11 JULY 2012** |

| Other Information | Sample Data | | Solvent |
|---|---|---|---|
| M6 Propellant | #1 | 0.50 g 100 ml | ACN |

| Standards (ERG-006) | | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 0.803 | 32.3 | 256.2 | 0.793 |
| 2,4-DNDPA | 50.0 | 3.397 | 945.1 | 0 | 0.000 |
| 2,2' DNDPA | 50.0 | 5.155 | 1995.1 | 21574 | 0.000 |
| 2,4' DNDPA | 50.0 | 7.525 | 949.2 | 0 | 0.000 |
| 4NDPA | 50.0 | 9.04 | 1580.4 | 89.7 | 0.006 |
| 2NDPA | 50.0 | 10.278 | 2854 | 35.4 | 0.001 |
| DPA | 200.0 | 11.761 | 5473.7 | 589.5 | 0.043 |
| N-NitrosoDPA | 75.0 | 12.606 | 1672.4 | 0 | 0.000 |

| | |
|---|---|
| | 0.843 |
| Avg. % Stabilizer for Lot | **0.843** |

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | |
|---|---|
| **Analyst** Takisha Dickerson | Avg. Tot. Stabilizers **0.84** % |
| Analyst Signature | Stable YES / Unstable |
| | Comments **CATEGORY: A** |
| Lab. Supervisor Signature | |
| | Actions to be Taken |

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND82L070178** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 1 FEB 2011** |

| Other Information | Sample Data | | Solvent |
|---|---|---|---|
| M6 Propellant | #1 | 0.5000 g 100 ml | ACN |

| Standards (ERG-006) | | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 4.156 | 1116 | 1943.1 | 0.174 |
| 2,4-DNDPA | 50.0 | 9.388 | 1191.2 | 25869.9 | 2.172 |
| 2,2' DNDPA | 50.0 | 10.987 | 1694.7 | 97.6 | 0.000 |
| 2,4' DNDPA | 50.0 | 11.73 | 1272.3 | 145.3 | 0.011 |
| 4NDPA | 50.0 | 12.459 | 2443.3 | 0 | 0.000 |
| 2NDPA | 50.0 | 13.939 | 5852.1 | 388.6 | 0.007 |
| DPA | 200.0 | 15.022 | 1753.1 | 361.4 | 0.082 |
| N-NitrosoDPA | 75.0 | 18.932 | 2535.1 | 365.7 | 0.000 |

| | | |
|---|---|---|
| | | 2.446 |
| Avg. % Stabilizer for Lot | | **2.446** |

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | | |
|---|---|---|
| **Analyst** Mike Kile | Avg. Tot. Stabilizers | **2.45** % |
| Analyst Signature | Stable YES | Unstable |
| | Comments | |
| Lab. Supervisor Signature | CATEGORY: | A |
| | Actions to be Taken | |

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND82K070175** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 6 AUG 2010** |

Other Information
M6 Propellant

| Sample Data | | | Solvent |
|---|---|---|---|
| #1 | 0.5000 g | 100 ml | ACN |

| Standards (ERG-006) | | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | | 1 | 0 | 0.000 |
| 2,4-DNDPA | 50.0 | 4.91 | 382.3 | 5134.1 | 1.343 |
| 2,2' DNDPA | 50.0 | 9.825 | 437 | 0 | 0.000 |
| 2,4' DNDPA | 50.0 | 11.341 | 632.4 | 87.4 | 0.014 |
| 4NDPA | 50.0 | 11.95 | 441.7 | 0 | 0.000 |
| 2NDPA | 50.0 | 12.713 | 827.6 | 192.5 | 0.023 |
| DPA | 200.0 | 14.06 | 2176 | 90.1 | 0.017 |
| N-NitrosoDPA | 75.0 | 14.999 | 558.4 | 254.6 | 0.068 |

| | 1.465 |
|---|---|
| Avg. % Stabilizer for Lot | **1.465** |

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | |
|---|---|
| **Analyst** Mike Kile | Avg. Tot. Stabilizers **1.46** % |
| Analyst Signature | Stable YES \| Unstable |
| | Comments **CATEGORY: A** |
| Lab. Supervisor Signature | |
| | Actions to be Taken |

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND82J070172** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 15 July 2011** |

| Other Information | Sample Data | | Solvent |
|---|---|---|---|
| M6 Propellant | #1 | 0.50 g 100 ml | ACN |

| Standards (ERG-006) | | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 0.698 | 60 | 276.3 | 0.461 |
| 2,4-DNDPA | 50.0 | 3.469 | 1060.3 | 0 | 0.000 |
| 2,2' DNDPA | 50.0 | 5.327 | 112.7 | 25324 | 0.000 |
| 2,4' DNDPA | 50.0 | 7.82 | 1131.9 | 0 | 0.000 |
| 4NDPA | 50.0 | 9.358 | 1817.5 | 137.4 | 0.008 |
| 2NDPA | 50.0 | 10.643 | 3250 | 121.1 | 0.004 |
| DPA | 200.0 | 12.15 | 6225.1 | 406.2 | 0.026 |
| N-NitrosoDPA | 75.0 | 13.037 | 1551.7 | 0 | 0.000 |
| | | | | | |
| | | | | 0.498 | |
| | | Avg. % Stabilizer for Lot | | **0.498** | |

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | |
|---|---|
| **Analyst** Mike Kile | Avg. Tot. Stabilizers **0.50** % |
| Analyst Signature | Stable YES / Unstable |
| Lab. Supervisor Signature | Comments **CATEGORY: A** |
| | Actions to be Taken |

Form #159

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND82D070110** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 27 JULY 2011** |

| Other Information | Sample Data | | Solvent |
|---|---|---|---|
| M6 Propellant | #1 | 0.50 g 100 ml | ACN |

| Standards (ERG-006) | | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 0.694 | 112.8 | 437.7 | 0.388 |
| 2,4-DNDPA | 50.0 | 3.477 | 942.8 | 0 | 0.000 |
| 2,2' DNDPA | 50.0 | 5.339 | 77.4 | 22925 | 0.000 |
| 2,4' DNDPA | 50.0 | 7.842 | 1020.3 | 0 | 0.000 |
| 4NDPA | 50.0 | 9.392 | 1634.2 | 119.1 | 0.007 |
| 2NDPA | 50.0 | 10.693 | 2956.2 | 134.9 | 0.005 |
| DPA | 200.0 | 12.201 | 5630.5 | 218.4 | 0.016 |
| N-NitrosoDPA | 75.0 | 13.103 | 1385.2 | 0 | 0.000 |
| | | | | | 0.415 |
| | | Avg. % Stabilizer for Lot | | | **0.415** |

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | |
|---|---|
| **Analyst** Mike Kile | Avg. Tot. Stabilizers **0.42** % |
| Analyst Signature | Stable YES / Unstable |
| Lab. Supervisor Signature | Comments **CATEGORY: A** |
| | Actions to be Taken |

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND81L070072** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 29 MAY 2012** |

| Other Information | Sample Data | | Solvent |
|---|---|---|---|
| M6 Propellant | #1 | 0.50 g 100 ml | ACN |

| Standards (ERG-006) | | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 0.86 | 235.9 | 624.2 | 0.265 |
| 2,4-DNDPA | 50.0 | 3.398 | 913.2 | 0 | 0.000 |
| 2,2' DNDPA | 50.0 | 5.133 | 1007.2 | 37338 | 0.000 |
| 2,4' DNDPA | 50.0 | 7.409 | 1002.4 | 0 | 0.000 |
| 4NDPA | 50.0 | 8.917 | 1612.8 | 156.8 | 0.010 |
| 2NDPA | 50.0 | 10.112 | 2882.2 | 297.6 | 0.010 |
| DPA | 200.0 | 11.607 | 5642.3 | 1100.9 | 0.078 |
| N-NitrosoDPA | 75.0 | 12.414 | 1351.4 | | 0.000 |

| | | |
|---|---|---|
| | | 0.363 |
| Avg. % Stabilizer for Lot | | **0.363** |

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | |
|---|---|
| **Analyst** Takisha Dickerson | Avg. Tot. Stabilizers **0.36** % |
| Analyst Signature | Stable YES / Unstable |
| Lab. Supervisor Signature | Comments **CATEGORY: A** |
| | Actions to be Taken |

**CONTAINS HAZARDOUS MATERIALS**

# STRAIGHT BILL OF LADING — NOT NEGOTIABLE

RECEIVED, subject to the classification and tariffs in effect on the date of the issue of this Original Bill of Lading.
The property described below, in apparent good order, except as noted (contents and condition of contents of packages unknown) consigned, and destined as indicated below, which said carrier (the word carrier being understood throughout this contract meaning any person or corporation in possession of the property under the contract) agrees to carry to its usual place of delivery of said destination. It on its route, otherwise to deliver to another carrier on the route to said destination. It is mutually agreed, as to each of all or any of said property over all or any portion of said route to destination, and as to each party at any time interested in all or any of said property, that every service to be performed hereunder shall be subject to all the terms and conditions of the Uniform Domestic Straight Bill of Lading Set forth (t) in Uniform Freight Classification in effect on the date hereof, if this is a rail or rail-water shipment, or (2) in the applicable motor carrier classification or tariff if this is a motor carrier shipment.

Shipper hereby certifies that he is familiar with all the terms and conditions of the said bill of lading, set forth in the classification or tariff which governs the transportation of this shipment, and the said terms and conditions are hereby agreed to by the shipper and accept for himself and his assigns.

Shipper: Explo Systems, Inc.
1600 Java Road
Minden, LA 71055

Shipper's No. 2017

Shipping Date 12-12-17

At

Purchase Order No.

By

Freight Charges: Collect Prepaid

Location No. 1627

(Mail or Street Address of Consignee — For purposes of notification only)

Consigned to

Destination State

County

Route

Charge Account of

Fed Lic.

State Lic.

Customer No.

Customer P.O. No.

Exp. Date

Exp. Date

Rel. No.

| SHIPPED No. of PKGS | SHIPPED No. of UNITS | PROPER SHIPPING NAME AND HAZARD CLASS | RETURNED No. of PKGS | RETURNED No. of UNITS | EMERGENCY RESPONSE PROCEDURE GUIDE NO. | EXEMPTION DOT-E | H M | Placards Applied to Railcar or Motor Vehicle |
|---|---|---|---|---|---|---|---|---|
| | | UN0161, Powder, Smokeless, 1.3C, PG II | | | #112 | | X | EXPLOSIVES 1.3 |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | Truck No. |
| | | | | | | | | Trailer No. |
| | | | | | | | | Mileage |
| | | | | | | | | Total Packages |
| | | | | | | | | Gross Weight # |
| | | | | | | | | Net Explosive Weight |

This is to certify that the above-named materials are properly classified, described, packaged, marked, and labeled and are in proper condition for transportation, according to the applicable regulations of the Department of Transportation.

Signature

Invoice No.

FOR CHEMICAL EMERGENCY, SPILL, LEAK, FIRE, EXPOSURE OR ACCIDENT CALL CHEMTREC — DAY OR NIGHT
IN THE USA CALL 800-424-9300 IN CANADA (ERP #2-0040) 800-561-3636 ELSEWHERE CALL (703) 527-3887

Permanent Address of Shipper:
**Explo Systems, Inc.**
1600 Java Road
Minden, Louisiana 71055
(318) 382-8700

Per

DOT Hazardous Material Handling Number
Local Federal Explosives License No. 5-LA-119-20-1A-00057
(Shipper)

I have been offered placards identifying the shipment as Specified in 49CFR Subpart F of Part 172. I have received the above goods in apparent good order and condition.

Received By
☐ CONSIGNEE ☐ CARRIER

Date 12-12-17

By
AUTHORIZED RECEIVER

Date

**CONTAINS HAZARDOUS MATERIALS**

AUSTIN POWDER PACKING LIST

SHIPMENT DATE 11 DEC 2012

B/L# 2817 TRL 30020

M-6

IND82J-070172 12 PTS
IND84A-070323 9 PTS
IND82K-070175 8 PTS
IND84B-070327 10 PTS
IND82L-070178 2 PTS
IND86M-070673 3 PTS

44 PTS WITH 6 FB @140 LBS PER DRUM

TOTAL 36,960

LIONEL KOONS

EXPLO SYSTEMS INC



019378

EXP_001012

13
28/7

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND86M070673** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 7 FEB 2012** |

| Other Information | Sample Data | | Solvent |
|---|---|---|---|
| M6 Propellant | #1 | 0.50 g 100 ml | ACN |

| Standards (ERG-006) | | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 0.863 | 50.1 | 452.6 | 0.903 |
| 2,4-DNDPA | 50.0 | 3.336 | 893.6 | 0 | 0.000 |
| 2,2' DNDPA | 50.0 | 5.03 | 726.8 | 22299 | 0.000 |
| 2,4' DNDPA | 50.0 | 7.182 | 1225.5 | 0 | 0.000 |
| 4NDPA | 50.0 | 8.642 | 1532.1 | 67.5 | 0.004 |
| 2NDPA | 50.0 | 9.759 | 2784.7 | 120.3 | 0.004 |
| DPA | 200.0 | 11.235 | 5480.9 | 727.3 | 0.053 |
| N-NitrosoDPA | 75.0 | 11.979 | 1363.1 | 0 | 0.000 |

0.965

| Avg. % Stabilizer for Lot | **0.965** |
|---|---|

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | |
|---|---|
| **Analyst** TAKISHA DICKERSON | Avg. Tot. Stabilizers **0.97** % |
| Analyst Signature | Stable YES / Unstable |
| Lab. Supervisor Signature | Comments **CATEGORY: A** |
| | Actions to be Taken |

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND84B070327** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 4 Sep 2012** |

| Other Information | Sample Data | | Solvent |
|---|---|---|---|
| M6 Propellant | #1 | 0.50 g 100 ml | ACN |

| Standards (ERG-006) | | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 0.889 | 48.8 | 501.9 | 1.028 |
| 2,4-DNDPA | 50.0 | 3.418 | 914.3 | 0 | 0.000 |
| 2,2' DNDPA | 50.0 | 5.22 | 777.3 | 23336 | 0.000 |
| 2,4' DNDPA | 50.0 | 7.622 | 980.5 | 0 | 0.000 |
| 4NDPA | 50.0 | 9.134 | 1586.8 | 95.7 | 0.006 |
| 2NDPA | 50.0 | 10.417 | 2826.3 | 104 | 0.004 |
| DPA | 200.0 | 11.797 | 5671.5 | 673.4 | 0.047 |
| N-NitrosoDPA | 75.0 | 12.757 | 1337.5 | 0 | 0.000 |
| | | | | | 1.086 |
| | | Avg. % Stabilizer for Lot | | | **1.086** |

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | |
|---|---|
| **Analyst** Mike Kile | Avg. Tot. Stabilizers **1.09** % |
| Analyst Signature | Stable YES / Unstable |
| Lab. Supervisor Signature | Comments **CATEGORY: A** |
| | Actions to be Taken |

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND84A070323** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 21 DEC 2011** |

| Other Information | Sample Data | | Solvent |
|---|---|---|---|
| M6 Propellant | #1 | 0.50 g 100 ml | ACN |

| | Standards (ERG-006) | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 0.67 | 192.9 | 675.2 | 0.350 |
| 2,4-DNDPA | 50.0 | 3.298 | 1077.6 | 0 | 0.000 |
| 2,2' DNDPA | 50.0 | 4.953 | 951.5 | 22469 | 0.000 |
| 2,4' DNDPA | 50.0 | 6.749 | 1136.2 | 0 | 0.000 |
| 4NDPA | 50.0 | 8.218 | 1880.4 | 46.5 | 0.002 |
| 2NDPA | 50.0 | 9.339 | 3292.9 | 89.5 | 0.003 |
| DPA | 200.0 | 10.48 | 6310.2 | 733.6 | 0.047 |
| N-NitrosoDPA | 75.0 | 11.073 | 1512.2 | 0 | 0.000 |

| | | |
|---|---|---|
| | | 0.402 |
| | Avg. % Stabilizer for Lot | **0.402** |

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | | |
|---|---|---|
| **Analyst** TAKISHA DICKERSON | Avg. Tot. Stabilizers | **0.40** % |
| Analyst Signature | Stable YES | Unstable |
| | Comments | |
| Lab. Supervisor Signature | **CATEGORY:** | **A** |
| | Actions to be Taken | |

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND82L070178** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 1 FEB 2011** |

| Other Information | Sample Data | | Solvent |
|---|---|---|---|
| M6 Propellant | #1 | 0.5000 g 100 ml | ACN |

| Standards (ERG-006) | | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 4.156 | 1116 | 1943.1 | 0.174 |
| 2,4-DNDPA | 50.0 | 9.388 | 1191.2 | 25869.9 | 2.172 |
| 2,2' DNDPA | 50.0 | 10.987 | 1694.7 | 97.6 | 0.000 |
| 2,4' DNDPA | 50.0 | 11.73 | 1272.3 | 145.3 | 0.011 |
| 4NDPA | 50.0 | 12.459 | 2443.3 | 0 | 0.000 |
| 2NDPA | 50.0 | 13.939 | 5852.1 | 388.6 | 0.007 |
| DPA | 200.0 | 15.022 | 1753.1 | 361.4 | 0.082 |
| N-NitrosoDPA | 75.0 | 18.932 | 2535.1 | 365.7 | 0.000 |

| | | |
|---|---|---|
| | | 2.446 |
| | Avg. % Stabilizer for Lot | **2.446** |

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | |
|---|---|
| **Analyst** Mike Kile | Avg. Tot. Stabilizers **2.45** % |
| Analyst Signature | Stable YES / Unstable |
| Lab. Supervisor Signature | Comments<br>CATEGORY: A |
| | Actions to be Taken |

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND82K070175** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 6 AUG 2010** |

Other Information
M6 Propellant

| Sample Data | | | Solvent |
|---|---|---|---|
| #1 | 0.5000 g | 100 ml | ACN |

| Standards (ERG-006) | | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | | 1 | 0 | 0.000 |
| 2,4-DNDPA | 50.0 | 4.91 | 382.3 | 5134.1 | 1.343 |
| 2,2' DNDPA | 50.0 | 9.825 | 437 | 0 | 0.000 |
| 2,4' DNDPA | 50.0 | 11.341 | 632.4 | 87.4 | 0.014 |
| 4NDPA | 50.0 | 11.95 | 441.7 | 0 | 0.000 |
| 2NDPA | 50.0 | 12.713 | 827.6 | 192.5 | 0.023 |
| DPA | 200.0 | 14.06 | 2176 | 90.1 | 0.017 |
| N-NitrosoDPA | 75.0 | 14.999 | 558.4 | 254.6 | 0.068 |

1.465

| Avg. % Stabilizer for Lot | **1.465** |
|---|---|

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | |
|---|---|
| **Analyst** Mike Kile | Avg. Tot. Stabilizers **1.46** % |
| Analyst Signature | Stable YES / Unstable |
| Lab. Supervisor Signature | Comments **CATEGORY: A** |
| | Actions to be Taken |

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND82J070172** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 15 July 2011** |

| Other Information | Sample Data | | | Solvent |
|---|---|---|---|---|
| M6 Propellant | #1 | 0.50 g | 100 ml | ACN |

| | Standards (ERG-006) | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 0.698 | 60 | 276.3 | 0.461 |
| 2,4-DNDPA | 50.0 | 3.469 | 1060.3 | 0 | 0.000 |
| 2,2' DNDPA | 50.0 | 5.327 | 112.7 | 25324 | 0.000 |
| 2,4' DNDPA | 50.0 | 7.82 | 1131.9 | 0 | 0.000 |
| 4NDPA | 50.0 | 9.358 | 1817.5 | 137.4 | 0.008 |
| 2NDPA | 50.0 | 10.643 | 3250 | 121.1 | 0.004 |
| DPA | 200.0 | 12.15 | 6225.1 | 406.2 | 0.026 |
| N-NitrosoDPA | 75.0 | 13.037 | 1551.7 | 0 | 0.000 |

| | | |
|---|---|---|
| | | 0.498 |
| Avg. % Stabilizer for Lot | | **0.498** |

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | |
|---|---|
| **Analyst** Mike Kile | Avg. Tot. Stabilizers **0.50** % |
| Analyst Signature | Stable YES / Unstable |
| Lab. Supervisor Signature | Comments **CATEGORY: A** |
| | Actions to be Taken |

CONTAINS HAZARDOUS MATERIALS

# STRAIGHT BILL OF LADING

# NOT NEGOTIABLE

RECEIVED, subject to the classification and tariffs in effect on the date of the issue of this Original Bill of Lading.
The property described below, in apparent good order, except as noted (contents and condition of contents of packages unknown) consigned, and destined as indicated below, which said carrier (the word carrier being understood throughout this contract meaning any person or corporation in possession of the property under the contract) agrees to carry to its usual place of delivery of said destination. It on its route, otherwise to deliver to another carrier on the route to said destination. It is mutually agreed, as to each of all or any of said property over all or any portion of said route to destination, and as to each party at any time interested in all or any of said property, that every service lobe performed hereunder shall be subject to all the terms and conditions of the Uniform Domestic Straight Bill of Lading Set forth (1) in Uniform Freight Classification in effect on the date hereof; if this is a rail or rail-water shipment, or (2) in the applicable motor carrier classification or tariff if this is a motor carrier shipment.
Shipper hereby certifies that he is familiar with all the terms and conditions of the said bill of lading, set forth in the classification of tariff which governs the transportation of this shipment, and the sold terms and conditions are hereby agreed to by the shipper and accept for himself and his assigns.

Shipper: Explo Systems, Inc.
1600 Java Road
Mindon, LA 71055

Shipper's No. 2823

Shipping Date 12/19/12

At

Purchase Order No.

By APC Freight Charges: Collect ___ Prepaid ✓ Location No. 2425

(Mail or Street Address of Consignee — For purposes of notification only)

Consigned to [illegible] Fed Lic. 5198-103-20-[illegible]-00159 Exp. Date 5/1/15

Destination 7 [illegible] Blanky RD State State Lic. Exp. Date

County East Carolina [illegible] 71711 Customer No.

Route

Charge Account of [illegible] 0586 CV 302 Customer P.O. No. Rel. No.

| SHIPPED No. of PKGS | SHIPPED No. of UNITS | PROPER SHIPPING NAME AND HAZARD CLASS | RETURNED No. of PKGS | RETURNED No. of UNITS | EMERGENCY RESPONSE PROCEDURE GUIDE NO. | EXEMPTION DOTE | H M | Placards Applied to Railcar or Motor Vehicle |
|---|---|---|---|---|---|---|---|---|
| 252/16 | 42 PT | UN0161, Powder, Smokeless, 1.3C, PG II | | | #112 | [illegible] | X | EXPLOSIVES 1.3 |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | Truck No. 14338 |
| | | | | | | | | Trailer No. 41107 |
| | | | | | | | | Mileage |
| | | | | | | | | Total 252 KGFD @ 1402 [illegible] |
| | | | | | | | | Packages |
| | | | | | | | | Gross |
| | | | | | | | | Weight # 39,000 |
| | | Seal # | | | | | | Not Explosive Weight |
| | | 7063315/7063316 | | | | | | 35,280 |

17AT16

This is to certify that the above-named materials are properly classified, described, packaged, marked, and labeled and are in proper condition for transportation, according to the applicable regulations of the Department of Transportation.

Signature [signature] Invoice No. 4456

FOR CHEMICAL EMERGENCY, SPILL, LEAK, FIRE, EXPOSURE OR ACCIDENT CALL CHEMTREC - DAY OR NIGHT
IN THE USA CALL 800 424-9300 IN CANADA (ERP #2-0040) 800-561-3636 ELSEWHERE CALL (703) 527-3887 [illegible]

Permanent Address of Shipper:
**Explo Systems, Inc.**
1600 Java Road
Minden, Louisiana 71055
(318) 382-8700

Per ___

DOT Hazardous Material Handling Number ___
Local Federal Explosives License No. 5-LA-119-20-1A-00057
(Shipper)

I have been offered placards identifying the shipment as Specified in 49CFR Subpart F of Part 172. I have received the above goods in apparent good order and condition.

Received By [signature] Date 12-19-12
☐ CONSIGNEE ☐ CARRIER

By ___ Date ___
AUTHORIZED RECEIVER

CONTAINS HAZARDOUS MATERIALS

CONTAINS HAZARDOUS MATERIALS

10/02/13 10:05 AM 318/472049 Page 9

019385

EXP_001019

App #3

AUSTIN POWDER PACKING LIST

SHIPMENT DATE 19 DEC 2012

B/L# 2823

M-6

IND83F-070274 4 PTS
IND85B-070507 3 PTS
IND81G-070061 5 PTS
IND84K-070452 6 PTS
IND81D-070020 6 PTS
IND81D-070019 8 PTS
IND88J-070969 3 PTS
IND86H-070622 2 PTS
IND84G-070331 1 PT
IND84G-070326 4 PTS

42 PTS WITH 6 FB @140 LBS PER DRUM

TOTAL 35,280

LIONEL KOONS

EXPLO SYSTEMS INC

14

2823

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND88J070969** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 24 OCT 2012** |

| Other Information | Sample Data | | Solvent |
|---|---|---|---|
| M6 Propellant | #1 | 0.50 g 100 ml | ACN |

| Standards (ERG-006) | | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 0.784 | 163 | 776.6 | 0.476 |
| 2,4-DNDPA | 50.0 | 3.299 | 808.4 | 0 | 0.000 |
| 2,2' DNDPA | 50.0 | 4.947 | 2591.5 | 24054 | 0.000 |
| 2,4' DNDPA | 50.0 | 7.024 | 871.2 | 0 | 0.000 |
| 4NDPA | 50.0 | 8.466 | 1408.7 | 50.3 | 0.004 |
| 2NDPA | 50.0 | 9.578 | 2554.8 | 81.2 | 0.003 |
| DPA | 200.0 | 11.01 | 4783.9 | 969.1 | 0.081 |
| N-NitrosoDPA | 75.0 | 11.732 | 1511.1 | 286 | 0.000 |

0.564

| Avg. % Stabilizer for Lot | **0.564** |
|---|---|

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| **Analyst** MIKE KILE | Avg. Tot. Stabilizers **0.56** % |
|---|---|
| Analyst Signature | Stable YES / Unstable |
| Lab. Supervisor Signature | Comments **CATEGORY: A** |
| | Actions to be Taken |

Form #158

019387

EXP_001021

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND85B070507** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 16 JULY 2012** |

| Other Information | Sample Data | | Solvent |
|---|---|---|---|
| M6 Propellant | #1 | 0.50 g 100 ml | ACN |

| | Standards (ERG-006) | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 0.871 | 70.6 | 459.1 | 0.650 |
| 2,4-DNDPA | 50.0 | 3.368 | 934.1 | 0 | 0.000 |
| 2,2' DNDPA | 50.0 | 5.103 | 1888.6 | 22961 | 0.000 |
| 2,4' DNDPA | 50.0 | 7.516 | 1021.7 | 0 | 0.000 |
| 4NDPA | 50.0 | 8.938 | 1656.1 | 138.9 | 0.008 |
| 2NDPA | 50.0 | 10.131 | 2970.1 | 109.4 | 0.004 |
| DPA | 200.0 | 11.561 | 5887.3 | 342.8 | 0.023 |
| N-NitrosoDPA | 75.0 | 12.367 | 1376.5 | 0 | 0.000 |
| | | | | | 0.686 |
| | | | Avg. % Stabilizer for Lot | | **0.686** |

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | |
|---|---|
| **Analyst** Takisha Dickerson | Avg. Tot. Stabilizers **0.69** % |
| Analyst Signature Dickerson | Stable YES / Unstable |
| Lab. Supervisor Signature | Comments **CATEGORY: A** |
| | Actions to be Taken |

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND84G070326** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 3 MAY 2012** |

| Other Information | Sample Data | | Solvent |
|---|---|---|---|
| M6 Propellant | #1 | 0.50 g 100 ml | ACN |

| Standards (ERG-006) | | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 0.867 | 104.4 | 324.4 | 0.311 |
| 2,4-DNDPA | 50.0 | 3.335 | 1105.6 | 0 | 0.000 |
| 2,2' DNDPA | 50.0 | 5.007 | 4986.7 | 23068 | 0.000 |
| 2,4' DNDPA | 50.0 | 7.137 | 1206.9 | 0 | 0.000 |
| 4NDPA | 50.0 | 8.593 | 1969.2 | 87.1 | 0.004 |
| 2NDPA | 50.0 | 9.688 | 3527.8 | 151.4 | 0.004 |
| DPA | 200.0 | 11.153 | 7041.6 | 785.8 | 0.045 |
| N-NitrosoDPA | 75.0 | 11.897 | 1704.5 | | 0.000 |
| | | | | | 0.364 |
| | | Avg. % Stabilizer for Lot | | | **0.364** |

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | |
|---|---|
| **Analyst** Takisha Dickerson | Avg. Tot. Stabilizers **0.36** % |
| Analyst Signature | Stable YES / Unstable |
| Lab. Supervisor Signature | Comments **CATEGORY: A** |
| | Actions to be Taken |

Form #158

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND84K070452** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 13 AUGUST 2012** |

| Other Information | Sample Data | | Solvent |
|---|---|---|---|
| M6 Propellant | #1 | 0.50 g | 100 ml ACN |

| Standards (ERG-006) | | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 0.874 | 41.1 | 237.6 | 0.578 |
| 2,4-DNDPA | 50.0 | 3.363 | 1017.6 | 0 | 0.000 |
| 2,2' DNDPA | 50.0 | 5.079 | 4556.2 | 22977 | 0.000 |
| 2,4' DNDPA | 50.0 | 7.471 | 1126.4 | 0 | 0.000 |
| 4NDPA | 50.0 | 8.907 | 1830.9 | 53.4 | 0.003 |
| 2NDPA | 50.0 | 10.084 | 3271.2 | 114.5 | 0.004 |
| DPA | 200.0 | 11.54 | 6554.9 | 610.4 | 0.037 |
| N-NitrosoDPA | 75.0 | 12.349 | 1509.1 | 0 | 0.000 |
| | | | | | 0.622 |
| | | | Avg. % Stabilizer for Lot | | **0.622** |

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | |
|---|---|
| **Analyst** Takisha Dickerson | Avg. Tot. Stabilizers **0.62** % |
| Analyst Signature Dickerson | Stable YES \| Unstable |
| Lab. Supervisor Signature | Comments **CATEGORY: A** |
| | Actions to be Taken |

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND83F070274** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 27 JULY 2011** |

| Other Information | Sample Data | | Solvent |
|---|---|---|---|
| M6 Propellant | #1 | 0.50 g 100 ml | ACN |

| | Standards (ERG-006) | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 0.694 | 112.8 | 622.1 | 0.552 |
| 2,4-DNDPA | 50.0 | 3.477 | 942.8 | 0 | 0.000 |
| 2,2' DNDPA | 50.0 | 5.339 | 77.4 | 22209 | 0.000 |
| 2,4' DNDPA | 50.0 | 7.842 | 1020.3 | 0 | 0.000 |
| 4NDPA | 50.0 | 9.392 | 1634.2 | 48.5 | 0.003 |
| 2NDPA | 50.0 | 10.693 | 2956.2 | 98.3 | 0.003 |
| DPA | 200.0 | 12.201 | 5630.5 | 451.4 | 0.032 |
| N-NitrosoDPA | 75.0 | 13.103 | 1385.2 | 0 | 0.000 |

| | |
|---|---|
| | 0.590 |
| Avg. % Stabilizer for Lot | **0.590** |

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | | |
|---|---|---|
| **Analyst** Takisha Dickerson | Avg. Tot. Stabilizers | **0.59** % |
| Analyst Signature | Stable YES | Unstable |
| | Comments | |
| Lab. Supervisor Signature | **CATEGORY:** | **A** |
| | Actions to be Taken | |

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND81D070019** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 29 MAY 2012** |

| Other Information | Sample Data | | Solvent |
|---|---|---|---|
| M6 Propellant | #1 | 0.50 g 100 ml | ACN |

| Standards (ERG-006) | | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 0.86 | 235.9 | 525.7 | 0.223 |
| 2,4-DNDPA | 50.0 | 3.398 | 913.2 | 0 | 0.000 |
| 2,2' DNDPA | 50.0 | 5.133 | 1007.2 | 37577 | 0.000 |
| 2,4' DNDPA | 50.0 | 7.409 | 1002.4 | 0 | 0.000 |
| 4NDPA | 50.0 | 8.917 | 1612.8 | 186.9 | 0.012 |
| 2NDPA | 50.0 | 10.112 | 2882.2 | 282.1 | 0.010 |
| DPA | 200.0 | 11.607 | 5642.3 | 917.9 | 0.065 |
| N-NitrosoDPA | 75.0 | 12.414 | 1351.4 | | 0.000 |

0.309

| Avg. % Stabilizer for Lot | **0.309** |
|---|---|

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| **Analyst** Takisha Dickerson | Avg. Tot. Stabilizers **0.31** % |
|---|---|
| Analyst Signature | Stable YES / Unstable |
| Lab. Supervisor Signature | Comments **CATEGORY: A** |
| | Actions to be Taken |

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND81D070020** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 10 Feb 2012** |

| Other Information | Sample Data | | Solvent |
|---|---|---|---|
| M6 Propellant | #1 | 0.50 g 100 ml | ACN |

| Standards (ERG-006) | | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 0.868 | 53.7 | 398.1 | 0.741 |
| 2,4-DNDPA | 50.0 | 3.292 | 916.2 | 0 | 0.000 |
| 2,2' DNDPA | 50.0 | 4.936 | 839.4 | 22071 | 0.000 |
| 2,4' DNDPA | 50.0 | 6.943 | 1003.3 | 0 | 0.000 |
| 4NDPA | 50.0 | 8.309 | 1616.5 | 50 | 0.003 |
| 2NDPA | 50.0 | 9.362 | 2912 | 113.3 | 0.004 |
| DPA | 200.0 | 10.749 | 5497.2 | 666 | 0.048 |
| N-NitrosoDPA | 75.0 | 11.362 | 1264.1 | 355.2 | 0.000 |

| | | |
|---|---|---|
| | | 0.797 |
| Avg. % Stabilizer for Lot | | **0.797** |

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | | |
|---|---|---|
| **Analyst** Mike Kile | Avg. Tot. Stabilizers | **0.80** % |
| Analyst Signature | Stable YES | Unstable |
| | Comments | |
| Lab. Supervisor Signature | **CATEGORY:** | **A** |
| | Actions to be Taken | |

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND81G070061** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 12 JULY 2011** |

| Other Information | Sample Data | | Solvent |
|---|---|---|---|
| M6 Propellant | #1 | 0.50 g 100 ml | ACN |

| Standards (ERG-006) | | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 0.71 | 111 | 358.1 | 0.323 |
| 2,4-DNDPA | 50.0 | 3.475 | 1001 | 79.1 | 0.008 |
| 2,2' DNDPA | 50.0 | 5.325 | 95 | 18335 | 0.000 |
| 2,4' DNDPA | 50.0 | 7.791 | 1061.3 | 83.2 | 0.008 |
| 4NDPA | 50.0 | 9.345 | 1700.8 | 167.7 | 0.010 |
| 2NDPA | 50.0 | 10.629 | 3041.2 | 330.5 | 0.011 |
| DPA | 200.0 | 12.152 | 5943.4 | 913.3 | 0.061 |
| N-NitrosoDPA | 75.0 | 13.034 | 1443.1 | 111.8 | 0.000 |

| | |
|---|---|
| | 0.421 |
| Avg. % Stabilizer for Lot | **0.421** |

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | |
|---|---|
| **Analyst** Mike Kile | Avg. Tot. Stabilizers **0.42** % |
| Analyst Signature | Stable YES / Unstable |
| Lab. Supervisor Signature | Comments **CATEGORY: A** |
| | Actions to be Taken |

Form #158

CONTAINS HAZARDOUS MATERIALS

# STRAIGHT BILL OF LADING

## NOT NEGOTIABLE

RECEIVED, subject to the classifications and tariffs in effect on the date of the issue of this Original Bill of Lading.
The property described below, in apparent good order, except as noted (contents and condition of contents of packages unknown) consigned, and destined as indicated below, which said carrier (the word carrier being understood throughout this contract meaning any person or corporation in possession of the property under the contract) agrees to carry to its usual place of delivery of said destination, if on its route, otherwise to deliver to another carrier on the route to said destination. It is mutually agreed, as to each of all or any of said property over all or any portion of said route to destination, and as to each party at any time interested in all or any of said property, that every service to be performed hereunder shall be subject to all the terms and conditions of the Uniform Domestic Straight Bill of Lading set forth (1) in Uniform Freight Classification in effect on the date hereof, if this is a rail or rail-water shipment, or (2) in the applicable motor carrier classification or tariff if this is a motor carrier shipment.
Shipper hereby certifies that he is familiar with all the terms and conditions of the said bill of lading, set forth in the classification or tariff which governs the transportation of this shipment, and the said terms and conditions are hereby agreed to by the shipper and accepted for himself and his assigns.

Shipper: Explo Systems, Inc.
1600 Java Road
Minden, LA 71055

Shipper's No.: 2824

At

Shipping Date: 12/19/12

By: DHC

Freight Charges: Collect ____ Prepaid YYY

Purchase Order No.

Location No.: 2429

(Mail or Street Address of Consignee – For purposes of notification only)

Consigned to: Austin Powder Co

Destination: 7100 Bonny Rd

State

County: Webster Parish

Fed Lic. No.: 5-LA-119-20-1A-00057 Exp. Date: 5/1/17

State Lic.

Exp. Date

Customer No.

Route

Charge Account of: Explo Sys

Customer P.O. No.

Rel. No.

| SHIPPED No. of PKGS | SHIPPED No. of UNITS | PROPER SHIPPING NAME AND HAZARD CLASS | RETURNED No. of PKGS | RETURNED No. of UNITS | EMERGENCY RESPONSE PROCEDURE GUIDE NO. | EXEMPTION DOT-E | H M | Placards Applied to Railcar or Motor Vehicle |
|---|---|---|---|---|---|---|---|---|
| 252/1m | 42 | UN0161, Powder, Smokeless, 1.3C, PG II | | | #112 | | X | EXPLOSIVES 1.3 |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | Truck No. 1435 |
| | | 17AT 16 | | | | | | Trailer No. U1060 |
| | | | | | | | | Mileage |
| | | | | | | | | Total 246,127 # Pounds |
| | | | | | | | | Packages 6 160 124 LK |
| | | | | | | | | Gross |
| | | | | | | | | Weight # 29,000 |
| | | Sub Tot Shot Tamp | | | | | | Net Explosive Weight |
| | | 208 3rd 1208 518 | A61026 | 16 | | | | LK 24 to 35160 LK |

This is to certify that the above-named materials are properly classified, described, packaged, marked, and labeled and are in proper condition for transportation, according to the applicable regulations of the Department of Transportation.

Signature: [signature]

Invoice No.

FOR CHEMICAL EMERGENCY, SPILL, LEAK, FIRE, EXPOSURE OR ACCIDENT, CALL CHEMTREC - DAY OR NIGHT
IN THE USA CALL 800-424-9300 IN CANADA (CHEMTREC #2-0040) 800-561-9636 ELSEWHERE CALL (703) 527-3887

Permanent Address of Shipper:
**Explo Systems, Inc.**
1600 Java Road
Minden, Louisiana 71055
(318) 382-8700

Per

DOT Hazardous Material Handling Number

Local Federal Explosives License No. 5-LA-119-20-1A-00057
(Shipper)

I have been offered placards identifying the shipment as Specified in 49CFR Subpart F of Part 172. I have received the above goods in apparent good order and condition.

Received By: [signature]
☐ CONSIGNEE ☐ CARRIER

Date: 12-19-12

By
AUTHORIZED RECEIVER

Date

CONTAINS HAZARDOUS MATERIALS

CONTAINS HAZARDOUS MATERIALS

AUSTIN POWDER PACKING LIST

SHIPMENT DATE 19 DEC 2012

B/L# 2824

M-6

IND81D-070019 11 PTS
IND86H-070622 3 PTS
IND87D-070450 1 PT
IND81D-070015 4 PTS
IND81D-070020 3 PTS
IND83F-070274 1 PT
IND81G-070061 2 PTS
IND84K-070452 3 PTS
IND84L-070454 4 PTS
IND82D-070110 2 PTS
IND82L-070219 5 PTS
IND83M-070322 2 PTS
IND81D-070015 1 PT (6X120)

41 PTS WITH 6 FB @140 LBS PER DRUM

1 PT WITH 6 FD @ 120 LBS PER DRUM

TOTAL 35,160

LIONEL KOONS

EXPLO SYSTEMS INC

15
2824

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND87D070450** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 23 AUG 2010** |

| Other Information | Sample Data | | Solvent |
|---|---|---|---|
| M6 Propellant | #1 | 0.5000 g 100 ml | ACN |

| Standards (ERG-006) | | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | | 0 | | |
| 2,4-DNDPA | 50.0 | 4.884 | 715.1 | 0 | 0.000 |
| 2,2' DNDPA | 50.0 | 9.663 | 794.8 | 5124.3 | 0.645 |
| 2,4' DNDPA | 50.0 | 11.213 | 1155.8 | 0 | 0.000 |
| 4NDPA | 50.0 | 11.899 | 750.7 | 0 | 0.000 |
| 2NDPA | 50.0 | 12.536 | 1565 | 0 | 0.000 |
| DPA | 200.0 | 13.934 | 4151.3 | 0 | 0.000 |
| N-NitrosoDPA | 75.0 | 14.875 | 1080.5 | 46.7 | 0.006 |

0.651

Avg. % Stabilizer for Lot **0.651**

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | |
|---|---|
| **Analyst** Kisha Dickerson | Avg. Tot. Stabilizers **0.65** % |
| Analyst Signature | Stable YES / Unstable |
| Lab. Supervisor Signature | Comments **CATEGORY: A** |
| | Actions to be Taken |

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND84K070452** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 13 AUGUST 2012** |

| Other Information | Sample Data | | | Solvent |
|---|---|---|---|---|
| M6 Propellant | #1 | 0.50 g | 100 ml | ACN |

| Standards (ERG-006) | | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 0.874 | 41.1 | 237.6 | 0.578 |
| 2,4-DNDPA | 50.0 | 3.363 | 1017.6 | 0 | 0.000 |
| 2,2' DNDPA | 50.0 | 5.079 | 4556.2 | 22977 | 0.000 |
| 2,4' DNDPA | 50.0 | 7.471 | 1126.4 | 0 | 0.000 |
| 4NDPA | 50.0 | 8.907 | 1830.9 | 53.4 | 0.003 |
| 2NDPA | 50.0 | 10.084 | 3271.2 | 114.5 | 0.004 |
| DPA | 200.0 | 11.54 | 6554.9 | 610.4 | 0.037 |
| N-NitrosoDPA | 75.0 | 12.349 | 1509.1 | 0 | 0.000 |
| | | | | | 0.622 |
| | | | Avg. % Stabilizer for Lot | | **0.622** |

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | |
|---|---|
| **Analyst** Takisha Dickerson | Avg. Tot. Stabilizers **0.62** % |
| Analyst Signature Dickerson | Stable YES \| Unstable |
| Lab. Supervisor Signature | Comments **CATEGORY: A** |
| | Actions to be Taken |

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND84L070454** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 4 MAY 2012** |

| Other Information | Sample Data | | | Solvent |
|---|---|---|---|---|
| M6 Propellant | #1 | 0.50 g | 100 ml | ACN |

| Standards (ERG-006) | | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 0.867 | 83.7 | 400.6 | 0.479 |
| 2,4-DNDPA | 50.0 | 3.338 | 1156.5 | 0 | 0.000 |
| 2,2' DNDPA | 50.0 | 5.017 | 5373.7 | 23342 | 0.000 |
| 2,4' DNDPA | 50.0 | 7.147 | 1263.8 | 0 | 0.000 |
| 4NDPA | 50.0 | 8.595 | 2061.4 | 48.3 | 0.002 |
| 2NDPA | 50.0 | 9.687 | 3694.9 | 94.1 | 0.003 |
| DPA | 200.0 | 11.119 | 7683.7 | 721.2 | 0.038 |
| N-NitrosoDPA | 75.0 | 11.99 | 2133.1 | | 0.000 |

0.521

| Avg. % Stabilizer for Lot | **0.521** |
|---|---|

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| **Analyst** Takisha Dickerson | Avg. Tot. Stabilizers **0.52** % | |
|---|---|---|
| Analyst Signature | Stable YES | Unstable |
| Lab. Supervisor Signature | Comments **CATEGORY: A** | |
| | Actions to be Taken | |

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND83M070322** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 12 APR 2012** |

| Other Information | Sample Data | | Solvent |
|---|---|---|---|
| M6 Propellant | #1 | 0.50 g 100 ml | ACN |

| Standards (ERG-006) | | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 0.882 | 28.4 | 566.5 | 1.995 |
| 2,4-DNDPA | 50.0 | 3.244 | 978.3 | 0 | 0.000 |
| 2,2' DNDPA | 50.0 | 4.803 | 3426.7 | 22442 | 0.000 |
| 2,4' DNDPA | 50.0 | 6.74 | 1061.1 | 499.4 | 0.047 |
| 4NDPA | 50.0 | 8.012 | 1726.9 | 66.2 | 0.004 |
| 2NDPA | 50.0 | 9.091 | 3662.4 | 113.4 | 0.003 |
| DPA | 200.0 | 10.394 | 6185.4 | 978.3 | 0.063 |
| N-NitrosoDPA | 75.0 | 10.968 | 1530.7 | 0 | 0.000 |

2.112

| Avg. % Stabilizer for Lot | **2.112** |
|---|---|

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| **Analyst** Kisha Dickerson | Avg. Tot. Stabilizers **2.11** % |
|---|---|
| Analyst Signature | Stable YES / Unstable |
| Lab. Supervisor Signature | Comments **CATEGORY: A** |
| | Actions to be Taken |

Form #150

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND83F070274** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 27 JULY 2011** |

| Other Information | Sample Data | | Solvent |
|---|---|---|---|
| M6 Propellant | #1 | 0.50 g 100 ml | ACN |

| Standards (ERG-006) | | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 0.694 | 112.8 | 622.1 | 0.552 |
| 2,4-DNDPA | 50.0 | 3.477 | 942.8 | 0 | 0.000 |
| 2,2' DNDPA | 50.0 | 5.339 | 77.4 | 22209 | 0.000 |
| 2,4' DNDPA | 50.0 | 7.842 | 1020.3 | 0 | 0.000 |
| 4NDPA | 50.0 | 9.392 | 1634.2 | 48.5 | 0.003 |
| 2NDPA | 50.0 | 10.693 | 2956.2 | 98.3 | 0.003 |
| DPA | 200.0 | 12.201 | 5630.5 | 451.4 | 0.032 |
| N-NitrosoDPA | 75.0 | 13.103 | 1385.2 | 0 | 0.000 |

0.590

| Avg. % Stabilizer for Lot | **0.590** |
|---|---|

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| **Analyst** Takisha Dickerson | Avg. Tot. Stabilizers **0.59** % |
|---|---|
| Analyst Signature | Stable YES / Unstable |
| Lab. Supervisor Signature | Comments **CATEGORY: A** |
| | Actions to be Taken |

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND82D070110** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 27 JULY 2011** |

| Other Information | Sample Data | | Solvent |
|---|---|---|---|
| M6 Propellant | #1 | 0.50 g 100 ml | ACN |

| Standards (ERG-006) | | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 0.694 | 112.8 | 437.7 | 0.388 |
| 2,4-DNDPA | 50.0 | 3.477 | 942.8 | 0 | 0.000 |
| 2,2' DNDPA | 50.0 | 5.339 | 77.4 | 22925 | 0.000 |
| 2,4' DNDPA | 50.0 | 7.842 | 1020.3 | 0 | 0.000 |
| 4NDPA | 50.0 | 9.392 | 1634.2 | 119.1 | 0.007 |
| 2NDPA | 50.0 | 10.693 | 2956.2 | 134.9 | 0.005 |
| DPA | 200.0 | 12.201 | 5630.5 | 218.4 | 0.016 |
| N-NitrosoDPA | 75.0 | 13.103 | 1385.2 | 0 | 0.000 |

| | | |
|---|---|---|
| | | 0.415 |
| | Avg. % Stabilizer for Lot | **0.415** |

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | |
|---|---|
| **Analyst** Mike Kile | Avg. Tot. Stabilizers **0.42** % |
| Analyst Signature | Stable YES \| Unstable |
| | Comments **CATEGORY: A** |
| Lab. Supervisor Signature | |
| | Actions to be Taken |

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND81G070061** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 12 JULY 2011** |

| Other Information | Sample Data | | | Solvent |
|---|---|---|---|---|
| M6 Propellant | #1 | 0.50 g | 100 ml | ACN |

| | Standards (ERG-006) | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 0.71 | 111 | 358.1 | 0.323 |
| 2,4-DNDPA | 50.0 | 3.475 | 1001 | 79.1 | 0.008 |
| 2,2' DNDPA | 50.0 | 5.325 | 95 | 18335 | 0.000 |
| 2,4' DNDPA | 50.0 | 7.791 | 1061.3 | 83.2 | 0.008 |
| 4NDPA | 50.0 | 9.345 | 1700.8 | 167.7 | 0.010 |
| 2NDPA | 50.0 | 10.629 | 3041.2 | 330.5 | 0.011 |
| DPA | 200.0 | 12.152 | 5943.4 | 913.3 | 0.061 |
| N-NitrosoDPA | 75.0 | 13.034 | 1443.1 | 111.8 | 0.000 |

| | | |
|---|---|---|
| | | 0.421 |
| Avg. % Stabilizer for Lot | | **0.421** |

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | |
|---|---|
| **Analyst** Mike Kile | Avg. Tot. Stabilizers **0.42** % |
| Analyst Signature | Stable YES / Unstable |
| Lab. Supervisor Signature | Comments **CATEGORY: A** |
| | Actions to be Taken |

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND81D070020** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 10 Feb 2012** |

| Other Information | Sample Data | | Solvent |
|---|---|---|---|
| M6 Propellant | #1 | 0.50 g 100 ml | ACN |

| Standards (ERG-006) | | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 0.868 | 53.7 | 398.1 | 0.741 |
| 2,4-DNDPA | 50.0 | 3.292 | 916.2 | 0 | 0.000 |
| 2,2' DNDPA | 50.0 | 4.936 | 839.4 | 22071 | 0.000 |
| 2,4' DNDPA | 50.0 | 6.943 | 1003.3 | 0 | 0.000 |
| 4NDPA | 50.0 | 8.309 | 1616.5 | 50 | 0.003 |
| 2NDPA | 50.0 | 9.362 | 2912 | 113.3 | 0.004 |
| DPA | 200.0 | 10.749 | 5497.2 | 666 | 0.048 |
| N-NitrosoDPA | 75.0 | 11.362 | 1264.1 | 355.2 | 0.000 |

0.797

| Avg. % Stabilizer for Lot | **0.797** |
|---|---|

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| **Analyst** Mike Kile | Avg. Tot. Stabilizers **0.80** % |
|---|---|
| Analyst Signature | Stable YES / Unstable |
| Lab. Supervisor Signature | Comments **CATEGORY: A** |
| | Actions to be Taken |

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND81D070015** | **D533 / M6 propellant** |
| Date of analysis: | **Date:20 OCT 2010** |

| Other Information | Sample Data | | Solvent |
|---|---|---|---|
| M6 Propellant | #1 | 0.5000 g 100 ml | ACN |

| | Standards (ERG-006) | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 5.024 | 281.6 | 2363.4 | 0.839 |
| 2,4-DNDPA | 50.0 | 10.59 | 329 | 0 | 0.000 |
| 2,2' DNDPA | 50.0 | 12.176 | 376.1 | 0 | 0.000 |
| 2,4' DNDPA | 50.0 | 12.67 | 275.3 | 35.7 | 0.013 |
| 4NDPA | 50.0 | 13.632 | 664.1 | 0 | 0.000 |
| 2NDPA | 50.0 | 14.943 | 1788.8 | 34.8 | 0.002 |
| DPA | 200.0 | 16.114 | 286 | 0 | 0.000 |
| N-NitrosoDPA | 75.0 | 19.917 | 329.9 | 158.8 | 0.000 |

| | |
|---|---|
| | 0.854 |
| Avg. % Stabilizer for Lot | **0.854** |

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | |
|---|---|
| **Analyst** Kisha Dickerson | Avg. Tot. Stabilizers **0.85** % |
| Analyst Signature | Stable YES / Unstable |
| | Comments **CATEGORY: A** |
| Lab. Supervisor Signature | |
| | Actions to be Taken |

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND81D070019** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 29 MAY 2012** |

| Other Information | Sample Data | | Solvent |
|---|---|---|---|
| M6 Propellant | #1 | 0.50 g 100 ml | ACN |

| Standards (ERG-006) | | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 0.86 | 235.9 | 525.7 | 0.223 |
| 2,4-DNDPA | 50.0 | 3.398 | 913.2 | 0 | 0.000 |
| 2,2' DNDPA | 50.0 | 5.133 | 1007.2 | 37577 | 0.000 |
| 2,4' DNDPA | 50.0 | 7.409 | 1002.4 | 0 | 0.000 |
| 4NDPA | 50.0 | 8.917 | 1612.8 | 186.9 | 0.012 |
| 2NDPA | 50.0 | 10.112 | 2882.2 | 282.1 | 0.010 |
| DPA | 200.0 | 11.607 | 5642.3 | 917.9 | 0.065 |
| N-NitrosoDPA | 75.0 | 12.414 | 1351.4 | | 0.000 |

| | |
|---|---|
| | 0.309 |
| Avg. % Stabilizer for Lot | **0.309** |

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | |
|---|---|
| **Analyst** Takisha Dickerson | Avg. Tot. Stabilizers **0.31** % |
| Analyst Signature | Stable YES / Unstable |
| | Comments |
| Lab. Supervisor Signature | **CATEGORY: A** |
| | Actions to be Taken |

CONTAINS HAZARDOUS MATERIALS

# STRAIGHT BILL OF LADING

# NOT NEGOTIABLE

RECEIVED, subject to the classification and tariffs in effect on the date of the issue of this Original Bill of Lading.
The property described below, in apparent good order, except as noted (contents and condition of contents of packages unknown) consigned, and destined as indicated below, which said carrier (the word carrier being understood throughout this contract meaning any person or corporation in possession of the property under the contract) agrees to carry to its usual place of delivery of said destination. If on its route, otherwise to deliver to another carrier on the route to said destination. It is mutually agreed, as to each of all or any of said property over all or any portion of said route to destination, and as to each party at any time interested in all or any of said property, that every service lobe performed hereunder shall be subject to all the terms and conditions of the Uniform Domestic Straight Bill of Lading Set forth (1) in Uniform Freight Classification in effect on the date hereof, If this is a rail or rail-water shipment, or (2) in the applicable motor carrier classification or tariff it this is a motor carrier shipment.
Shipper hereby certifies that he is familiar with all the terms and conditions of the said bill of lading, set forth in the classification or tariff which governs the transportation of this shipment, and the sold terms and conditions are hereby agreed to by the shipper and accept for himself and his assigns.

Shipper: Explo Systems, Inc.
1600 Java Road
Minden, LA 71055

Shipper's No. 2822

Shipping Date 12/12/12

At

Purchase Order No.

By [illegible]

Freight Charges: Collect _____ Prepaid [illegible]

Location No. 2427

(Mail or Street Address of Consignee — For purposes of notification only)

Consigned to [illegible]

Fed Lic. [illegible] Exp. Date 5/1/15

Destination [illegible] State

State Lic. Exp. Date

County [illegible]

Customer No.

Route

Charge Account of [illegible]

Customer P.O. No.

Rel. No.

| SHIPPED No. of PKGS | SHIPPED No. of UNITS | PROPER SHIPPING NAME AND HAZARD CLASS | RETURNED No. of PKGS | RETURNED No. of UNITS | EMERGENCY RESPONSE PROCEDURE GUIDE NO. | EXEMPTION --DOT-E | HM | Placards Applied to Railcar or Motor Vehicle |
|---|---|---|---|---|---|---|---|---|
| [illegible] | [illegible] | UN0161, Powder, Smokeless, 1.3C, PG II | | | #112 | [illegible] | [illegible] | EXPLOSIVES 1.3 |
| | | - [illegible] - | | | | | | |
| | | | | | | | | |
| | | | | | | | | Truck No. [illegible] |
| | | | | | | | | Trailer No. [illegible] |
| | | 17AT16 | | | | | | Mileage |
| | | | | | | | | Total [illegible] Packages |
| | | | | | | | | Gross Weight # [illegible] |
| | | [illegible] | | | | | | Net Explosive Weight |
| | | 708 3913/701 5914 | | | | | | [illegible] |

This is to certify that the above-named materials are properly classified, described, packaged, marked, and labeled and are in proper condition for transportation, according to the applicable regulations of the Department of Transportation.

Signature [illegible]

Invoice No. _____

FOR CHEMICAL EMERGENCY, SPILL, LEAK, FIRE, EXPOSURE OR ACCIDENT CALL CHEMTREC — DAY OR NIGHT
IN THE USA CALL 800-424-9300 IN CANADA (LRP #2-0040) 800-561-3636 ELSEWHERE CALL (703) 527-3887 [illegible]

Permanent Address of Shipper:
**Explo Systems, Inc.**
1600 Java Road
Minden, Louisiana 71055
(318) 382 8700

Per _____

DOT Hazardous Material Handling Number _____
Local Federal Explosives License No. 5-LA-119-20-1A-00057
(Shipper)

I have been offered placards identifying the shipment as Specified in 49CFR Subpart F of Part 172. I have received the above goods in apparent good order and condition.

Received By [illegible] Date [illegible]
☐ CONSIGNEE ☐ CARRIER

By _____ Date _____
AUTHORIZED RECEIVER

CONTAINS HAZARDOUS MATERIALS

10/02/13 10:04 AM Wright 3187472049 Page 7

019407

EXP_001041

AUSTIN POWDER PACKING LIST

SHIPMENT DATE 18 DEC 2012

B/L# 2822

M-6

IND88F 070964 3 PTS
IND81D-070019 4 PTS
IND84C-070331 3 PT
IND87B-Y70678 4 PTS
IND85B-070507 8 PTS
IND86H-070622 3 PTS
IND87D-070450 2 PTS
IND84G-070326 2 PTS
IND88J-070969 9 PTS
IND84A-070323 1 PT
IND83F-070274 1 PT
IND81E-070022 1 PT
IND81D-070020 1 PT

42 PTS WITH 6 FB @140 LBS PER DRUM

TOTAL 35,280

LIONEL KOONS

EXPLO SYSTEMS INC

16

2822

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND88J070969** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 24 OCT 2012** |

| Other Information | Sample Data | | Solvent |
|---|---|---|---|
| M6 Propellant | #1 | 0.50 g 100 ml | ACN |

| Standards (ERG-006) | | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 0.784 | 163 | 776.6 | 0.476 |
| 2,4-DNDPA | 50.0 | 3.299 | 808.4 | 0 | 0.000 |
| 2,2' DNDPA | 50.0 | 4.947 | 2591.5 | 24054 | 0.000 |
| 2,4' DNDPA | 50.0 | 7.024 | 871.2 | 0 | 0.000 |
| 4NDPA | 50.0 | 8.466 | 1408.7 | 50.3 | 0.004 |
| 2NDPA | 50.0 | 9.578 | 2554.8 | 81.2 | 0.003 |
| DPA | 200.0 | 11.01 | 4783.9 | 969.1 | 0.081 |
| N-NitrosoDPA | 75.0 | 11.732 | 1511.1 | 286 | 0.000 |

0.564

| Avg. % Stabilizer for Lot | **0.564** |
|---|---|

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| **Analyst** MIKE KILE | Avg. Tot. Stabilizers **0.56** % |
|---|---|
| Analyst Signature | Stable YES / Unstable |
| Lab. Supervisor Signature | Comments **CATEGORY: A** |
| | Actions to be Taken |

Form #158

019409

EXP_001043

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND88F070964** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 20 JAN 2012** |

Other Information
M6 Propellant

| Sample Data | | | Solvent |
|---|---|---|---|
| #1 | 0.50 g | 100 ml | ACN |

| Standards (ERG-006) | | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 0.632 | 146.8 | 475.8 | 0.324 |
| 2,4-DNDPA | 50.0 | 3.234 | 1100.8 | 0 | 0.000 |
| 2,2' DNDPA | 50.0 | 4.775 | 3438.7 | 22537 | 0.000 |
| 2,4' DNDPA | 50.0 | 6.709 | 1204.4 | 0 | 0.000 |
| 4NDPA | 50.0 | 8.119 | 1979.8 | 74.6 | 0.004 |
| 2NDPA | 50.0 | 9.168 | 3522.1 | 112.2 | 0.003 |
| DPA | 200.0 | 10.246 | 6855 | 0 | 0.000 |
| N-NitrosoDPA | 75.0 | 10.85 | 1686.4 | 870.3 | 0.000 |

0.331

Avg. % Stabilizer for Lot **0.331**

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

**Analyst** TAKISHA DICKERSON

Analyst Signature

Lab. Supervisor Signature

Avg. Tot. Stabilizers **0.33** %

Stable YES | Unstable

Comments
**CATEGORY: A**

Actions to be Taken

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND87D070450** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 23 AUG 2010** |

| Other Information | Sample Data | | Solvent |
|---|---|---|---|
| M6 Propellant | #1 | 0.5000 g 100 ml | ACN |

| Standards (ERG-006) | | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | | 0 | | |
| 2,4-DNDPA | 50.0 | 4.884 | 715.1 | 0 | 0.000 |
| 2,2' DNDPA | 50.0 | 9.663 | 794.8 | 5124.3 | 0.645 |
| 2,4' DNDPA | 50.0 | 11.213 | 1155.8 | 0 | 0.000 |
| 4NDPA | 50.0 | 11.899 | 750.7 | 0 | 0.000 |
| 2NDPA | 50.0 | 12.536 | 1565 | 0 | 0.000 |
| DPA | 200.0 | 13.934 | 4151.3 | 0 | 0.000 |
| N-NitrosoDPA | 75.0 | 14.875 | 1080.5 | 46.7 | 0.006 |

0.651

| Avg. % Stabilizer for Lot | **0.651** |
|---|---|

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| **Analyst** Kisha Dickerson | Avg. Tot. Stabilizers **0.65** % | |
|---|---|---|
| Analyst Signature | Stable YES | Unstable |
| | Comments | |
| Lab. Supervisor Signature | **CATEGORY:** **A** | |
| | Actions to be Taken | |

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND87BY70678** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 19 OCTOBER 2011** |

| Other Information | Sample Data | | Solvent |
|---|---|---|---|
| M6 Propellant | #1 | 0.50 g 100 ml | ACN |

| Standards (ERG-006) | | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 0.86 | 108.3 | 465.3 | 0.430 |
| 2,4-DNDPA | 50.0 | 3.439 | 927.1 | 0 | 0.000 |
| 2,2' DNDPA | 50.0 | 5.254 | 682.7 | 22447 | 0.000 |
| 2,4' DNDPA | 50.0 | 7.643 | 998.4 | 0 | 0.000 |
| 4NDPA | 50.0 | 9.185 | 1612.6 | 50 | 0.003 |
| 2NDPA | 50.0 | 10.427 | 2895.4 | 343.7 | 0.012 |
| DPA | 200.0 | 11.954 | 5562.6 | 261.2 | 0.019 |
| N-NitrosoDPA | 75.0 | 12.798 | 1360.9 | 0 | 0.000 |
| | | | | | 0.463 |
| | | | Avg. % Stabilizer for Lot | | **0.463** |

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | |
|---|---|
| **Analyst** TAKISHA DICKERSON | Avg. Tot. Stabilizers **0.46** % |
| Analyst Signature | Stable YES \| Unstable |
| Lab. Supervisor Signature | Comments **CATEGORY: A** |
| | Actions to be Taken |

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND85B070507** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 16 JULY 2012** |

| Other Information | Sample Data | | Solvent |
|---|---|---|---|
| M6 Propellant | #1 | 0.50 g 100 ml | ACN |

| Standards (ERG-006) | | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 0.871 | 70.6 | 459.1 | 0.650 |
| 2,4-DNDPA | 50.0 | 3.368 | 934.1 | 0 | 0.000 |
| 2,2' DNDPA | 50.0 | 5.103 | 1888.6 | 22961 | 0.000 |
| 2,4' DNDPA | 50.0 | 7.516 | 1021.7 | 0 | 0.000 |
| 4NDPA | 50.0 | 8.938 | 1656.1 | 138.9 | 0.008 |
| 2NDPA | 50.0 | 10.131 | 2970.1 | 109.4 | 0.004 |
| DPA | 200.0 | 11.561 | 5887.3 | 342.8 | 0.023 |
| N-NitrosoDPA | 75.0 | 12.367 | 1376.5 | 0 | 0.000 |

| | | |
|---|---|---|
| | | 0.686 |
| | Avg. % Stabilizer for Lot | **0.686** |

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | | |
|---|---|---|
| **Analyst** Takisha Dickerson | Avg. Tot. Stabilizers | **0.69** % |
| Analyst Signature | Stable YES | Unstable |
| | Comments | |
| Lab. Supervisor Signature | **CATEGORY:** | **A** |
| | Actions to be Taken | |

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND84A070323** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 21 DEC 2011** |

| Other Information | Sample Data | | Solvent |
|---|---|---|---|
| M6 Propellant | #1 | 0.50 g 100 ml | ACN |

| Standards (ERG-006) | | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 0.67 | 192.9 | 675.2 | 0.350 |
| 2,4-DNDPA | 50.0 | 3.298 | 1077.6 | 0 | 0.000 |
| 2,2' DNDPA | 50.0 | 4.953 | 951.5 | 22469 | 0.000 |
| 2,4' DNDPA | 50.0 | 6.749 | 1136.2 | 0 | 0.000 |
| 4NDPA | 50.0 | 8.218 | 1880.4 | 46.5 | 0.002 |
| 2NDPA | 50.0 | 9.339 | 3292.9 | 89.5 | 0.003 |
| DPA | 200.0 | 10.48 | 6310.2 | 733.6 | 0.047 |
| N-NitrosoDPA | 75.0 | 11.073 | 1512.2 | 0 | 0.000 |
| | | | | | 0.402 |
| | | Avg. % Stabilizer for Lot | | | **0.402** |

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | |
|---|---|
| **Analyst** TAKISHA DICKERSON | Avg. Tot. Stabilizers **0.40** % |
| Analyst Signature | Stable YES / Unstable |
| Lab. Supervisor Signature | Comments **CATEGORY: A** |
| | Actions to be Taken |

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND84G070326** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 3 MAY 2012** |

| Other Information | Sample Data | | | Solvent |
|---|---|---|---|---|
| M6 Propellant | #1 | 0.50 g | 100 ml | ACN |

| Standards (ERG-006) | | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 0.867 | 104.4 | 324.4 | 0.311 |
| 2,4-DNDPA | 50.0 | 3.335 | 1105.6 | 0 | 0.000 |
| 2,2' DNDPA | 50.0 | 5.007 | 4986.7 | 23068 | 0.000 |
| 2,4' DNDPA | 50.0 | 7.137 | 1206.9 | 0 | 0.000 |
| 4NDPA | 50.0 | 8.593 | 1969.2 | 87.1 | 0.004 |
| 2NDPA | 50.0 | 9.688 | 3527.8 | 151.4 | 0.004 |
| DPA | 200.0 | 11.153 | 7041.6 | 785.8 | 0.045 |
| N-NitrosoDPA | 75.0 | 11.897 | 1704.5 | | 0.000 |

| | | |
|---|---|---|
| | | 0.364 |
| Avg. % Stabilizer for Lot | | **0.364** |

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | | | |
|---|---|---|---|
| **Analyst** | Takisha Dickerson | Avg. Tot. Stabilizers | **0.36** % |
| Analyst Signature | | Stable YES | Unstable |
| | | Comments | |
| Lab. Supervisor Signature | | **CATEGORY:** | **A** |
| | | Actions to be Taken | |

Form #159

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND84C070331** | **D533 / M6 propellant** |
| Date of analysis: | **Date:21 SEP 2010** |

| Other Information | Sample Data | | Solvent |
|---|---|---|---|
| M6 Propellant | #1 | 0.5000 g 100 ml | ACN |

| Standards (ERG-006) | | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 2.168 | 128.5 | 113.7 | 0.088 |
| 2,4-DNDPA | 50.0 | 5.033 | 432 | 217.6 | 0.050 |
| 2,2' DNDPA | 50.0 | 7.206 | 1480.6 | 820.7 | 0.000 |
| 2,4' DNDPA | 50.0 | 10.409 | 485.4 | 222.7 | 0.046 |
| 4NDPA | 50.0 | 12.024 | 1113.3 | 522 | 0.047 |
| 2NDPA | 50.0 | 13.489 | 784 | 396.3 | 0.051 |
| DPA | 200.0 | 14.97 | 2121.4 | 1130.5 | 0.213 |
| N-NitrosoDPA | 75.0 | 16.167 | 463.9 | 299.3 | 0.000 |
| | | | | | 0.495 |
| | | | Avg. % Stabilizer for Lot | | **0.495** |

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | |
|---|---|
| **Analyst** Kisha Dickerson | Avg. Tot. Stabilizers **0.50** % |
| Analyst Signature | Stable YES / Unstable |
| Lab. Supervisor Signature | Comments **CATEGORY: A** |
| | Actions to be Taken |

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND83F070274** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 27 JULY 2011** |

| Other Information | Sample Data | | | Solvent |
|---|---|---|---|---|
| M6 Propellant | #1 | 0.50 g | 100 ml | ACN |

| | Standards (ERG-006) | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 0.694 | 112.8 | 622.1 | 0.552 |
| 2,4-DNDPA | 50.0 | 3.477 | 942.8 | 0 | 0.000 |
| 2,2' DNDPA | 50.0 | 5.339 | 77.4 | 22209 | 0.000 |
| 2,4' DNDPA | 50.0 | 7.842 | 1020.3 | 0 | 0.000 |
| 4NDPA | 50.0 | 9.392 | 1634.2 | 48.5 | 0.003 |
| 2NDPA | 50.0 | 10.693 | 2956.2 | 98.3 | 0.003 |
| DPA | 200.0 | 12.201 | 5630.5 | 451.4 | 0.032 |
| N-NitrosoDPA | 75.0 | 13.103 | 1385.2 | 0 | 0.000 |
| | | | | | 0.590 |
| | | Avg. % Stabilizer for Lot | | | **0.590** |

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | |
|---|---|
| **Analyst** Takisha Dickerson | Avg. Tot. Stabilizers **0.59** % |
| Analyst Signature | Stable YES / Unstable |
| Lab. Supervisor Signature | Comments **CATEGORY: A** |
| | Actions to be Taken |

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND81D070019** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 29 MAY 2012** |

| Other Information | Sample Data | | Solvent |
|---|---|---|---|
| M6 Propellant | #1 | 0.50 g 100 ml | ACN |

| Standards (ERG-006) | | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 0.86 | 235.9 | 525.7 | 0.223 |
| 2,4-DNDPA | 50.0 | 3.398 | 913.2 | 0 | 0.000 |
| 2,2' DNDPA | 50.0 | 5.133 | 1007.2 | 37577 | 0.000 |
| 2,4' DNDPA | 50.0 | 7.409 | 1002.4 | 0 | 0.000 |
| 4NDPA | 50.0 | 8.917 | 1612.8 | 186.9 | 0.012 |
| 2NDPA | 50.0 | 10.112 | 2882.2 | 282.1 | 0.010 |
| DPA | 200.0 | 11.607 | 5642.3 | 917.9 | 0.065 |
| N-NitrosoDPA | 75.0 | 12.414 | 1351.4 | | 0.000 |

0.309

| Avg. % Stabilizer for Lot | **0.309** |
|---|---|

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| **Analyst** Takisha Dickerson | Avg. Tot. Stabilizers **0.31** % |
|---|---|
| Analyst Signature | Stable YES / Unstable |
| Lab. Supervisor Signature | Comments **CATEGORY: A** |
| | Actions to be Taken |

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND81D070020** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 10 Feb 2012** |

| Other Information | Sample Data | | Solvent |
|---|---|---|---|
| M6 Propellant | #1 | 0.50 g 100 ml | ACN |

| Standards (ERG-006) | | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 0.868 | 53.7 | 398.1 | 0.741 |
| 2,4-DNDPA | 50.0 | 3.292 | 916.2 | 0 | 0.000 |
| 2,2' DNDPA | 50.0 | 4.936 | 839.4 | 22071 | 0.000 |
| 2,4' DNDPA | 50.0 | 6.943 | 1003.3 | 0 | 0.000 |
| 4NDPA | 50.0 | 8.309 | 1616.5 | 50 | 0.003 |
| 2NDPA | 50.0 | 9.362 | 2912 | 113.3 | 0.004 |
| DPA | 200.0 | 10.749 | 5497.2 | 666 | 0.048 |
| N-NitrosoDPA | 75.0 | 11.362 | 1264.1 | 355.2 | 0.000 |

| | | |
|---|---|---|
| | | 0.797 |
| Avg. % Stabilizer for Lot | | **0.797** |

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | | |
|---|---|---|
| **Analyst** Mike Kile | Avg. Tot. Stabilizers | **0.80** % |
| Analyst Signature | Stable YES | Unstable |
| | Comments | |
| Lab. Supervisor Signature | **CATEGORY:** | **A** |
| | Actions to be Taken | |

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND81E070022** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 23 AUG 2010** |

| Other Information | Sample Data | | Solvent |
|---|---|---|---|
| M6 Propellant | #1 | 0.5000 g 100 ml | ACN |

| Standards (ERG-006) | | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | | 0 | | |
| 2,4-DNDPA | 50.0 | 4.884 | 715.1 | 0 | 0.000 |
| 2,2' DNDPA | 50.0 | 9.663 | 794.8 | 17278.9 | 2.174 |
| 2,4' DNDPA | 50.0 | 11.213 | 1155.8 | 0 | 0.000 |
| 4NDPA | 50.0 | 11.899 | 750.7 | 0 | 0.000 |
| 2NDPA | 50.0 | 12.536 | 1565 | 0 | 0.000 |
| DPA | 200.0 | 13.934 | 4151.3 | 0 | 0.000 |
| N-NitrosoDPA | 75.0 | 14.875 | 1080.5 | 451.1 | 0.063 |

| | | |
|---|---|---|
| | | 2.237 |
| Avg. % Stabilizer for Lot | | **2.237** |

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | |
|---|---|
| **Analyst** Kisha Dickerson | Avg. Tot. Stabilizers **2.24** % |
| Analyst Signature | Stable YES / Unstable |
| | Comments **CATEGORY: A** |
| Lab. Supervisor Signature | |
| | Actions to be Taken |

Correction Load 18

CONTAINS HAZARDOUS MATERIALS

# STRAIGHT BILL OF LADING

# NOT NEGOTIABLE

RECEIVED, subject to the classification and tariffs in effect on the date of the issue of this Original Bill of Lading.
The property described below, in apparent good order, except as noted (contents and condition of contents of packages unknown) consigned, and destined as indicated below, which said carrier (the word carrier being understood throughout this contract meaning any person or corporation in possession of the property under the contract) agrees to carry to its usual place of delivery of said destination. It on its route, otherwise to deliver to another carrier on the route to said destination. It is mutually agreed, as to each of all or any of said property over all or any portion of said route to destination, and as to each party at any time interested in all or any of said property, that every service lobe performed hereunder shall be subject to all the terms and conditions of the Uniform Domestic Straight Bill of Lading Set forth (t) in Uniform Freight Classification in effect on the date hereof. It this is a rail or rail-water shipment, or (2) in the applicable motor carrier classification or tariff it this is a motor carrier shipment.
Shipper hereby certifies that he is familiar with all the terms and conditions of the said bill of lading, set forth in the classification or tariff which governs the transportation of this shipment, and the sold terms and conditions are hereby agreed to by the shipper and accept for himself and his assigns.

Shipper: Explo Systems, Inc.
1600 Java Road
Minden, LA 71055

Shipper's No. ~~2829~~ 2821

Shipping Date 12/18/17

At

Purchase Order No.

By APC

Freight Charges: Collect _____ Prepaid WW

Location No. 1607

(Mail or Street Address of Consignee — For purposes of notification only)

Consigned to Austin Powder Co

Fed Lic. 5-AR-103-20-SE-00139

Exp. Date 5/1/15

Destination 7-LC-10 Blanny Rd

State

State Lic.

Exp. Date

County East Camden AR 74711

Customer No.

Route

Charge Account of 1-870-574 0586 Ex 307

Customer P.O. No.

Rel. No.

| SHIPPED No. of PKGS | SHIPPED No. of UNITS | PROPER SHIPPING NAME AND HAZARD CLASS | RETURNED No. of PKGS | RETURNED No. of UNITS | EMERGENCY RESPONSE PROCEDURE GUIDE NO. | EXEMPTION ~~DOT-E~~ | HM | Placards Applied to Railcar or Motor Vehicle |
|---|---|---|---|---|---|---|---|---|
| 257/16 | 42 | UN0161, Powder, Smokeless, 1.3C, PG II | | | #112 | 20100 10605 | X | EXPLOSIVES 1.3 |
| | | See pk list | | | | | | |
| | | | | | | | | |
| | | | | | | | | Truck No. 11358 |
| | | | | | | | | Trailer No. 41025 |
| | | 17AT14 | | | | | | Mileage |
| | | | | | | | | Total 246 1G FD @ 140 |
| | | | | | | | | Packa 6 1G FD @ 120 |
| | | | | | | | | Gross |
| | | | | | | | | Weight # [illegible] |
| | | Seal # | | | | | | Net Explosive Weight |
| | | 7083911 / 7083912 | | | | | | 35,160 |

This is to certify that the above-named materials are properly classified, described, packaged, marked, and labeled and are [illegible] for transportation, according to the applicable regulations of the Department of Transportation.

Signature [signature]

Invoice No. _____

FOR CHEMICAL EMERGENCY, SPILL, LEAK, FIRE, EXPOSURE OR ACCIDENT CALL CHEMTREC — DAY OR NIGHT
IN THE USA CALL 800-424-9300 IN CANADA (ERP #2-0040) 800-561-3638 ELSEWHERE CALL (703) 527-3887 [illegible]

Permanent Address of Shipper:
**Explo Systems, Inc.**
1600 Java Road
Minden, Louisiana 71055
(318) 382-8700

Per _____

DOT Hazardous Material Handling Number _____
Local Federal Explosives License No. 5-LA-119-20-1A-00057
(Shipper)

I have been offered placards identifying the shipment as Specified in 49CFR Subpart F of Part 172. I have received the above goods in apparent good order and condition.

Received By X Richard Dunas Date 12/18/17
☐ CONSIGNEE ☐ CARRIER

By _____ Date _____
AUTHORIZED RECEIVER

CONTAINS HAZARDOUS MATERIALS

CONTAINS HAZARDOUS MATERIALS

CONTAINS HAZARDOUS MATERIALS

019421

EXP_001055

Correction Load 18

AUSTIN POWDER PACKING LIST

SHIPMENT DATE 19 DEC 2012

B/L# 2824

M-6

IND81D-070019 11 PTS
IND86H-070622 3 PTS
IND87D-070450 1 PT
IND81D-070015 4 PTS
IND81D-070020 3 PTS
IND83F-070274 1 PT
IND81G-070061 2 PTS
IND84K-070452 3 PTS
IND84K-070454 4 PTS
IND82D-070110 2 PTS
IND82L-070219 5 PTS
IND83M-070322 2 PTS
IND81D-070015 1 PT (6X120)

41 PTS WITH 6 FB @140 LBS PER DRUM

1 PT WITH 6 FD @ 120 LBS PER DRUM

TOTAL 35,160

LIONEL KOONS

EXPLO SYSTEMS INC

18

2821

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND87D070450** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 23 AUG 2010** |

| Other Information | Sample Data | | Solvent |
|---|---|---|---|
| M6 Propellant | #1 | 0.5000 g 100 ml | ACN |

| Standards (ERG-006) | | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | | 0 | | |
| 2,4-DNDPA | 50.0 | 4.884 | 715.1 | 0 | 0.000 |
| 2,2' DNDPA | 50.0 | 9.663 | 794.8 | 5124.3 | 0.645 |
| 2,4' DNDPA | 50.0 | 11.213 | 1155.8 | 0 | 0.000 |
| 4NDPA | 50.0 | 11.899 | 750.7 | 0 | 0.000 |
| 2NDPA | 50.0 | 12.536 | 1565 | 0 | 0.000 |
| DPA | 200.0 | 13.934 | 4151.3 | 0 | 0.000 |
| N-NitrosoDPA | 75.0 | 14.875 | 1080.5 | 46.7 | 0.006 |

0.651

| Avg. % Stabilizer for Lot | **0.651** |
|---|---|

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| **Analyst** Kisha Dickerson | Avg. Tot. Stabilizers **0.65** % | |
|---|---|---|
| Analyst Signature | Stable YES | Unstable |
| | Comments | |
| Lab. Supervisor Signature | **CATEGORY:** **A** | |
| | Actions to be Taken | |

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND84K070454** | **D533 / M6 propellant** |
| Date of analysis: | **Date:21 SEP 2010** |

| Other Information | Sample Data | | Solvent |
|---|---|---|---|
| M6 Propellant | #1 | 0.5000 g 100 ml | ACN |

| | Standards (ERG-006) | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 2.168 | 128.5 | 374.5 | 0.291 |
| 2,4-DNDPA | 50.0 | 5.033 | 432 | 212.9 | 0.049 |
| 2,2' DNDPA | 50.0 | 7.206 | 1480.6 | 458.3 | 0.000 |
| 2,4' DNDPA | 50.0 | 10.409 | 485.4 | 213.4 | 0.044 |
| 4NDPA | 50.0 | 12.024 | 1113.3 | 716.2 | 0.064 |
| 2NDPA | 50.0 | 13.489 | 784 | 698 | 0.089 |
| DPA | 200.0 | 14.97 | 2121.4 | 935.4 | 0.176 |
| N-NitrosoDPA | 75.0 | 16.167 | 463.9 | 274.3 | 0.000 |

| | | |
|---|---|---|
| | | 0.714 |
| | Avg. % Stabilizer for Lot | **0.714** |

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | |
|---|---|
| **Analyst** Kisha Dickerson | Avg. Tot. Stabilizers **0.71** % |
| Analyst Signature | Stable YES / Unstable |
| | Comments **CATEGORY: A** |
| Lab. Supervisor Signature | |
| | Actions to be Taken |

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND84K070452** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 13 AUGUST 2012** |

| Other Information | Sample Data | | Solvent |
|---|---|---|---|
| M6 Propellant | #1 | 0.50 g 100 ml | ACN |

| Standards (ERG-006) | | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 0.874 | 41.1 | 237.6 | 0.578 |
| 2,4-DNDPA | 50.0 | 3.363 | 1017.6 | 0 | 0.000 |
| 2,2' DNDPA | 50.0 | 5.079 | 4556.2 | 22977 | 0.000 |
| 2,4' DNDPA | 50.0 | 7.471 | 1126.4 | 0 | 0.000 |
| 4NDPA | 50.0 | 8.907 | 1830.9 | 53.4 | 0.003 |
| 2NDPA | 50.0 | 10.084 | 3271.2 | 114.5 | 0.004 |
| DPA | 200.0 | 11.54 | 6554.9 | 610.4 | 0.037 |
| N-NitrosoDPA | 75.0 | 12.349 | 1509.1 | 0 | 0.000 |

0.622

| Avg. % Stabilizer for Lot | **0.622** |
|---|---|

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| **Analyst** Takisha Dickerson | Avg. Tot. Stabilizers **0.62** % |
|---|---|
| Analyst Signature Dickerson | Stable YES / Unstable |
| Lab. Supervisor Signature | Comments **CATEGORY: A** |
| | Actions to be Taken |

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND83M070322** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 12 APR 2012** |

| Other Information | Sample Data | | Solvent |
|---|---|---|---|
| M6 Propellant | #1 | 0.50 g 100 ml | ACN |

| Standards (ERG-006) | | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 0.882 | 28.4 | 566.5 | 1.995 |
| 2,4-DNDPA | 50.0 | 3.244 | 978.3 | 0 | 0.000 |
| 2,2' DNDPA | 50.0 | 4.803 | 3426.7 | 22442 | 0.000 |
| 2,4' DNDPA | 50.0 | 6.74 | 1061.1 | 499.4 | 0.047 |
| 4NDPA | 50.0 | 8.012 | 1726.9 | 66.2 | 0.004 |
| 2NDPA | 50.0 | 9.091 | 3662.4 | 113.4 | 0.003 |
| DPA | 200.0 | 10.394 | 6185.4 | 978.3 | 0.063 |
| N-NitrosoDPA | 75.0 | 10.968 | 1530.7 | 0 | 0.000 |

2.112

| Avg. % Stabilizer for Lot | **2.112** |
|---|---|

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| **Analyst** Kisha Dickerson | Avg. Tot. Stabilizers **2.11** % |
|---|---|
| Analyst Signature | Stable YES / Unstable |
| Lab. Supervisor Signature | Comments **CATEGORY: A** |
| | Actions to be Taken |

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND83F070274** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 27 JULY 2011** |

Other Information
M6 Propellant

| Sample Data | | | Solvent |
|---|---|---|---|
| #1 | 0.50 g | 100 ml | ACN |

| Standards (ERG-006) | | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 0.694 | 112.8 | 622.1 | 0.552 |
| 2,4-DNDPA | 50.0 | 3.477 | 942.8 | 0 | 0.000 |
| 2,2' DNDPA | 50.0 | 5.339 | 77.4 | 22209 | 0.000 |
| 2,4' DNDPA | 50.0 | 7.842 | 1020.3 | 0 | 0.000 |
| 4NDPA | 50.0 | 9.392 | 1634.2 | 48.5 | 0.003 |
| 2NDPA | 50.0 | 10.693 | 2956.2 | 98.3 | 0.003 |
| DPA | 200.0 | 12.201 | 5630.5 | 451.4 | 0.032 |
| N-NitrosoDPA | 75.0 | 13.103 | 1385.2 | 0 | 0.000 |

| | | |
|---|---|---|
| | | 0.590 |
| Avg. % Stabilizer for Lot | | **0.590** |

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | | | |
|---|---|---|---|
| **Analyst** | Takisha Dickerson | Avg. Tot. Stabilizers | **0.59** % |
| Analyst Signature | | Stable YES | Unstable |
| Lab. Supervisor Signature | | Comments<br>**CATEGORY:** **A** | |
| | | Actions to be Taken | |

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND82D070110** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 27 JULY 2011** |

| Other Information | Sample Data | | Solvent |
|---|---|---|---|
| M6 Propellant | #1 | 0.50 g 100 ml | ACN |

| Standards (ERG-006) | | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 0.694 | 112.8 | 437.7 | 0.388 |
| 2,4-DNDPA | 50.0 | 3.477 | 942.8 | 0 | 0.000 |
| 2,2' DNDPA | 50.0 | 5.339 | 77.4 | 22925 | 0.000 |
| 2,4' DNDPA | 50.0 | 7.842 | 1020.3 | 0 | 0.000 |
| 4NDPA | 50.0 | 9.392 | 1634.2 | 119.1 | 0.007 |
| 2NDPA | 50.0 | 10.693 | 2956.2 | 134.9 | 0.005 |
| DPA | 200.0 | 12.201 | 5630.5 | 218.4 | 0.016 |
| N-NitrosoDPA | 75.0 | 13.103 | 1385.2 | 0 | 0.000 |

| | | |
|---|---|---|
| | | 0.415 |
| | Avg. % Stabilizer for Lot | **0.415** |

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | |
|---|---|
| **Analyst** Mike Kile | Avg. Tot. Stabilizers **0.42** % |
| Analyst Signature | Stable YES \| Unstable |
| | Comments |
| Lab. Supervisor Signature | **CATEGORY:** **A** |
| | Actions to be Taken |

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND81G070061** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 12 JULY 2011** |

| Other Information | Sample Data | | Solvent |
|---|---|---|---|
| M6 Propellant | #1 | 0.50 g 100 ml | ACN |

| Standards (ERG-006) | | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 0.71 | 111 | 358.1 | 0.323 |
| 2,4-DNDPA | 50.0 | 3.475 | 1001 | 79.1 | 0.008 |
| 2,2' DNDPA | 50.0 | 5.325 | 95 | 18335 | 0.000 |
| 2,4' DNDPA | 50.0 | 7.791 | 1061.3 | 83.2 | 0.008 |
| 4NDPA | 50.0 | 9.345 | 1700.8 | 167.7 | 0.010 |
| 2NDPA | 50.0 | 10.629 | 3041.2 | 330.5 | 0.011 |
| DPA | 200.0 | 12.152 | 5943.4 | 913.3 | 0.061 |
| N-NitrosoDPA | 75.0 | 13.034 | 1443.1 | 111.8 | 0.000 |

| | | |
|---|---|---|
| | | 0.421 |
| Avg. % Stabilizer for Lot | | **0.421** |

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | | | |
|---|---|---|---|
| **Analyst** | Mike Kile | Avg. Tot. Stabilizers | **0.42** % |
| Analyst Signature | | Stable YES | Unstable |
| Lab. Supervisor Signature | | Comments **CATEGORY:** | **A** |
| | | Actions to be Taken | |

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND81D070020** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 10 Feb 2012** |

| Other Information | Sample Data | | Solvent |
|---|---|---|---|
| M6 Propellant | #1 | 0.50 g 100 ml | ACN |

| Standards (ERG-006) | | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 0.868 | 53.7 | 398.1 | 0.741 |
| 2,4-DNDPA | 50.0 | 3.292 | 916.2 | 0 | 0.000 |
| 2,2' DNDPA | 50.0 | 4.936 | 839.4 | 22071 | 0.000 |
| 2,4' DNDPA | 50.0 | 6.943 | 1003.3 | 0 | 0.000 |
| 4NDPA | 50.0 | 8.309 | 1616.5 | 50 | 0.003 |
| 2NDPA | 50.0 | 9.362 | 2912 | 113.3 | 0.004 |
| DPA | 200.0 | 10.749 | 5497.2 | 666 | 0.048 |
| N-NitrosoDPA | 75.0 | 11.362 | 1264.1 | 355.2 | 0.000 |

| | | |
|---|---|---|
| | | 0.797 |
| Avg. % Stabilizer for Lot | | **0.797** |

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | | |
|---|---|---|
| **Analyst** Mike Kile | Avg. Tot. Stabilizers | **0.80** % |
| Analyst Signature | Stable YES | Unstable |
| | Comments | |
| Lab. Supervisor Signature | **CATEGORY:** | **A** |
| | Actions to be Taken | |

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND81D070015** | **D533 / M6 propellant** |
| Date of analysis: | **Date:20 OCT 2010** |

| Other Information | Sample Data | | | Solvent |
|---|---|---|---|---|
| M6 Propellant | #1 | 0.5000 g | 100 ml | ACN |

| | Standards (ERG-006) | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 5.024 | 281.6 | 2363.4 | 0.839 |
| 2,4-DNDPA | 50.0 | 10.59 | 329 | 0 | 0.000 |
| 2,2' DNDPA | 50.0 | 12.176 | 376.1 | 0 | 0.000 |
| 2,4' DNDPA | 50.0 | 12.67 | 275.3 | 35.7 | 0.013 |
| 4NDPA | 50.0 | 13.632 | 664.1 | 0 | 0.000 |
| 2NDPA | 50.0 | 14.943 | 1788.8 | 34.8 | 0.002 |
| DPA | 200.0 | 16.114 | 286 | 0 | 0.000 |
| N-NitrosoDPA | 75.0 | 19.917 | 329.9 | 158.8 | 0.000 |

| | | |
|---|---|---|
| | | 0.854 |
| Avg. % Stabilizer for Lot | | **0.854** |

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | | |
|---|---|---|
| **Analyst** Kisha Dickerson | Avg. Tot. Stabilizers | **0.85** % |
| Analyst Signature | Stable YES | Unstable |
| | Comments | |
| Lab. Supervisor Signature | **CATEGORY:** | **A** |
| | Actions to be Taken | |

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND81D070019** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 29 MAY 2012** |

| Other Information | Sample Data | | Solvent |
|---|---|---|---|
| M6 Propellant | #1 | 0.50 g 100 ml | ACN |

| Standards (ERG-006) | | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 0.86 | 235.9 | 525.7 | 0.223 |
| 2,4-DNDPA | 50.0 | 3.398 | 913.2 | 0 | 0.000 |
| 2,2' DNDPA | 50.0 | 5.133 | 1007.2 | 37577 | 0.000 |
| 2,4' DNDPA | 50.0 | 7.409 | 1002.4 | 0 | 0.000 |
| 4NDPA | 50.0 | 8.917 | 1612.8 | 186.9 | 0.012 |
| 2NDPA | 50.0 | 10.112 | 2882.2 | 282.1 | 0.010 |
| DPA | 200.0 | 11.607 | 5642.3 | 917.9 | 0.065 |
| N-NitrosoDPA | 75.0 | 12.414 | 1351.4 | | 0.000 |
| | | | | | 0.309 |
| | | | Avg. % Stabilizer for Lot | | **0.309** |

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | |
|---|---|
| **Analyst** Takisha Dickerson | Avg. Tot. Stabilizers **0.31** % |
| Analyst Signature | Stable YES / Unstable |
| Lab. Supervisor Signature | Comments **CATEGORY: A** |
| | Actions to be Taken |

CONTAINS HAZARDOUS MATERIALS

# STRAIGHT BILL OF LADING

## NOT NEGOTIABLE

RECEIVED, subject to the classification and tariffs in effect on the date of the issue of this Original Bill of Lading.
The property described below, in apparent good order, except as noted (contents and condition of contents of packages unknown) consigned, and destined as indicated below, which said carrier (the word carrier being understood throughout this contract meaning any person or corporation in possession of the property under the contract) agrees to carry to its usual place of delivery of said destination. It on its route, otherwise to deliver to another carrier on the route to said destination. It is mutually agreed, as to each of all or any of said property over all or any portion of said route to destination, and as to each party at any time interested in all or any of said property, that every service lobe performed hereunder shall be subject to all the terms and conditions of the Uniform Domestic Straight Bill of Lading Set forth (1) in Uniform Freight Classification in effect on the date hereof. If this is a rail or rail water shipment, or (2) in the applicable motor carrier classification or tariff it this is a motor carrier shipment.
Shipper hereby certifies that he is familiar with all the terms and conditions of the said bill of lading, set forth in the classification or tariff which governs the transportation of this shipment, and the sold terms and conditions are hereby agreed to by the shipper and accept for himself and his assigns.

Shipper: Explo Systems, Inc.
1600 Java Road
Minden, LA 71055

Shipper's No. 2819

Shipping Date: 12-12-12

At

Purchase Order No.

By SLtw Freight Charges: Collect ____ Prepaid Yes Location No. 1617

(Mail or Street Address of Consignee — For purposes of notification only)

Consigned to Austin Powder Co. Fed Lic. 5-1-12-103-20-5E-00139 Exp. Date 5-1-15

Destination 7-1 C.W. Blandy Rd State State Lic. Exp. Date

County East Camden AR 7470 Customer No.

Route

Charge Account of 1-870-574-0580 Ex 302 Customer P.O. No. Rel. No.

| SHIPPED No. of PKGS | SHIPPED No. of UNITS | PROPER SHIPPING NAME AND HAZARD CLASS | RETURNED No. of PKGS | RETURNED No. of UNITS | EMERGENCY RESPONSE PROCEDURE GUIDE NO. | EXEMPTION ~~DOT~~ E | H M | Placards Applied to Railcar or Motor Vehicle |
|---|---|---|---|---|---|---|---|---|
| 252/16 | 112 | UN0161, Powder, Smokeless, 1.3C, PG II | | | #112 | [illegible] | X | EXPLOSIVES 1.3 |
| | | See pk list | | | | | | |
| | | | | | | | | Truck No. 2908 |
| | | | | | | | | Trailer No. 70267 |
| | | 17AT14 | | | | | | Mileage |
| | | | | | | | | Total 252 16 PD 6 MILLION Packages |
| | | | | | | | | Gross Weight # 37000 |
| | | Seal # 7083907/7083908 | | | | | | Net Explosive Weight 35280 |

This is to certify that the above-named materials are properly classified, described, packaged, marked, and labeled and are in proper condition for transportation, according to the applicable regulations of the Department of Transportation.

Signature [signature] Invoice No.

FOR CHEMICAL EMERGENCY, SPILL, LEAK, FIRE, EXPOSURE OR ACCIDENT CALL CHEMTREC — DAY OR NIGHT
IN THE USA CALL 800-424-9300 IN CANADA (ERP #2-0040) 800-561-3636 ELSEWHERE CALL (703) 527-3887 CC 244587

Permanent Address of Shipper:
**Explo Systems, Inc.**
1600 Java Road
Minden, Louisiana 71055
(318) 382-8700

I have been offered placards identifying the shipment as Specified in 49CFR Subpart F of Part 172. I have received the above goods in apparent good order and condition.

Per

Received By [signature] Date
☐ CONSIGNEE ☐ CARRIER

DOT Hazardous Material Handling Number
Local Federal Explosives License No. 5-LA-119-20-1A-00057
(Shipper)

By Date
AUTHORIZED RECEIVER

CONTAINS HAZARDOUS MATERIALS

CONTAINS HAZARDOUS MATERIALS

019433

EXP_001067

AUSTIN POWDER PACKING LIST

SHIPMENT DATE 12 DEC 2012

B/L# 2819 TRL 70267

M-6

IND84A-070323 2 PTS
IND82D-070110 2 PTS
IND82L-070219 2 PTS
IND83M-070322 2 PTS
IND86M-070673 4 PTS
IND82L-070178 2 PTS
IND85B-070507 1 PT
IND83L-070321 1 PT
IND84H-070443 3 PTS
IND84H-Y70442 2 PTS
IND81D-070015 6 PTS
IND89D-070039 1 PT
IND87E-070713 2 PTS
IND87B-070680 1 PT
IND84M-070640 1 PT
IND85C-070513 3 PTS
IND85L-070599 1 PT
IND81G-070061 1 PT
IND85F-070597 2 PTS
IND87B-Y70678 1 PT
IND88E-070963 1 PT
IND85F-070587 1 PT

42 PTS WITH 6 FB @140 LBS PER DRUM

TOTAL 35,280

LIONEL KOONS

EXPLO SYSTEMS INC

17
2819

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND88E070963** | **D533 / M6 propellant** |
| Date of analysis: | **Date:25 AUG 2010** |

| Other Information | Sample Data | | Solvent |
|---|---|---|---|
| M6 Propellant | #1 | 0.5000 g | 100 ml ACN |

| Standards (ERG-006) | | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 2.177 | 146.5 | 1369.8 | 0.935 |
| 2,4-DNDPA | 50.0 | 5.001 | 961.7 | 0 | 0.000 |
| 2,2' DNDPA | 50.0 | 7.038 | 2567.5 | 12491.2 | 0.000 |
| 2,4' DNDPA | 50.0 | 9.931 | 938.5 | 0 | 0.000 |
| 4NDPA | 50.0 | 11.434 | 1325.8 | 0 | 0.000 |
| 2NDPA | 50.0 | 12.813 | 1809.7 | 0 | 0.000 |
| DPA | 200.0 | 14.19 | 4886.9 | 610.3 | 0.050 |
| N-NitrosoDPA | 75.0 | 15.18 | 1296.7 | 0 | 0.000 |

| | | |
|---|---|---|
| | | 0.985 |
| Avg. % Stabilizer for Lot | | **0.985** |

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | | |
|---|---|---|
| **Analyst** Kisha Dickerson | Avg. Tot. Stabilizers | **0.98** % |
| Analyst Signature | Stable YES | Unstable |
| Lab. Supervisor Signature | Comments **CATEGORY:** | **A** |
| | Actions to be Taken | |

Form #158

Original Print Date:07/19/2010

Load 18

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND87E070713** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 4 Sep 2012** |

Other Information
M6 Propellant

| Sample Data | | | Solvent |
|---|---|---|---|
| #1 | 0.50 g | 100 ml | ACN |

| Standards (ERG-006) | | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 0.889 | 48.8 | 189.8 | 0.389 |
| 2,4-DNDPA | 50.0 | 3.418 | 914.3 | 0 | 0.000 |
| 2,2' DNDPA | 50.0 | 5.22 | 777.3 | 22631 | 0.000 |
| 2,4' DNDPA | 50.0 | 7.622 | 980.5 | 0 | 0.000 |
| 4NDPA | 50.0 | 9.134 | 1586.8 | 42.7 | 0.003 |
| 2NDPA | 50.0 | 10.417 | 2826.3 | 103.9 | 0.004 |
| DPA | 200.0 | 11.797 | 5671.5 | 734.5 | 0.052 |
| N-NitrosoDPA | 75.0 | 12.757 | 1337.5 | 0 | 0.000 |

0.447

| Avg. % Stabilizer for Lot | **0.447** |
|---|---|

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | |
|---|---|
| **Analyst** Mike Kile | Avg. Tot. Stabilizers **0.45** % |
| Analyst Signature | Stable YES / Unstable |
| Lab. Supervisor Signature | Comments **CATEGORY: A** |
| | Actions to be Taken |

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND87BY70678** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 19 OCTOBER 2011** |

| Other Information | Sample Data | | Solvent |
|---|---|---|---|
| M6 Propellant | #1 | 0.50 g 100 ml | ACN |

| Standards (ERG-006) | | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 0.86 | 108.3 | 465.3 | 0.430 |
| 2,4-DNDPA | 50.0 | 3.439 | 927.1 | 0 | 0.000 |
| 2,2' DNDPA | 50.0 | 5.254 | 682.7 | 22447 | 0.000 |
| 2,4' DNDPA | 50.0 | 7.643 | 998.4 | 0 | 0.000 |
| 4NDPA | 50.0 | 9.185 | 1612.6 | 50 | 0.003 |
| 2NDPA | 50.0 | 10.427 | 2895.4 | 343.7 | 0.012 |
| DPA | 200.0 | 11.954 | 5562.6 | 261.2 | 0.019 |
| N-NitrosoDPA | 75.0 | 12.798 | 1360.9 | 0 | 0.000 |

| | | |
|---|---|---|
| | | 0.463 |
| Avg. % Stabilizer for Lot | | **0.463** |

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | | |
|---|---|---|
| **Analyst** TAKISHA DICKERSON | Avg. Tot. Stabilizers | **0.46** % |
| Analyst Signature | Stable YES | Unstable |
| | Comments **CATEGORY:** **A** | |
| Lab. Supervisor Signature | | |
| | Actions to be Taken | |

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND86M070673** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 7 FEB 2012** |

| Other Information | Sample Data | | Solvent |
|---|---|---|---|
| M6 Propellant | #1 | 0.50 g 100 ml | ACN |

| Standards (ERG-006) | | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 0.863 | 50.1 | 452.6 | 0.903 |
| 2,4-DNDPA | 50.0 | 3.336 | 893.6 | 0 | 0.000 |
| 2,2' DNDPA | 50.0 | 5.03 | 726.8 | 22299 | 0.000 |
| 2,4' DNDPA | 50.0 | 7.182 | 1225.5 | 0 | 0.000 |
| 4NDPA | 50.0 | 8.642 | 1532.1 | 67.5 | 0.004 |
| 2NDPA | 50.0 | 9.759 | 2784.7 | 120.3 | 0.004 |
| DPA | 200.0 | 11.235 | 5480.9 | 727.3 | 0.053 |
| N-NitrosoDPA | 75.0 | 11.979 | 1363.1 | 0 | 0.000 |
| | | | | | 0.965 |
| | | Avg. % Stabilizer for Lot | | | **0.965** |

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | |
|---|---|
| **Analyst** TAKISHA DICKERSON | Avg. Tot. Stabilizers **0.97** % |
| Analyst Signature | Stable YES / Unstable |
| | Comments **CATEGORY: A** |
| Lab. Supervisor Signature | |
| | Actions to be Taken |

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND85F070587** | **D533 / M6 propellant** |
| Date of analysis: | **Date:25 AUG 2010** |

| Other Information | Sample Data | | Solvent |
|---|---|---|---|
| M6 Propellant | #1 | 0.5000 g 100 ml | ACN |

| Standards (ERG-006) | | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 2.177 | 146.5 | 1821.4 | 1.243 |
| 2,4-DNDPA | 50.0 | 5.001 | 961.7 | 0 | 0.000 |
| 2,2' DNDPA | 50.0 | 7.038 | 2567.5 | 14427.7 | 0.000 |
| 2,4' DNDPA | 50.0 | 9.931 | 938.5 | 0 | 0.000 |
| 4NDPA | 50.0 | 11.434 | 1325.8 | 0 | 0.000 |
| 2NDPA | 50.0 | 12.813 | 1809.7 | 0 | 0.000 |
| DPA | 200.0 | 14.19 | 4886.9 | 225 | 0.018 |
| N-NitrosoDPA | 75.0 | 15.18 | 1296.7 | 0 | 0.000 |

| | | |
|---|---|---|
| | | 1.262 |
| | Avg. % Stabilizer for Lot | **1.262** |

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | |
|---|---|
| **Analyst** Kisha Dickerson | Avg. Tot. Stabilizers **1.26** % |
| Analyst Signature | Stable YES / Unstable |
| | Comments **CATEGORY: A** |
| Lab. Supervisor Signature | |
| | Actions to be Taken |

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND85B070507** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 16 JULY 2012** |

| Other Information | Sample Data | | Solvent |
|---|---|---|---|
| M6 Propellant | #1 | 0.50 g 100 ml | ACN |

| | Standards (ERG-006) | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 0.871 | 70.6 | 459.1 | 0.650 |
| 2,4-DNDPA | 50.0 | 3.368 | 934.1 | 0 | 0.000 |
| 2,2' DNDPA | 50.0 | 5.103 | 1888.6 | 22961 | 0.000 |
| 2,4' DNDPA | 50.0 | 7.516 | 1021.7 | 0 | 0.000 |
| 4NDPA | 50.0 | 8.938 | 1656.1 | 138.9 | 0.008 |
| 2NDPA | 50.0 | 10.131 | 2970.1 | 109.4 | 0.004 |
| DPA | 200.0 | 11.561 | 5887.3 | 342.8 | 0.023 |
| N-NitrosoDPA | 75.0 | 12.367 | 1376.5 | 0 | 0.000 |
| | | | | | 0.686 |
| | | | Avg. % Stabilizer for Lot | | **0.686** |

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | |
|---|---|
| **Analyst** Takisha Dickerson | Avg. Tot. Stabilizers **0.69** % |
| Analyst Signature Dickerson | Stable YES / Unstable |
| Lab. Supervisor Signature | Comments **CATEGORY: A** |
| | Actions to be Taken |

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND84A070323** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 21 DEC 2011** |

| Other Information | Sample Data | | Solvent |
|---|---|---|---|
| M6 Propellant | #1 | 0.50 g 100 ml | ACN |

| Standards (ERG-006) | | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 0.67 | 192.9 | 675.2 | 0.350 |
| 2,4-DNDPA | 50.0 | 3.298 | 1077.6 | 0 | 0.000 |
| 2,2' DNDPA | 50.0 | 4.953 | 951.5 | 22469 | 0.000 |
| 2,4' DNDPA | 50.0 | 6.749 | 1136.2 | 0 | 0.000 |
| 4NDPA | 50.0 | 8.218 | 1880.4 | 46.5 | 0.002 |
| 2NDPA | 50.0 | 9.339 | 3292.9 | 89.5 | 0.003 |
| DPA | 200.0 | 10.48 | 6310.2 | 733.6 | 0.047 |
| N-NitrosoDPA | 75.0 | 11.073 | 1512.2 | 0 | 0.000 |

| | |
|---|---|
| | 0.402 |
| Avg. % Stabilizer for Lot | **0.402** |

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | |
|---|---|
| **Analyst** TAKISHA DICKERSON | Avg. Tot. Stabilizers **0.40** % |
| Analyst Signature | Stable YES / Unstable |
| | Comments **CATEGORY: A** |
| Lab. Supervisor Signature | |
| | Actions to be Taken |

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND83M070322** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 12 APR 2012** |

| Other Information | Sample Data | | | Solvent |
|---|---|---|---|---|
| M6 Propellant | #1 | 0.50 g | 100 ml | ACN |

| Standards (ERG-006) | | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 0.882 | 28.4 | 566.5 | 1.995 |
| 2,4-DNDPA | 50.0 | 3.244 | 978.3 | 0 | 0.000 |
| 2,2' DNDPA | 50.0 | 4.803 | 3426.7 | 22442 | 0.000 |
| 2,4' DNDPA | 50.0 | 6.74 | 1061.1 | 499.4 | 0.047 |
| 4NDPA | 50.0 | 8.012 | 1726.9 | 66.2 | 0.004 |
| 2NDPA | 50.0 | 9.091 | 3662.4 | 113.4 | 0.003 |
| DPA | 200.0 | 10.394 | 6185.4 | 978.3 | 0.063 |
| N-NitrosoDPA | 75.0 | 10.968 | 1530.7 | 0 | 0.000 |

| | |
|---|---|
| | 2.112 |
| Avg. % Stabilizer for Lot | **2.112** |

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | |
|---|---|
| **Analyst** Kisha Dickerson | Avg. Tot. Stabilizers **2.11** % |
| Analyst Signature | Stable YES / Unstable |
| Lab. Supervisor Signature | Comments **CATEGORY: A** |
| | Actions to be Taken |

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND82L070178** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 1 FEB 2011** |

| Other Information | Sample Data | | Solvent |
|---|---|---|---|
| M6 Propellant | #1 | 0.5000 g 100 ml | ACN |

| Standards (ERG-006) | | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 4.156 | 1116 | 1943.1 | 0.174 |
| 2,4-DNDPA | 50.0 | 9.388 | 1191.2 | 25869.9 | 2.172 |
| 2,2' DNDPA | 50.0 | 10.987 | 1694.7 | 97.6 | 0.000 |
| 2,4' DNDPA | 50.0 | 11.73 | 1272.3 | 145.3 | 0.011 |
| 4NDPA | 50.0 | 12.459 | 2443.3 | 0 | 0.000 |
| 2NDPA | 50.0 | 13.939 | 5852.1 | 388.6 | 0.007 |
| DPA | 200.0 | 15.022 | 1753.1 | 361.4 | 0.082 |
| N-NitrosoDPA | 75.0 | 18.932 | 2535.1 | 365.7 | 0.000 |

| | | |
|---|---|---|
| | | 2.446 |
| Avg. % Stabilizer for Lot | | **2.446** |

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | | | |
|---|---|---|---|
| **Analyst** | Mike Kile | Avg. Tot. Stabilizers | **2.45** % |
| Analyst Signature | | Stable YES | Unstable |
| | | Comments | |
| Lab. Supervisor Signature | | CATEGORY: | A |
| | | Actions to be Taken | |

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND82D070110** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 27 JULY 2011** |

| Other Information | Sample Data | | Solvent |
|---|---|---|---|
| M6 Propellant | #1 | 0.50 g 100 ml | ACN |

| Standards (ERG-006) | | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 0.694 | 112.8 | 437.7 | 0.388 |
| 2,4-DNDPA | 50.0 | 3.477 | 942.8 | 0 | 0.000 |
| 2,2' DNDPA | 50.0 | 5.339 | 77.4 | 22925 | 0.000 |
| 2,4' DNDPA | 50.0 | 7.842 | 1020.3 | 0 | 0.000 |
| 4NDPA | 50.0 | 9.392 | 1634.2 | 119.1 | 0.007 |
| 2NDPA | 50.0 | 10.693 | 2956.2 | 134.9 | 0.005 |
| DPA | 200.0 | 12.201 | 5630.5 | 218.4 | 0.016 |
| N-NitrosoDPA | 75.0 | 13.103 | 1385.2 | 0 | 0.000 |

| | | |
|---|---|---|
| | | 0.415 |
| | Avg. % Stabilizer for Lot | **0.415** |

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | | |
|---|---|---|
| **Analyst** Mike Kile | Avg. Tot. Stabilizers | **0.42** % |
| Analyst Signature | Stable YES | Unstable |
| | Comments | |
| Lab. Supervisor Signature | **CATEGORY:** | **A** |
| | Actions to be Taken | |

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND81G070061** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 12 JULY 2011** |

| Other Information | Sample Data | | | Solvent |
|---|---|---|---|---|
| M6 Propellant | #1 | 0.50 g | 100 ml | ACN |

| Standards (ERG-006) | | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 0.71 | 111 | 358.1 | 0.323 |
| 2,4-DNDPA | 50.0 | 3.475 | 1001 | 79.1 | 0.008 |
| 2,2' DNDPA | 50.0 | 5.325 | 95 | 18335 | 0.000 |
| 2,4' DNDPA | 50.0 | 7.791 | 1061.3 | 83.2 | 0.008 |
| 4NDPA | 50.0 | 9.345 | 1700.8 | 167.7 | 0.010 |
| 2NDPA | 50.0 | 10.629 | 3041.2 | 330.5 | 0.011 |
| DPA | 200.0 | 12.152 | 5943.4 | 913.3 | 0.061 |
| N-NitrosoDPA | 75.0 | 13.034 | 1443.1 | 111.8 | 0.000 |

0.421

| Avg. % Stabilizer for Lot | **0.421** |
|---|---|

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| **Analyst** Mike Kile | Avg. Tot. Stabilizers **0.42** % | |
|---|---|---|
| Analyst Signature | Stable YES | Unstable |
| Lab. Supervisor Signature | Comments **CATEGORY: A** | |
| | Actions to be Taken | |

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND81D070015** | **D533 / M6 propellant** |
| Date of analysis: | **Date:20 OCT 2010** |

| Other Information | Sample Data | | | Solvent |
|---|---|---|---|---|
| M6 Propellant | #1 | 0.5000 g | 100 ml | ACN |

| | Standards (ERG-006) | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 5.024 | 281.6 | 2363.4 | 0.839 |
| 2,4-DNDPA | 50.0 | 10.59 | 329 | 0 | 0.000 |
| 2,2' DNDPA | 50.0 | 12.176 | 376.1 | 0 | 0.000 |
| 2,4' DNDPA | 50.0 | 12.67 | 275.3 | 35.7 | 0.013 |
| 4NDPA | 50.0 | 13.632 | 664.1 | 0 | 0.000 |
| 2NDPA | 50.0 | 14.943 | 1788.8 | 34.8 | 0.002 |
| DPA | 200.0 | 16.114 | 286 | 0 | 0.000 |
| N-NitrosoDPA | 75.0 | 19.917 | 329.9 | 158.8 | 0.000 |

| | | |
|---|---|---|
| | | 0.854 |
| Avg. % Stabilizer for Lot | | **0.854** |

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | | |
|---|---|---|
| **Analyst** Kisha Dickerson | Avg. Tot. Stabilizers | **0.85** % |
| Analyst Signature | Stable YES | Unstable |
| Lab. Supervisor Signature | Comments **CATEGORY:** **A** | |
| | Actions to be Taken | |

CONTAINS HAZARDOUS MATERIALS

# STRAIGHT BILL OF LADING — NOT NEGOTIABLE

RECEIVED, subject to the classification and tariffs in effect on the date of the issue of this Original Bill of Lading.
The property described below, in apparent good order, except as noted (contents and condition of contents of packages unknown) consigned and destined as indicated below, which said carrier (the word carrier being understood throughout this contract meaning any person or corporation in possession of the property under the contract) agrees to carry to its usual place of delivery at said destination, if on its route, otherwise to deliver to another carrier on the route to said destination. It is mutually agreed, as to each of all or any of said property over all or any portion of said route to destination, and as to each party at any time interested in all or any of said property, that every service to be performed hereunder shall be subject to all the terms and conditions of the Uniform Domestic Straight Bill of Lading Set forth (1) in Uniform Freight Classification in effect on the date hereof, if this is a rail or rail-water shipment, or (2) in the applicable motor carrier classification or tariff if this is a motor carrier shipment.
Shipper hereby certifies that he is familiar with all the terms and conditions of the said bill of lading, set forth in the classification or tariff which governs the transportation of this shipment, and the said terms and conditions are hereby agreed to by the shipper and accepted for himself and his assigns.

Shipper: Explo Systems, Inc.
1600 Java Road
Minden, LA 71055

Shipper's No.: 2841

Shipping Date: 1/25/13

At

Purchase Order No.

By: JPC

Freight Charges: Collect _____ Prepaid XXX

Location No.: 2319/2321

(Mail or Street Address of Consignee — For purposes of notification only)

Consigned to: Austin Powder Co

Destination: 7 Lc to Bunkhouse

State

Fed Lic.: [illegible] Exp. Date 5/1/15

State Lic.

Exp. Date

County: Pine Ridge Rd

Route

Customer No.

Charge Account of: [illegible]

Customer P.O. No.

Rel. No.

| SHIPPED No. of PKGS. | SHIPPED No. of UNITS | PROPER SHIPPING NAME AND HAZARD CLASS | RETURNED No. of PKGS | RETURNED No. of UNITS | EMERGENCY RESPONSE PROCEDURE GUIDE NO. | EXEMPTION DOT-E | H M | Placards Applied to Railcar or Motor Vehicle |
|---|---|---|---|---|---|---|---|---|
| 24/12 | 43 | UN0161, Powder, Smokeless, 1.3C, PG II | | | #112 | [illegible] | X | EXPLOSIVES 1.3 |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | Truck No. 14356 |
| | | | | | | | | Trailer No. 41067 |
| | | 12414 | | | | | | Mileage |
| | | | | | | | | Total 24/12-FD 2 Units 50 Packages |
| | | | | | | | | Gross Weight # 39,000 |
| | | Load # 708351/708352 | | | | | | Net Explosive Weight |
| | | | | | | | | 32,120 |

This is to certify that the above-named materials are properly classified, described, packaged, marked, and labeled and are in proper condition for transportation, according to the applicable regulations of the Department of Transportation.

Signature: [signature]

Invoice No.

FOR CHEMICAL EMERGENCY, SPILL, LEAK, FIRE, EXPOSURE OR ACCIDENT CALL CHEMTREC - DAY OR NIGHT
IN THE USA CALL 800-424-9300 IN CANADA (ERP #2-0040) 800-561-3636 ELSEWHERE CALL (703) 527-3887 CCN 44589

Permanent Address of Shipper:
**Explo Systems, Inc.**
1600 Java Road
Minden, Louisiana 71055
(318) 382-8700

Per _____

DOT Hazardous Material Handling Number _____
Local Federal Explosives License No. 5-LA-119-20-1A-00057
(Shipper)

I have been offered placards identifying the shipment as Specified in 49CFR Subpart F of Part 172. I have received the above goods in apparent good order and condition.

Received By: [signature] Date 1-25-13
☐ CONSIGNEE ☐ CARRIER

By _____ Date _____
AUTHORIZED RECEIVER

CONTAINS HAZARDOUS MATERIALS



10/02/13 10:42 AM

AUSTIN POWDER PACKING LIST

SHIPMENT DATE 25 JAN 2013

19

B/L# 2841 TRL 41067

M-6

IND86E-070616 25 PTS
IND85F-070587 2 PTS
IND81D-070015 4 PTS
IND85C-070512 7 PTS
IND83M-070322 2 PTS
IND81D-070020 1 PT
IND81G-070061 2 PTS
43 PTS WITH 6 FB @140 LBS PER DRUM

TOTAL 36,120 LBS

LIONEL KOONS

EXPLO SYSTEMS INC

2841 19

~~2319~~

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND86E070616** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 19 NOV 2010** |

Other Information
M6 Propellant

| Sample Data | | | Solvent |
|---|---|---|---|
| #1 | 0.5000 g | 100 ml | ACN |

| Standards (ERG-006) | | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 2.068 | 135.8 | 654.4 | 0.482 |
| 2,4-DNDPA | 50.0 | 5.182 | 717.3 | 0 | 0.000 |
| 2,2' DNDPA | 50.0 | 7.635 | 736.3 | 13022.2 | 0.000 |
| 2,4' DNDPA | 50.0 | 11.713 | 779 | 0 | 0.000 |
| 4NDPA | 50.0 | 13.454 | 462.4 | 0 | 0.000 |
| 2NDPA | 50.0 | 15.161 | 1164.1 | 0 | 0.000 |
| DPA | 200.0 | 16.583 | 4078.5 | 221.2 | 0.022 |
| N-NitrosoDPA | 75.0 | 18.033 | 1011.7 | 0 | 0.000 |

0.504

Avg. % Stabilizer for Lot **0.504**

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | |
|---|---|
| **Analyst** Kisha Dickerson | Avg. Tot. Stabilizers **0.50** % |
| Analyst Signature | Stable YES / Unstable |
| Lab. Supervisor Signature | Comments **CATEGORY: A** |
| | Actions to be Taken |

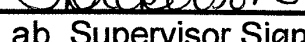
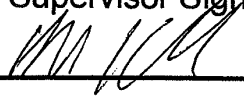
# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND85C070512** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 10 AUGUST 2012** |

| Other Information | Sample Data | | Solvent |
|---|---|---|---|
| M6 Propellant | #1 | 0.50 g 100 ml | ACN |

| | Standards (ERG-006) | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 0.882 | 8.8 | 112.9 | 1.283 |
| 2,4-DNDPA | 50.0 | 3.343 | 910.9 | 0 | 0.000 |
| 2,2' DNDPA | 50.0 | 5.034 | 3858.6 | 22576 | 0.000 |
| 2,4' DNDPA | 50.0 | 7.363 | 1013.2 | 0 | 0.000 |
| 4NDPA | 50.0 | 8.784 | 1647.3 | 59.7 | 0.004 |
| 2NDPA | 50.0 | 9.95 | 2919.6 | 95.5 | 0.003 |
| DPA | 200.0 | 11.386 | 5857.1 | 714.1 | 0.049 |
| N-NitrosoDPA | 75.0 | 12.173 | 1371.4 | 0 | 0.000 |
| | | | | | 1.339 |
| | | Avg. % Stabilizer for Lot | | | **1.339** |

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | |
|---|---|
| **Analyst** Takisha Dickerson | Avg. Tot. Stabilizers **1.34** % |
| Analyst Signature  | Stable YES / Unstable |
| Lab. Supervisor Signature  | Comments **CATEGORY: A** |
| | Actions to be Taken |

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND85F070587** | **D533 / M6 propellant** |
| Date of analysis: | **Date:25 AUG 2010** |

| Other Information | Sample Data | | Solvent |
|---|---|---|---|
| M6 Propellant | #1 | 0.5000 g 100 ml | ACN |

| Standards (ERG-006) | | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 2.177 | 146.5 | 1821.4 | 1.243 |
| 2,4-DNDPA | 50.0 | 5.001 | 961.7 | 0 | 0.000 |
| 2,2' DNDPA | 50.0 | 7.038 | 2567.5 | 14427.7 | 0.000 |
| 2,4' DNDPA | 50.0 | 9.931 | 938.5 | 0 | 0.000 |
| 4NDPA | 50.0 | 11.434 | 1325.8 | 0 | 0.000 |
| 2NDPA | 50.0 | 12.813 | 1809.7 | 0 | 0.000 |
| DPA | 200.0 | 14.19 | 4886.9 | 225 | 0.018 |
| N-NitrosoDPA | 75.0 | 15.18 | 1296.7 | 0 | 0.000 |

| | | |
|---|---|---|
| | | 1.262 |
| | Avg. % Stabilizer for Lot | **1.262** |

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | |
|---|---|
| **Analyst** Kisha Dickerson | Avg. Tot. Stabilizers **1.26** % |
| Analyst Signature | Stable YES \| Unstable |
| | Comments **CATEGORY: A** |
| Lab. Supervisor Signature | |
| | Actions to be Taken |

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND83M070322** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 12 APR 2012** |

| Other Information | Sample Data | | | Solvent |
|---|---|---|---|---|
| M6 Propellant | #1 | 0.50 g | 100 ml | ACN |

| Standards (ERG-006) | | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 0.882 | 28.4 | 566.5 | 1.995 |
| 2,4-DNDPA | 50.0 | 3.244 | 978.3 | 0 | 0.000 |
| 2,2' DNDPA | 50.0 | 4.803 | 3426.7 | 22442 | 0.000 |
| 2,4' DNDPA | 50.0 | 6.74 | 1061.1 | 499.4 | 0.047 |
| 4NDPA | 50.0 | 8.012 | 1726.9 | 66.2 | 0.004 |
| 2NDPA | 50.0 | 9.091 | 3662.4 | 113.4 | 0.003 |
| DPA | 200.0 | 10.394 | 6185.4 | 978.3 | 0.063 |
| N-NitrosoDPA | 75.0 | 10.968 | 1530.7 | 0 | 0.000 |

| | |
|---|---|
| | 2.112 |
| Avg. % Stabilizer for Lot | **2.112** |

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | |
|---|---|
| **Analyst** Kisha Dickerson | Avg. Tot. Stabilizers **2.11** % |
| Analyst Signature | Stable YES / Unstable |
| Lab. Supervisor Signature | Comments **CATEGORY: A** |
| | Actions to be Taken |

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND81G070061** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 12 JULY 2011** |

| Other Information | Sample Data | | Solvent |
|---|---|---|---|
| M6 Propellant | #1 | 0.50 g 100 ml | ACN |

| Standards (ERG-006) | | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 0.71 | 111 | 358.1 | 0.323 |
| 2,4-DNDPA | 50.0 | 3.475 | 1001 | 79.1 | 0.008 |
| 2,2' DNDPA | 50.0 | 5.325 | 95 | 18335 | 0.000 |
| 2,4' DNDPA | 50.0 | 7.791 | 1061.3 | 83.2 | 0.008 |
| 4NDPA | 50.0 | 9.345 | 1700.8 | 167.7 | 0.010 |
| 2NDPA | 50.0 | 10.629 | 3041.2 | 330.5 | 0.011 |
| DPA | 200.0 | 12.152 | 5943.4 | 913.3 | 0.061 |
| N-NitrosoDPA | 75.0 | 13.034 | 1443.1 | 111.8 | 0.000 |

0.421

| Avg. % Stabilizer for Lot | **0.421** |
|---|---|

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| **Analyst** Mike Kile | Avg. Tot. Stabilizers **0.42** % |
|---|---|
| Analyst Signature | Stable YES / Unstable |
| Lab. Supervisor Signature | Comments **CATEGORY: A** |
| | Actions to be Taken |

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND81D070020** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 10 Feb 2012** |

| Other Information | Sample Data | | Solvent |
|---|---|---|---|
| M6 Propellant | #1 | 0.50 g 100 ml | ACN |

| Standards (ERG-006) | | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 0.868 | 53.7 | 398.1 | 0.741 |
| 2,4-DNDPA | 50.0 | 3.292 | 916.2 | 0 | 0.000 |
| 2,2' DNDPA | 50.0 | 4.936 | 839.4 | 22071 | 0.000 |
| 2,4' DNDPA | 50.0 | 6.943 | 1003.3 | 0 | 0.000 |
| 4NDPA | 50.0 | 8.309 | 1616.5 | 50 | 0.003 |
| 2NDPA | 50.0 | 9.362 | 2912 | 113.3 | 0.004 |
| DPA | 200.0 | 10.749 | 5497.2 | 666 | 0.048 |
| N-NitrosoDPA | 75.0 | 11.362 | 1264.1 | 355.2 | 0.000 |

0.797

| Avg. % Stabilizer for Lot | **0.797** |
|---|---|

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| **Analyst** Mike Kile | Avg. Tot. Stabilizers **0.80** % |
|---|---|
| Analyst Signature | Stable YES / Unstable |
| Lab. Supervisor Signature | Comments **CATEGORY: A** |
| | Actions to be Taken |

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND81D070015** | **D533 / M6 propellant** |
| Date of analysis: | **Date:20 OCT 2010** |

| Other Information | Sample Data | | Solvent |
|---|---|---|---|
| M6 Propellant | #1 | 0.5000 g 100 ml | ACN |

| | Standards (ERG-006) | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 5.024 | 281.6 | 2363.4 | 0.839 |
| 2,4-DNDPA | 50.0 | 10.59 | 329 | 0 | 0.000 |
| 2,2' DNDPA | 50.0 | 12.176 | 376.1 | 0 | 0.000 |
| 2,4' DNDPA | 50.0 | 12.67 | 275.3 | 35.7 | 0.013 |
| 4NDPA | 50.0 | 13.632 | 664.1 | 0 | 0.000 |
| 2NDPA | 50.0 | 14.943 | 1788.8 | 34.8 | 0.002 |
| DPA | 200.0 | 16.114 | 286 | 0 | 0.000 |
| N-NitrosoDPA | 75.0 | 19.917 | 329.9 | 158.8 | 0.000 |
| | | | | | 0.854 |
| | | | Avg. % Stabilizer for Lot | | **0.854** |

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | |
|---|---|
| **Analyst** Kisha Dickerson | Avg. Tot. Stabilizers **0.85** % |
| Analyst Signature | Stable YES \| Unstable |
| | Comments |
| Lab. Supervisor Signature | **CATEGORY: A** |
| | Actions to be Taken |

**CONTAINS HAZARDOUS MATERIALS**

# STRAIGHT BILL OF LADING

**NOT NEGOTIABLE**

RECEIVED, subject to the classification and tariffs in effect on the date of the issue of this Original Bill of Lading.
The property described below, in apparent good order, except as noted (contents and condition of contents of packages unknown) consigned, and destined as indicated below, which said carrier (the word carrier being understood throughout this contract meaning any person or corporation in possession of the property under the contract) agrees to carry to its usual place of delivery of said destination. It on its route, otherwise to deliver to another carrier on the route to said destination. It is mutually agreed, as to each of all or any of said property over all or any portion of said route to destination, and as to each party at any time interested in all or any of said property, that every service lobe performed hereunder shall be subject to all the terms and conditions of the Uniform Domestic Straight Bill of Lading Set forth (1) in Uniform Freight Classification in effect on the date hereof. It this is a rail or rail-water shipment, or (2) in the applicable motor carrier classification or tariff It this is a motor carrier shipment.
Shipper hereby certifies that he is familiar with all the terms and conditions of the said bill of lading, set forth in the classification or tariff which governs the transportation of this shipment, and the sold terms and conditions are hereby agreed to by the shipper and accept for himself and his assigns.

Shipper: Explo Systems, Inc.
1600 Java Road
Minden, LA 71055

Shipper's No. 2826

Shipping Date 3 JAN 13

At

Purchase Order No.

By [illegible] Freight Charges: Collect _____ Prepaid [illegible] Location No. [illegible]

(Mail or Street Address of Consignee -- For purposes of notification only)

Consigned to [illegible] Fed Lic. 5-AR-103-20-EE-00139 Exp. Date 5/1/15

Destination [illegible] State State Lic. Exp. Date

County [illegible] 7174 Customer No.

Route

Charge Account of [illegible] Customer P.O. No. Rel. No.

| SHIPPED No. of PKGS | SHIPPED No. of UNITS | PROPER SHIPPING NAME AND HAZARD CLASS | RETURNED No. of PKGS | RETURNED No. of UNITS | EMERGENCY RESPONSE PROCEDURE GUIDE NO. | EXEMPTION DOT | HM | Placards Applied to Railcar or Motor Vehicle |
|---|---|---|---|---|---|---|---|---|
| 252/16 | 42 PL | UN0161, Powder, Smokeless, 1.3C, PG II | | | #112 | [illegible] | | EXPLOSIVES 1.3 |
| | | See pr list | | | | | | |
| | | | | | | | | |
| | | | | | | | | Truck No. 14358 |
| | | | | | | | | Trailer No. 41059 |
| | | | | | | | | Mileage |
| | | 17 ATM | | | | | | Total 252 16 PA [illegible] Packages |
| | | | | | | | | Gross |
| | | | | | | | | Weight # 38,000 |
| | | [illegible] | | | | | | Net Explosive Weight |
| | | 708 [illegible] | | | | | | 35 280 |

This is to certify that the above-named materials are properly classified, described, packaged, marked, and labeled and are in proper condition for transportation, according to the applicable regulations of the Department of Transportation.

Signature [illegible] Invoice No. _____

FOR CHEMICAL EMERGENCY, SPILL, LEAK, FIRE, EXPOSURE OR ACCIDENT CALL CHEMTREC - DAY OR NIGHT
IN THE USA CALL 800-424-9300 IN CANADA (ERP #2-0040) 800-561-3636 ELSEWHERE CALL (703) 527-3887 [illegible]

Permanent Address of Shipper:
**Explo Systems, Inc.**
1600 Java Road
Minden, Louisiana 71055
(318) 382-8700

Per _____

DOT Hazardous Material Handling Number _____
Local Federal Explosives License No. 5-LA-119-20-1A-00057
(Shipper)

I have been offered placards identifying the shipment as Specified in 49CFR Subpart F of Part 172. I have received the above goods in apparent good order and condition.

Received By [illegible] Date 1-3-13
☐ CONSIGNEE ☐ CARRIER

By _____ Date _____
AUTHORIZED RECEIVER

019456

EXP_001090

AUSTIN POWDER PACKING LIST

SHIPMENT DATE 3 JAN 2013

B/L# 2826

M-6

IND87D-Y70450 2 PTS
IND82L-070219 14 PTS
IND81J-070067 2 PTS
IND82D-070110 3 PTS
IND82J-070172 2 PTS
IND84A-070323 1 PT
IND88E-070963 1 PT
IND83K-070319 2 PTS
IND82H-070168 6 PTS
IND82D-070113 1 PT
IND85C-070313 1 PT
IND83F-070274 2 PTS
IND84K-070452 2 PTS
IND82H-070167 1 PT
IND82K-070175 1 PT
IND87B-070078 1 PT

42 PTS WITH 6 FB @140 LBS PER DRUM

TOTAL 35,280

LIONEL KOONS

EXPLO SYSTEMS INC

20
2926

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND88E070963** | **D533 / M6 propellant** |
| Date of analysis: | **Date:25 AUG 2010** |

| Other Information | Sample Data | | Solvent |
|---|---|---|---|
| M6 Propellant | #1 | 0.5000 g 100 ml | ACN |

| Standards (ERG-006) | | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 2.177 | 146.5 | 1369.8 | 0.935 |
| 2,4-DNDPA | 50.0 | 5.001 | 961.7 | 0 | 0.000 |
| 2,2' DNDPA | 50.0 | 7.038 | 2567.5 | 12491.2 | 0.000 |
| 2,4' DNDPA | 50.0 | 9.931 | 938.5 | 0 | 0.000 |
| 4NDPA | 50.0 | 11.434 | 1325.8 | 0 | 0.000 |
| 2NDPA | 50.0 | 12.813 | 1809.7 | 0 | 0.000 |
| DPA | 200.0 | 14.19 | 4886.9 | 610.3 | 0.050 |
| N-NitrosoDPA | 75.0 | 15.18 | 1296.7 | 0 | 0.000 |

| | | |
|---|---|---|
| | | 0.985 |
| Avg. % Stabilizer for Lot | | **0.985** |

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | | |
|---|---|---|
| **Analyst** Kisha Dickerson | Avg. Tot. Stabilizers | **0.98** % |
| Analyst Signature | Stable YES | Unstable |
| Lab. Supervisor Signature | Comments **CATEGORY:** | **A** |
| | Actions to be Taken | |

Form #158

Original Print Date:07/19/2010

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND84K070452** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 13 AUGUST 2012** |

| Other Information | Sample Data | | Solvent |
|---|---|---|---|
| M6 Propellant | #1 | 0.50 g 100 ml | ACN |

| Standards (ERG-006) | | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 0.874 | 41.1 | 237.6 | 0.578 |
| 2,4-DNDPA | 50.0 | 3.363 | 1017.6 | 0 | 0.000 |
| 2,2' DNDPA | 50.0 | 5.079 | 4556.2 | 22977 | 0.000 |
| 2,4' DNDPA | 50.0 | 7.471 | 1126.4 | 0 | 0.000 |
| 4NDPA | 50.0 | 8.907 | 1830.9 | 53.4 | 0.003 |
| 2NDPA | 50.0 | 10.084 | 3271.2 | 114.5 | 0.004 |
| DPA | 200.0 | 11.54 | 6554.9 | 610.4 | 0.037 |
| N-NitrosoDPA | 75.0 | 12.349 | 1509.1 | 0 | 0.000 |
| | | | | | 0.622 |
| | | Avg. % Stabilizer for Lot | | | **0.622** |

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | |
|---|---|
| **Analyst** Takisha Dickerson | Avg. Tot. Stabilizers **0.62** % |
| Analyst Signature Dickerson | Stable YES / Unstable |
| Lab. Supervisor Signature | Comments **CATEGORY: A** |
| | Actions to be Taken |

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND84A070323** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 21 DEC 2011** |

| Other Information | Sample Data | | Solvent |
|---|---|---|---|
| M6 Propellant | #1 | 0.50 g 100 ml | ACN |

| | Standards (ERG-006) | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 0.67 | 192.9 | 675.2 | 0.350 |
| 2,4-DNDPA | 50.0 | 3.298 | 1077.6 | 0 | 0.000 |
| 2,2' DNDPA | 50.0 | 4.953 | 951.5 | 22469 | 0.000 |
| 2,4' DNDPA | 50.0 | 6.749 | 1136.2 | 0 | 0.000 |
| 4NDPA | 50.0 | 8.218 | 1880.4 | 46.5 | 0.002 |
| 2NDPA | 50.0 | 9.339 | 3292.9 | 89.5 | 0.003 |
| DPA | 200.0 | 10.48 | 6310.2 | 733.6 | 0.047 |
| N-NitrosoDPA | 75.0 | 11.073 | 1512.2 | 0 | 0.000 |

| | |
|---|---|
| | 0.402 |
| Avg. % Stabilizer for Lot | **0.402** |

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | |
|---|---|
| **Analyst** TAKISHA DICKERSON | Avg. Tot. Stabilizers **0.40** % |
| Analyst Signature | Stable YES / Unstable |
| Lab. Supervisor Signature | Comments **CATEGORY: A** |
| | Actions to be Taken |

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND83F070274** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 27 JULY 2011** |

| Other Information | Sample Data | | Solvent |
|---|---|---|---|
| M6 Propellant | #1 | 0.50 g 100 ml | ACN |

| Standards (ERG-006) | | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 0.694 | 112.8 | 622.1 | 0.552 |
| 2,4-DNDPA | 50.0 | 3.477 | 942.8 | 0 | 0.000 |
| 2,2' DNDPA | 50.0 | 5.339 | 77.4 | 22209 | 0.000 |
| 2,4' DNDPA | 50.0 | 7.842 | 1020.3 | 0 | 0.000 |
| 4NDPA | 50.0 | 9.392 | 1634.2 | 48.5 | 0.003 |
| 2NDPA | 50.0 | 10.693 | 2956.2 | 98.3 | 0.003 |
| DPA | 200.0 | 12.201 | 5630.5 | 451.4 | 0.032 |
| N-NitrosoDPA | 75.0 | 13.103 | 1385.2 | 0 | 0.000 |

| | | |
|---|---|---|
| | | 0.590 |
| Avg. % Stabilizer for Lot | | **0.590** |

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | |
|---|---|
| **Analyst** Takisha Dickerson | Avg. Tot. Stabilizers **0.59** % |
| Analyst Signature | Stable YES / Unstable |
| | Comments **CATEGORY: A** |
| Lab. Supervisor Signature | |
| | Actions to be Taken |

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND83K070319** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 15 JUNE 2012** |

| Other Information | Sample Data | | Solvent |
|---|---|---|---|
| M6 Propellant | #1 | 0.50 g 100 ml | ACN |

| Standards (ERG-006) | | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 0.782 | 41.2 | 275.4 | 0.668 |
| 2,4-DNDPA | 50.0 | 3.401 | 926.1 | 0 | 0.000 |
| 2,2' DNDPA | 50.0 | 5.141 | 1554.2 | 22992 | 0.000 |
| 2,4' DNDPA | 50.0 | 7.435 | 1019.1 | 0 | 0.000 |
| 4NDPA | 50.0 | 8.937 | 1639.5 | 159.8 | 0.010 |
| 2NDPA | 50.0 | 10.056 | 2924.6 | 174.6 | 0.006 |
| DPA | 200.0 | 11.627 | 5690.8 | 138.2 | 0.010 |
| N-NitrosoDPA | 75.0 | 12.44 | 1376.8 | 0 | 0.000 |

| | |
|---|---|
| | 0.694 |
| Avg. % Stabilizer for Lot | **0.694** |

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | |
|---|---|
| **Analyst** Takisha Dickerson | Avg. Tot. Stabilizers **0.69** % |
| Analyst Signature | Stable YES / Unstable |
| | Comments **CATEGORY: A** |
| Lab. Supervisor Signature | |
| | Actions to be Taken |

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND82K070175** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 6 AUG 2010** |

| Other Information | Sample Data | | Solvent |
|---|---|---|---|
| M6 Propellant | #1 | 0.5000 g 100 ml | ACN |

| Standards (ERG-006) | | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | | 1 | 0 | 0.000 |
| 2,4-DNDPA | 50.0 | 4.91 | 382.3 | 5134.1 | 1.343 |
| 2,2' DNDPA | 50.0 | 9.825 | 437 | 0 | 0.000 |
| 2,4' DNDPA | 50.0 | 11.341 | 632.4 | 87.4 | 0.014 |
| 4NDPA | 50.0 | 11.95 | 441.7 | 0 | 0.000 |
| 2NDPA | 50.0 | 12.713 | 827.6 | 192.5 | 0.023 |
| DPA | 200.0 | 14.06 | 2176 | 90.1 | 0.017 |
| N-NitrosoDPA | 75.0 | 14.999 | 558.4 | 254.6 | 0.068 |

| | | |
|---|---|---|
| | | 1.465 |
| | Avg. % Stabilizer for Lot | **1.465** |

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | |
|---|---|
| **Analyst** Mike Kile | Avg. Tot. Stabilizers **1.46** % |
| Analyst Signature | Stable YES / Unstable |
| | Comments **CATEGORY: A** |
| Lab. Supervisor Signature | |
| | Actions to be Taken |

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND82H070167** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 6 JAN 2012** |

| Other Information | Sample Data | | | Solvent |
|---|---|---|---|---|
| M6 Propellant | #1 | 0.50 g | 100 ml | ACN |

| | Standards (ERG-006) | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 0.65 | 119.1 | 308.2 | 0.259 |
| 2,4-DNDPA | 50.0 | 3.304 | 1019.8 | 0 | 0.000 |
| 2,2' DNDPA | 50.0 | 4.943 | 1734.6 | 23824 | 0.000 |
| 2,4' DNDPA | 50.0 | 7.018 | 1103.9 | 404.1 | 0.037 |
| 4NDPA | 50.0 | 8.439 | 1782.5 | 50.5 | 0.003 |
| 2NDPA | 50.0 | 9.513 | 3182.1 | 79.6 | 0.003 |
| DPA | 200.0 | 10.956 | 6219.8 | 750.3 | 0.048 |
| N-NitrosoDPA | 75.0 | 11.669 | 1532.4 | 0 | 0.000 |
| | | | | | 0.349 |
| | | | Avg. % Stabilizer for Lot | | **0.349** |

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | |
|---|---|
| **Analyst** TAKISHA DICKERSON | Avg. Tot. Stabilizers **0.35** % |
| Analyst Signature | Stable YES \| Unstable |
| Lab. Supervisor Signature | Comments **CATEGORY: A** |
| | Actions to be Taken |

Form #158

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND82D070113** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 6 JAN 2012** |

| Other Information | Sample Data | | Solvent |
|---|---|---|---|
| M6 Propellant | #1 | 0.50 g 100 ml | ACN |

| Standards (ERG-006) | | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 0.65 | 119.1 | 328.4 | 0.276 |
| 2,4-DNDPA | 50.0 | 3.304 | 1019.8 | 16 | 0.002 |
| 2,2' DNDPA | 50.0 | 4.943 | 1734.6 | 21955 | 0.000 |
| 2,4' DNDPA | 50.0 | 7.018 | 1103.9 | 0 | 0.000 |
| 4NDPA | 50.0 | 8.439 | 1782.5 | 66.8 | 0.004 |
| 2NDPA | 50.0 | 9.513 | 3182.1 | 143.1 | 0.004 |
| DPA | 200.0 | 10.956 | 6219.8 | 790.9 | 0.051 |
| N-NitrosoDPA | 75.0 | 11.669 | 1532.4 | 0 | 0.000 |

0.336

| Avg. % Stabilizer for Lot | **0.336** |
|---|---|

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| **Analyst** TAKISHA DICKERSON | Avg. Tot. Stabilizers **0.34** % |
|---|---|
| Analyst Signature | Stable YES / Unstable |
| Lab. Supervisor Signature | Comments **CATEGORY: A** |
| | Actions to be Taken |

Form #150

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND82H070168** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 1 FEB 2011** |

| Other Information | Sample Data | | Solvent |
|---|---|---|---|
| M6 Propellant | #1 | 0.5000 g 100 ml | ACN |

| Standards (ERG-006) | | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 4.156 | 1116 | 2540.4 | 0.228 |
| 2,4-DNDPA | 50.0 | 9.388 | 1191.2 | 31231.4 | 2.622 |
| 2,2' DNDPA | 50.0 | 10.987 | 1694.7 | 51.5 | 0.000 |
| 2,4' DNDPA | 50.0 | 11.73 | 1272.3 | 143.2 | 0.011 |
| 4NDPA | 50.0 | 12.459 | 2443.3 | 0 | 0.000 |
| 2NDPA | 50.0 | 13.939 | 5852.1 | 838.5 | 0.014 |
| DPA | 200.0 | 15.022 | 1753.1 | 0 | 0.000 |
| N-NitrosoDPA | 75.0 | 18.932 | 2535.1 | 985.4 | 0.000 |

| | |
|---|---|
| | 2.875 |
| Avg. % Stabilizer for Lot | **2.875** |

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | | |
|---|---|---|
| **Analyst** Mike Kile | Avg. Tot. Stabilizers | **2.88** % |
| Analyst Signature | Stable YES | Unstable |
| | Comments | |
| Lab. Supervisor Signature | **CATEGORY:** | **A** |
| | Actions to be Taken | |

Form #158

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND82J070172** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 15 July 2011** |

| Other Information | Sample Data | | | Solvent |
|---|---|---|---|---|
| M6 Propellant | #1 | 0.50 g | 100 ml | ACN |

| Standards (ERG-006) | | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 0.698 | 60 | 276.3 | 0.461 |
| 2,4-DNDPA | 50.0 | 3.469 | 1060.3 | 0 | 0.000 |
| 2,2' DNDPA | 50.0 | 5.327 | 112.7 | 25324 | 0.000 |
| 2,4' DNDPA | 50.0 | 7.82 | 1131.9 | 0 | 0.000 |
| 4NDPA | 50.0 | 9.358 | 1817.5 | 137.4 | 0.008 |
| 2NDPA | 50.0 | 10.643 | 3250 | 121.1 | 0.004 |
| DPA | 200.0 | 12.15 | 6225.1 | 406.2 | 0.026 |
| N-NitrosoDPA | 75.0 | 13.037 | 1551.7 | 0 | 0.000 |

| | | |
|---|---|---|
| | | 0.498 |
| Avg. % Stabilizer for Lot | | **0.498** |

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | | | |
|---|---|---|---|
| **Analyst** | Mike Kile | Avg. Tot. Stabilizers | **0.50** % |
| Analyst Signature | | Stable YES | Unstable |
| Lab. Supervisor Signature | | Comments **CATEGORY:** | **A** |
| | | Actions to be Taken | |

Form #158

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND82D070110** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 27 JULY 2011** |

| Other Information | Sample Data | | | Solvent |
|---|---|---|---|---|
| M6 Propellant | #1 | 0.50 g | 100 ml | ACN |

| Standards (ERG-006) | | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 0.694 | 112.8 | 437.7 | 0.388 |
| 2,4-DNDPA | 50.0 | 3.477 | 942.8 | 0 | 0.000 |
| 2,2' DNDPA | 50.0 | 5.339 | 77.4 | 22925 | 0.000 |
| 2,4' DNDPA | 50.0 | 7.842 | 1020.3 | 0 | 0.000 |
| 4NDPA | 50.0 | 9.392 | 1634.2 | 119.1 | 0.007 |
| 2NDPA | 50.0 | 10.693 | 2956.2 | 134.9 | 0.005 |
| DPA | 200.0 | 12.201 | 5630.5 | 218.4 | 0.016 |
| N-NitrosoDPA | 75.0 | 13.103 | 1385.2 | 0 | 0.000 |
| | | | | | 0.415 |
| | | Avg. % Stabilizer for Lot | | | **0.415** |

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | |
|---|---|
| **Analyst** Mike Kile | Avg. Tot. Stabilizers **0.42** % |
| Analyst Signature | Stable YES \| Unstable |
| | Comments |
| Lab. Supervisor Signature | **CATEGORY:** **A** |
| | Actions to be Taken |

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND81J070067** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 19 JULY 2011** |

| Other Information | Sample Data | | | Solvent |
|---|---|---|---|---|
| M6 Propellant | #1 | 0.50 g | 100 ml | ACN |

| Standards (ERG-006) | | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 0.727 | 41.3 | 307.7 | 0.745 |
| 2,4-DNDPA | 50.0 | 3.473 | 885.1 | 0 | 0.000 |
| 2,2' DNDPA | 50.0 | 5.326 | 352.6 | 24476 | 0.000 |
| 2,4' DNDPA | 50.0 | 7.805 | 948.1 | 0 | 0.000 |
| 4NDPA | 50.0 | 9.354 | 1524.4 | 143.9 | 0.009 |
| 2NDPA | 50.0 | 10.646 | 2712.4 | 121 | 0.004 |
| DPA | 200.0 | 12.156 | 5262.6 | 496.9 | 0.038 |
| N-NitrosoDPA | 75.0 | 13.045 | 1286 | 0 | 0.000 |
| | | | | | 0.797 |
| | | | Avg. % Stabilizer for Lot | | **0.797** |

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | |
|---|---|
| **Analyst** Kisha Dickerson | Avg. Tot. Stabilizers **0.80** % |
| Analyst Signature | Stable YES / Unstable |
| Lab. Supervisor Signature | Comments **CATEGORY: A** |
| | Actions to be Taken |

CONTAINS HAZARDOUS MATERIALS

# STRAIGHT BILL OF LADING — NOT NEGOTIABLE

RECEIVED, subject to the classification and tariffs in effect on the date of the issue of this Original Bill of Lading.
The property described below, in apparent good order, except as noted (contents and condition of contents of packages unknown) consigned, and destined as indicated below, which said carrier (the word carrier being understood throughout this contract meaning any person or corporation in possession of the property under the contract) agrees to carry to its usual place of delivery of said destination. It on its route, otherwise to deliver to another carrier on the route to said destination. It is mutually agreed, as to each of all or any of said property over all or any portion of said route to destination, and as to each party at any time interested in all or any of said property, that every service lobe performed hereunder shall be subject to all the terms and conditions of the Uniform Domestic Straight Bill of Lading Set forth (1) in Uniform Freight Classification in effect on the date hereof. If this is a rail or rail-water shipment, or (2) in the applicable motor carrier classification or tariff if this is a motor carrier shipment.
Shipper hereby certifies that he is familiar with all the terms and conditions of the said bill of lading, set forth in the classification or tariff which governs the transportation of this shipment, and the said terms and conditions are hereby agreed to by the shipper and accept for himself and his assigns.

Shipper: Explo Systems, Inc.
1600 Java Road
Minden, LA 71055

Shipper's No.: 2827
Shipping Date: 1/4/13
At
Purchase Order No.
By MLC
Freight Charges: Collect ___ Prepaid XXX
Location No.: 1607

(Mail or Street Address of Consignee — For purposes of notification only)

Consigned to: Austin Powder Co
Destination: 700 N Pitcairn Rd
State
County: Lincoln Parish
Route
Charge Account of: 1-82-074-0580 Ext 304

Fed Lic. 5-LA-119-20-1A-00057 Exp. Date 5/1/15
State Lic. Exp. Date
Customer No.
Customer P.O. No.
Rel. No.

| SHIPPED No. of PKGS | SHIPPED No. of UNITS | PROPER SHIPPING NAME AND HAZARD CLASS | RETURNED No. of PKGS | RETURNED No. of UNITS | EMERGENCY RESPONSE PROCEDURE GUIDE NO. | EXEMPTION DOT-E | R M | Placards Applied to Railcar or Motor Vehicle |
|---|---|---|---|---|---|---|---|---|
| 252 kg | 42 | UN0161, Powder, Smokeless, 1.3C, PG II | | | #112 | | | EXPLOSIVES 1.3 |
| | | SR IR 245 | | | | | | |
| | | | | | | | | Truck No. 211331 |
| | | | | | | | | Trailer No. 409417 |
| | | 17A17 | | | | | | Mileage |
| | | | | | | | | Total 252 kg FD #1401B2M Packages |
| | | | | | | | | Gross |
| | | Seal # | | | | | | Weight # 36,000 |
| | | 708-592/708-3224 | | | | | | Net Explosive Weight 35,280 |

This is to certify that the above-named materials are properly classified, described, packaged, marked, and labeled and are in proper condition for transportation, according to the applicable regulations of the Department of Transportation.

Signature: Mike Lee / Lamar
Invoice No.

FOR CHEMICAL EMERGENCY, SPILL, LEAK, FIRE, EXPOSURE OR ACCIDENT CALL CHEMTREC — DAY OR NIGHT
IN THE USA CALL 800-424-9300 IN CANADA (CRP #2-0040) 800-561-3636 ELSEWHERE CALL (703) 527-3887 CCN 4956

Permanent Address of Shipper:
**Explo Systems, Inc.**
1600 Java Road
Minden, Louisiana 71055
(318) 382-8700
Per

I have been offered placards identifying the shipment as Specified in 49CFR Subpart F of Part 172 I have received the above goods in apparent good order and condition.

Received By: Tony Kyn Date: 1-10-13
☐ CONSIGNEE ☐ CARRIER

DOT Hazardous Material Handling Number
Local Federal Explosives License No. 5-LA-119-20-1A-00057
(Shipper)

By
AUTHORIZED RECEIVER Date

CONTAINS HAZARDOUS MATERIALS

AUSTIN POWDER PACKING LIST

SHIPMENT DATE 4 JAN 2013

B/L# 2827

M-6

IND82H-070166 13 PTS 7-18-12
IND83F-070278 7 PTS 7-11-12
IND82E-070434 8 PTS
IND83K-070319 1 PT
IND85C-070512 1 PT 8-10-12
IND83G-070281 1 PT 8-13-12
IND82H-070167 3 PTS 7-3-12
IND82D-070113 1 PT
IND82M-070221 2 PTS 11-15-12
IND84G 070326 2 PTS 7-18-12
IND82H-070168 3 PTS

42 PTS WITH 6 FB @140 LBS PER DRUM

TOTAL 35,280

LIONEL KOONS

EXPLO SYSTEMS INC

21

2827

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND85C070512** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 10 AUGUST 2012** |

| Other Information | Sample Data | | Solvent |
|---|---|---|---|
| M6 Propellant | #1 | 0.50 g 100 ml | ACN |

| Standards (ERG-006) | | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 0.882 | 8.8 | 112.9 | 1.283 |
| 2,4-DNDPA | 50.0 | 3.343 | 910.9 | 0 | 0.000 |
| 2,2' DNDPA | 50.0 | 5.034 | 3858.6 | 22576 | 0.000 |
| 2,4' DNDPA | 50.0 | 7.363 | 1013.2 | 0 | 0.000 |
| 4NDPA | 50.0 | 8.784 | 1647.3 | 59.7 | 0.004 |
| 2NDPA | 50.0 | 9.95 | 2919.6 | 95.5 | 0.003 |
| DPA | 200.0 | 11.386 | 5857.1 | 714.1 | 0.049 |
| N-NitrosoDPA | 75.0 | 12.173 | 1371.4 | 0 | 0.000 |

1.339

| Avg. % Stabilizer for Lot | **1.339** |
|---|---|

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| **Analyst** Takisha Dickerson | Avg. Tot. Stabilizers **1.34** % |
|---|---|
| Analyst Signature TDickerson | Stable YES / Unstable |
| Lab. Supervisor Signature | Comments **CATEGORY: A** |
| | Actions to be Taken |

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND84G070326** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 3 MAY 2012** |

| Other Information | Sample Data | | Solvent |
|---|---|---|---|
| M6 Propellant | #1 | 0.50 g 100 ml | ACN |

| Standards (ERG-006) | | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 0.867 | 104.4 | 324.4 | 0.311 |
| 2,4-DNDPA | 50.0 | 3.335 | 1105.6 | 0 | 0.000 |
| 2,2' DNDPA | 50.0 | 5.007 | 4986.7 | 23068 | 0.000 |
| 2,4' DNDPA | 50.0 | 7.137 | 1206.9 | 0 | 0.000 |
| 4NDPA | 50.0 | 8.593 | 1969.2 | 87.1 | 0.004 |
| 2NDPA | 50.0 | 9.688 | 3527.8 | 151.4 | 0.004 |
| DPA | 200.0 | 11.153 | 7041.6 | 785.8 | 0.045 |
| N-NitrosoDPA | 75.0 | 11.897 | 1704.5 | | 0.000 |

| | | |
|---|---|---|
| | | 0.364 |
| Avg. % Stabilizer for Lot | | **0.364** |

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | | |
|---|---|---|
| **Analyst** Takisha Dickerson | Avg. Tot. Stabilizers | **0.36** % |
| Analyst Signature | Stable YES | Unstable |
| | Comments | |
| Lab. Supervisor Signature | **CATEGORY:** | **A** |
| | Actions to be Taken | |

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND83K070319** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 15 JUNE 2012** |

Other Information
M6 Propellant

| Sample Data | | Solvent |
|---|---|---|
| #1 | 0.50 g | 100 ml ACN |

| Standards (ERG-006) | | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 0.782 | 41.2 | 275.4 | 0.668 |
| 2,4-DNDPA | 50.0 | 3.401 | 926.1 | 0 | 0.000 |
| 2,2' DNDPA | 50.0 | 5.141 | 1554.2 | 22992 | 0.000 |
| 2,4' DNDPA | 50.0 | 7.435 | 1019.1 | 0 | 0.000 |
| 4NDPA | 50.0 | 8.937 | 1639.5 | 159.8 | 0.010 |
| 2NDPA | 50.0 | 10.056 | 2924.6 | 174.6 | 0.006 |
| DPA | 200.0 | 11.627 | 5690.8 | 138.2 | 0.010 |
| N-NitrosoDPA | 75.0 | 12.44 | 1376.8 | 0 | 0.000 |

0.694

Avg. % Stabilizer for Lot **0.694**

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | |
|---|---|
| **Analyst** Takisha Dickerson | Avg. Tot. Stabilizers **0.69** % |
| Analyst Signature | Stable YES \| Unstable |
| Lab. Supervisor Signature | Comments **CATEGORY: A** |
| | Actions to be Taken |

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND83G070281** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 4 April 2012** |

| Other Information | Sample Data | | Solvent |
|---|---|---|---|
| M6 Propellant | #1 | 0.50 g 100 ml | ACN |

| Standards (ERG-006) | | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 0.881 | 40.9 | 93.7 | 0.229 |
| 2,4-DNDPA | 50.0 | 3.279 | 928 | 0 | 0.000 |
| 2,2' DNDPA | 50.0 | 4.66 | 26957 | 26191 | 0.000 |
| 2,4' DNDPA | 50.0 | 6.571 | 992.8 | 0 | 0.000 |
| 4NDPA | 50.0 | 7.798 | 1662.7 | 158.3 | 0.010 |
| 2NDPA | 50.0 | 8.806 | 2938.9 | 98.9 | 0.003 |
| DPA | 200.0 | 10.221 | 5774.5 | 1004.4 | 0.070 |
| N-NitrosoDPA | 75.0 | 10.895 | 1475.9 | 0 | 0.000 |

0.312

| Avg. % Stabilizer for Lot | **0.312** |
|---|---|

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| **Analyst** Takisha Dickerson | Avg. Tot. Stabilizers **0.31** % |
|---|---|
| Analyst Signature | Stable YES / Unstable |
| Lab. Supervisor Signature | Comments **CATEGORY: A** |
| | Actions to be Taken |

Form #158

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND83F070278** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 11 JULY 2012** |

| Other Information | Sample Data | | Solvent |
|---|---|---|---|
| M6 Propellant | #1 | 0.50 g 100 ml | ACN |

| Standards (ERG-006) | | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 0.803 | 32.3 | 256.2 | 0.793 |
| 2,4-DNDPA | 50.0 | 3.397 | 945.1 | 0 | 0.000 |
| 2,2' DNDPA | 50.0 | 5.155 | 1995.1 | 21574 | 0.000 |
| 2,4' DNDPA | 50.0 | 7.525 | 949.2 | 0 | 0.000 |
| 4NDPA | 50.0 | 9.04 | 1580.4 | 89.7 | 0.006 |
| 2NDPA | 50.0 | 10.278 | 2854 | 35.4 | 0.001 |
| DPA | 200.0 | 11.761 | 5473.7 | 589.5 | 0.043 |
| N-NitrosoDPA | 75.0 | 12.606 | 1672.4 | 0 | 0.000 |

| | | |
|---|---|---|
| | | 0.843 |
| | Avg. % Stabilizer for Lot | **0.843** |

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | | |
|---|---|---|
| **Analyst** Takisha Dickerson | Avg. Tot. Stabilizers | **0.84** % |
| Analyst Signature | Stable YES | Unstable |
| | Comments **CATEGORY:** **A** | |
| Lab. Supervisor Signature | | |
| | Actions to be Taken | |

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND82M070221** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 15 NOVEMBER 2** |

| Other Information | Sample Data | | Solvent |
|---|---|---|---|
| M6 Propellant | #1 | 0.50 g 100 ml | ACN |

| Standards (ERG-006) | | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 0.777 | 120.1 | 775.4 | 0.646 |
| 2,4-DNDPA | 50.0 | 3.265 | 905.3 | 38.1 | 0.004 |
| 2,2' DNDPA | 50.0 | 4.904 | 971.9 | 21937 | 0.000 |
| 2,4' DNDPA | 50.0 | 6.986 | 984.1 | 0 | 0.000 |
| 4NDPA | 50.0 | 8.404 | 1581.9 | 182.2 | 0.012 |
| 2NDPA | 50.0 | 9.518 | 2885.3 | 236.9 | 0.008 |
| DPA | 200.0 | 10.92 | 5165.2 | 420.6 | 0.033 |
| N-NitrosoDPA | 75.0 | 11.644 | 1772.9 | 0 | 0.000 |

| | | |
|---|---|---|
| | | 0.702 |
| Avg. % Stabilizer for Lot | | **0.702** |

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | | | |
|---|---|---|---|
| **Analyst** | Takisha Dickerson | Avg. Tot. Stabilizers | **0.70** % |
| Analyst Signature | Takisha Dickerson | Stable YES | Unstable |
| Lab. Supervisor Signature | | Comments **CATEGORY:** | **A** |
| | | Actions to be Taken | |

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND82D070113** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 6 JAN 2012** |

| Other Information | Sample Data | | Solvent |
|---|---|---|---|
| M6 Propellant | #1 | 0.50 g 100 ml | ACN |

| Standards (ERG-006) | | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 0.65 | 119.1 | 328.4 | 0.276 |
| 2,4-DNDPA | 50.0 | 3.304 | 1019.8 | 16 | 0.002 |
| 2,2' DNDPA | 50.0 | 4.943 | 1734.6 | 21955 | 0.000 |
| 2,4' DNDPA | 50.0 | 7.018 | 1103.9 | 0 | 0.000 |
| 4NDPA | 50.0 | 8.439 | 1782.5 | 66.8 | 0.004 |
| 2NDPA | 50.0 | 9.513 | 3182.1 | 143.1 | 0.004 |
| DPA | 200.0 | 10.956 | 6219.8 | 790.9 | 0.051 |
| N-NitrosoDPA | 75.0 | 11.669 | 1532.4 | 0 | 0.000 |

| | | |
|---|---|---|
| | | 0.336 |
| Avg. % Stabilizer for Lot | | **0.336** |

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | | | |
|---|---|---|---|
| **Analyst** | TAKISHA DICKERSON | Avg. Tot. Stabilizers | **0.34** % |
| Analyst Signature | | Stable YES | Unstable |
| Lab. Supervisor Signature | | Comments **CATEGORY:** | **A** |
| | | Actions to be Taken | |

Form #150

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND82H070167** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 6 JAN 2012** |

| Other Information | Sample Data | | Solvent |
|---|---|---|---|
| M6 Propellant | #1 | 0.50 g 100 ml | ACN |

| Standards (ERG-006) | | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 0.65 | 119.1 | 308.2 | 0.259 |
| 2,4-DNDPA | 50.0 | 3.304 | 1019.8 | 0 | 0.000 |
| 2,2' DNDPA | 50.0 | 4.943 | 1734.6 | 23824 | 0.000 |
| 2,4' DNDPA | 50.0 | 7.018 | 1103.9 | 404.1 | 0.037 |
| 4NDPA | 50.0 | 8.439 | 1782.5 | 50.5 | 0.003 |
| 2NDPA | 50.0 | 9.513 | 3182.1 | 79.6 | 0.003 |
| DPA | 200.0 | 10.956 | 6219.8 | 750.3 | 0.048 |
| N-NitrosoDPA | 75.0 | 11.669 | 1532.4 | 0 | 0.000 |

0.349

| Avg. % Stabilizer for Lot | **0.349** |
|---|---|

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| **Analyst** TAKISHA DICKERSON | Avg. Tot. Stabilizers **0.35** % |
|---|---|
| Analyst Signature | Stable YES / Unstable |
| Lab. Supervisor Signature | Comments **CATEGORY: A** |
| | Actions to be Taken |

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND82H070168** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 1 FEB 2011** |

Other Information
M6 Propellant

| Sample Data | | | Solvent |
|---|---|---|---|
| #1 | 0.5000 g | 100 ml | ACN |

| Standards (ERG-006) | | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 4.156 | 1116 | 2540.4 | 0.228 |
| 2,4-DNDPA | 50.0 | 9.388 | 1191.2 | 31231.4 | 2.622 |
| 2,2' DNDPA | 50.0 | 10.987 | 1694.7 | 51.5 | 0.000 |
| 2,4' DNDPA | 50.0 | 11.73 | 1272.3 | 143.2 | 0.011 |
| 4NDPA | 50.0 | 12.459 | 2443.3 | 0 | 0.000 |
| 2NDPA | 50.0 | 13.939 | 5852.1 | 838.5 | 0.014 |
| DPA | 200.0 | 15.022 | 1753.1 | 0 | 0.000 |
| N-NitrosoDPA | 75.0 | 18.932 | 2535.1 | 985.4 | 0.000 |

| | |
|---|---|
| | 2.875 |
| Avg. % Stabilizer for Lot | **2.875** |

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | |
|---|---|
| **Analyst** Mike Kile | Avg. Tot. Stabilizers **2.88** % |
| Analyst Signature | Stable YES / Unstable |
| Lab. Supervisor Signature | Comments **CATEGORY: A** |
| | Actions to be Taken |

Form #158

CONTAINS HAZARDOUS MATERIALS

# STRAIGHT BILL OF LADING — NOT NEGOTIABLE

(B)

RECEIVED, subject to the classification and tariffs in effect on the date of the issue of this Original Bill of Lading.
The property described below, in apparent good order, except as noted (contents and condition of contents of packages unknown) consigned, and destined as indicated below, which said carrier (the word carrier being understood throughout this contract meaning any person or corporation in possession of the property under the contract) agrees to carry to its usual place of delivery of said destination, it on its route, otherwise to deliver to another carrier on the route to said destination. It is mutually agreed, as to each of all or any of said property over all or any portion of said route to destination, and as to each party at any time interested in all or any of said property, that every service to be performed hereunder shall be subject to all the terms and conditions of the Uniform Domestic Straight Bill of Lading Set forth (1) in Uniform Freight Classification in effect on the date hereof, if this is a rail or rail-water shipment, or (2) in the applicable motor carrier classification or tariff if this is a motor carrier shipment.
Shipper hereby certifies that he is familiar with all the terms and conditions of the said bill of lading, set forth in the classification or tariff which governs the transportation of this shipment, and the said terms and conditions are hereby agreed to by the shipper and accepted for himself and his assigns.

Shipper: Explo Systems, Inc.
1600 Java Road
Minden, LA 71055

Shipper's No. 2829

Shipping Date 1/9/13

At

Purchase Order No.

By [illegible] Freight Charges: Collect ____ Prepaid XXX Location No. 1107

(Mail or Street Address of Consignee - For purposes of notification only)

Consigned to [illegible]

Destination [illegible] State

County [illegible]

Route

Charge Account of 1-610-3711-0560-E302

Fed Lic. 5-LA-119-20-5E-00057 Exp. Date 5/1/15

State Lic. Exp. Date

Customer No.

Customer P.O. No. Rel. No.

| SHIPPED No. of PKGS | SHIPPED No. of UNITS | PROPER SHIPPING NAME AND HAZARD CLASS | RETURNED No. of PKGS | RETURNED No. of UNITS | EMERGENCY RESPONSE PROCEDURE GUIDE NO. | EXEMPTION DOT-E | H M | Placards Applied to Railcar or Motor Vehicle |
|---|---|---|---|---|---|---|---|---|
| 240/6 | 4175 | UN0161, Powder, Smokeless, 1.3C, PG II | | | #112 | [illegible] | X | EXPLOSIVES 1.3 |
| | | See DF List - | | | | | | |

Truck No. 14331

Trailer No. 41059

Mileage

Total # 240 1G FD @140 LBS
4 1G FD @ 140 LBS
6 1G FD @ 100 LBS

Package

Gross Weight # 34,000

Net Explosive Weight 34760

1 DATE 1

See A

708-907 / 708-928

This is to certify that the above-named materials are properly classified, described, packaged, marked, and labeled and are in transportation according to the applicable regulations of the Department of Transportation.

Signature [signature]

Invoice No.

FOR CHEMICAL EMERGENCY, SPILL, LEAK, FIRE, EXPOSURE OR ACCIDENT CALL CHEMTREC — DAY OR NIGHT
IN THE USA CALL 800-424-9300 IN CANADA (CRP #2-0040) 800-561-3636 ELSEWHERE CALL (703) 527-3887 AA 244567

Permanent Address of Shipper
**Explo Systems, Inc.**
1600 Java Road
Minden, Louisiana 71055
(318) 382-1700

Per ____

DOT Hazardous Material Handling Number
Local Federal Explosives License No. 5-LA-119-20-TA-00057
(Shipper)

I have been offered placards identifying the shipment as Specified in 49CFR Subpart F of Part 172. I have received the above goods in apparent good order and condition.

Received By [signature] Date 1-9-13
☐ CONSIGNEE ☐ CARRIER

By ____ Date ____
AUTHORIZED RECEIVER

CONTAINS HAZARDOUS MATERIALS

AUSTIN POWDER PACKING LIST

SHIPMENT DATE 8 JAN 2013

B/L# 2829

M-6

| | |
|---|---|
| IND81E-070015 | 4 PTS |
| IND87H-070107 | 1 PT |
| IND83K-070314 | 1 PT |
| IND82D-070113 | 3 PTS |
| IND82E-070115 | 5 PTS |
| IND82H-070108 | 2 PTS |
| IND83F-070278 | 5 PTS |
| IND87H-070720 | 2 PTS |
| IND82H-070168 | 3 PTS |
| IND82M-070221 | 2 PTS |
| IND83F-070276 | 1 PT |
| IND81D-070019 | 1 PT |
| IND86F-070617 | 1 PT |
| IND83G-070284 | 1 PT |
| IND83K-070318 | 2 PTS |
| IND84H-070443 | 3 PTS |
| IND82H-070167 | 2 PTS |
| IND84L-070454 | 1 PT |
| IND82H-070165 | 1 PT |
| IND83M-070322 | 1 PT |

IND83M-070322 40@140

IND816070072 6P Tools

42 PTS WITH 6 FB @140 LBS PER DRUM

TOTAL 35,280

LIONEL KOONS

EXPLO SYSTEMS INC

40 @ 6 @140
1 @ 4 @140
1 @ 6 @100

34760

22

2829

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND87H070720** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 18 NOV 2011** |

| Other Information | Sample Data | | Solvent |
|---|---|---|---|
| M6 Propellant | #1 | 0.50 g 100 ml | ACN |

| Standards (ERG-006) | | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 0.747 | 327.4 | 1170.4 | 0.357 |
| 2,4-DNDPA | 50.0 | 3.395 | 1731.2 | 21.2 | 0.001 |
| 2,2' DNDPA | 50.0 | 5.173 | 4488.9 | 22467 | 0.000 |
| 2,4' DNDPA | 50.0 | 7.497 | 1903.5 | 0 | 0.000 |
| 4NDPA | 50.0 | 9.01 | 3102.1 | 91.8 | 0.003 |
| 2NDPA | 50.0 | 10.21 | 5531.9 | 144.8 | 0.003 |
| DPA | 200.0 | 11.727 | 11056 | 931.7 | 0.034 |
| N-NitrosoDPA | 75.0 | 12.547 | 2638.3 | 0 | 0.000 |

0.398

| Avg. % Stabilizer for Lot | **0.398** |
|---|---|

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | |
|---|---|
| **Analyst** TAKISHA DICKERSON | Avg. Tot. Stabilizers **0.40** % |
| Analyst Signature | Stable YES / Unstable |
| Lab. Supervisor Signature | Comments **CATEGORY: A** |
| | Actions to be Taken |

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND86E070617** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 18 JULY 2012** |

| Other Information | Sample Data | | Solvent |
|---|---|---|---|
| M6 Propellant | #1 | 0.50 g 100 ml | ACN |

| Standards (ERG-006) | | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 0.863 | 133.9 | 389.2 | 0.291 |
| 2,4-DNDPA | 50.0 | 3.365 | 949.7 | 0 | 0.000 |
| 2,2' DNDPA | 50.0 | 5.091 | 2605.4 | 22628 | 0.000 |
| 2,4' DNDPA | 50.0 | 7.514 | 1047.9 | 0 | 0.000 |
| 4NDPA | 50.0 | 8.946 | 1698.8 | 45.3 | 0.003 |
| 2NDPA | 50.0 | 10.142 | 3039.5 | 80.7 | 0.003 |
| DPA | 200.0 | 11.585 | 6044.7 | 861.6 | 0.057 |
| N-NitrosoDPA | 75.0 | 12.4 | 1395.6 | 0 | 0.000 |

| | | |
|---|---|---|
| | | 0.353 |
| Avg. % Stabilizer for Lot | | **0.353** |

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | | |
|---|---|---|
| **Analyst** Takisha Dickerson | Avg. Tot. Stabilizers | **0.35** % |
| Analyst Signature | Stable YES | Unstable |
| Lab. Supervisor Signature | Comments **CATEGORY:** | **A** |
| | Actions to be Taken | |

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND84L070454** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 4 MAY 2012** |

| Other Information | Sample Data | | | Solvent |
|---|---|---|---|---|
| M6 Propellant | #1 | 0.50 g | 100 ml | ACN |

| Standards (ERG-006) | | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 0.867 | 83.7 | 400.6 | 0.479 |
| 2,4-DNDPA | 50.0 | 3.338 | 1156.5 | 0 | 0.000 |
| 2,2' DNDPA | 50.0 | 5.017 | 5373.7 | 23342 | 0.000 |
| 2,4' DNDPA | 50.0 | 7.147 | 1263.8 | 0 | 0.000 |
| 4NDPA | 50.0 | 8.595 | 2061.4 | 48.3 | 0.002 |
| 2NDPA | 50.0 | 9.687 | 3694.9 | 94.1 | 0.003 |
| DPA | 200.0 | 11.119 | 7683.7 | 721.2 | 0.038 |
| N-NitrosoDPA | 75.0 | 11.99 | 2133.1 | | 0.000 |

0.521

| Avg. % Stabilizer for Lot | **0.521** |
|---|---|

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| **Analyst** Takisha Dickerson | Avg. Tot. Stabilizers **0.52** % | |
|---|---|---|
| Analyst Signature | Stable YES | Unstable |
| Lab. Supervisor Signature | Comments **CATEGORY: A** | |
| | Actions to be Taken | |

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND83M070322** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 12 APR 2012** |

Other Information
M6 Propellant

| Sample Data | | | Solvent |
|---|---|---|---|
| #1 | 0.50 g | 100 ml | ACN |

| Standards (ERG-006) | | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 0.882 | 28.4 | 566.5 | 1.995 |
| 2,4-DNDPA | 50.0 | 3.244 | 978.3 | 0 | 0.000 |
| 2,2' DNDPA | 50.0 | 4.803 | 3426.7 | 22442 | 0.000 |
| 2,4' DNDPA | 50.0 | 6.74 | 1061.1 | 499.4 | 0.047 |
| 4NDPA | 50.0 | 8.012 | 1726.9 | 66.2 | 0.004 |
| 2NDPA | 50.0 | 9.091 | 3662.4 | 113.4 | 0.003 |
| DPA | 200.0 | 10.394 | 6185.4 | 978.3 | 0.063 |
| N-NitrosoDPA | 75.0 | 10.968 | 1530.7 | 0 | 0.000 |

2.112

Avg. % Stabilizer for Lot **2.112**

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | |
|---|---|
| **Analyst** Kisha Dickerson | Avg. Tot. Stabilizers **2.11** % |
| Analyst Signature | Stable YES / Unstable |
| Lab. Supervisor Signature | Comments **CATEGORY: A** |
| | Actions to be Taken |

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND83F070276** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 4 Sep 2012** |

| Other Information | Sample Data | | Solvent |
|---|---|---|---|
| M6 Propellant | #1 | 0.50 g 100 ml | ACN |

| Standards (ERG-006) | | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 0.889 | 48.8 | 578.6 | 1.186 |
| 2,4-DNDPA | 50.0 | 3.418 | 914.3 | 0 | 0.000 |
| 2,2' DNDPA | 50.0 | 5.22 | 777.3 | 23990 | 0.000 |
| 2,4' DNDPA | 50.0 | 7.622 | 980.5 | 0 | 0.000 |
| 4NDPA | 50.0 | 9.134 | 1586.8 | 40.6 | 0.003 |
| 2NDPA | 50.0 | 10.417 | 2826.3 | 88.7 | 0.003 |
| DPA | 200.0 | 11.797 | 5671.5 | 812.6 | 0.057 |
| N-NitrosoDPA | 75.0 | 12.757 | 1337.5 | 0 | 0.000 |

| | | |
|---|---|---|
| | | 1.249 |
| Avg. % Stabilizer for Lot | | **1.249** |

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | | |
|---|---|---|
| **Analyst** Mike Kile | Avg. Tot. Stabilizers | **1.25** % |
| Analyst Signature | Stable YES | Unstable |
| | Comments | |
| Lab. Supervisor Signature | **CATEGORY:** | **A** |
| | Actions to be Taken | |

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND83F070278** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 11 JULY 2012** |

| Other Information | Sample Data | | | Solvent |
|---|---|---|---|---|
| M6 Propellant | #1 | 0.50 g | 100 ml | ACN |

| | Standards (ERG-006) | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 0.803 | 32.3 | 256.2 | 0.793 |
| 2,4-DNDPA | 50.0 | 3.397 | 945.1 | 0 | 0.000 |
| 2,2' DNDPA | 50.0 | 5.155 | 1995.1 | 21574 | 0.000 |
| 2,4' DNDPA | 50.0 | 7.525 | 949.2 | 0 | 0.000 |
| 4NDPA | 50.0 | 9.04 | 1580.4 | 89.7 | 0.006 |
| 2NDPA | 50.0 | 10.278 | 2854 | 35.4 | 0.001 |
| DPA | 200.0 | 11.761 | 5473.7 | 589.5 | 0.043 |
| N-NitrosoDPA | 75.0 | 12.606 | 1672.4 | 0 | 0.000 |

| | | |
|---|---|---|
| | | 0.843 |
| Avg. % Stabilizer for Lot | | **0.843** |

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | | | |
|---|---|---|---|
| **Analyst** Takisha Dickerson | | Avg. Tot. Stabilizers | **0.84** % |
| Analyst Signature | | Stable YES | Unstable |
| | | Comments | |
| Lab. Supervisor Signature | | **CATEGORY:** | **A** |
| | | Actions to be Taken | |

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND82H070167** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 6 JAN 2012** |

| Other Information | Sample Data | | Solvent |
|---|---|---|---|
| M6 Propellant | #1 | 0.50 g 100 ml | ACN |

| Standards (ERG-006) | | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 0.65 | 119.1 | 308.2 | 0.259 |
| 2,4-DNDPA | 50.0 | 3.304 | 1019.8 | 0 | 0.000 |
| 2,2' DNDPA | 50.0 | 4.943 | 1734.6 | 23824 | 0.000 |
| 2,4' DNDPA | 50.0 | 7.018 | 1103.9 | 404.1 | 0.037 |
| 4NDPA | 50.0 | 8.439 | 1782.5 | 50.5 | 0.003 |
| 2NDPA | 50.0 | 9.513 | 3182.1 | 79.6 | 0.003 |
| DPA | 200.0 | 10.956 | 6219.8 | 750.3 | 0.048 |
| N-NitrosoDPA | 75.0 | 11.669 | 1532.4 | 0 | 0.000 |
| | | | | | 0.349 |
| | | | Avg. % Stabilizer for Lot | | **0.349** |

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | |
|---|---|
| **Analyst** TAKISHA DICKERSON | Avg. Tot. Stabilizers **0.35** % |
| Analyst Signature | Stable YES / Unstable |
| Lab. Supervisor Signature | Comments **CATEGORY: A** |
| | Actions to be Taken |

Form #158

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND82M070221** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 15 NOVEMBER 2** |

| Other Information | Sample Data | | Solvent |
|---|---|---|---|
| M6 Propellant | #1 | 0.50 g 100 ml | ACN |

| Standards (ERG-006) | | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 0.777 | 120.1 | 775.4 | 0.646 |
| 2,4-DNDPA | 50.0 | 3.265 | 905.3 | 38.1 | 0.004 |
| 2,2' DNDPA | 50.0 | 4.904 | 971.9 | 21937 | 0.000 |
| 2,4' DNDPA | 50.0 | 6.986 | 984.1 | 0 | 0.000 |
| 4NDPA | 50.0 | 8.404 | 1581.9 | 182.2 | 0.012 |
| 2NDPA | 50.0 | 9.518 | 2885.3 | 236.9 | 0.008 |
| DPA | 200.0 | 10.92 | 5165.2 | 420.6 | 0.033 |
| N-NitrosoDPA | 75.0 | 11.644 | 1772.9 | 0 | 0.000 |

0.702

| Avg. % Stabilizer for Lot | **0.702** |
|---|---|

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| **Analyst** Takisha Dickerson | Avg. Tot. Stabilizers **0.70** % |
|---|---|
| Analyst Signature Takisha Dickerson | Stable YES / Unstable |
| Lab. Supervisor Signature | Comments **CATEGORY: A** |
| | Actions to be Taken |

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND82H070168** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 1 FEB 2011** |

| Other Information | Sample Data | | Solvent |
|---|---|---|---|
| M6 Propellant | #1 | 0.5000 g 100 ml | ACN |

| | Standards (ERG-006) | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 4.156 | 1116 | 2540.4 | 0.228 |
| 2,4-DNDPA | 50.0 | 9.388 | 1191.2 | 31231.4 | 2.622 |
| 2,2' DNDPA | 50.0 | 10.987 | 1694.7 | 51.5 | 0.000 |
| 2,4' DNDPA | 50.0 | 11.73 | 1272.3 | 143.2 | 0.011 |
| 4NDPA | 50.0 | 12.459 | 2443.3 | 0 | 0.000 |
| 2NDPA | 50.0 | 13.939 | 5852.1 | 838.5 | 0.014 |
| DPA | 200.0 | 15.022 | 1753.1 | 0 | 0.000 |
| N-NitrosoDPA | 75.0 | 18.932 | 2535.1 | 985.4 | 0.000 |

| | |
|---|---|
| | 2.875 |
| Avg. % Stabilizer for Lot | **2.875** |

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | |
|---|---|
| **Analyst** Mike Kile | Avg. Tot. Stabilizers **2.88** % |
| Analyst Signature | Stable YES / Unstable |
| Lab. Supervisor Signature | Comments **CATEGORY: A** |
| | Actions to be Taken |

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND82E070115** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 2 SEPTEMBER 2** |

| Other Information | Sample Data | | Solvent |
|---|---|---|---|
| M6 Propellant | #1 | 0.50 g 100 ml | ACN |

| Standards (ERG-006) | | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 0.631 | 119.7 | 513.1 | 0.429 |
| 2,4-DNDPA | 50.0 | 3.438 | 959.4 | 17.4 | 0.002 |
| 2,2' DNDPA | 50.0 | 5.235 | 1727.8 | 25268 | 0.000 |
| 2,4' DNDPA | 50.0 | 7.619 | 1043.1 | 0 | 0.000 |
| 4NDPA | 50.0 | 9.163 | 1669.9 | 77.7 | 0.005 |
| 2NDPA | 50.0 | 10.427 | 3002.4 | 153.6 | 0.005 |
| DPA | 200.0 | 11.959 | 5688.4 | 920.8 | 0.065 |
| N-NitrosoDPA | 75.0 | 12.823 | 1409.6 | 0 | 0.000 |

| | | |
|---|---|---|
| | | 0.505 |
| | Avg. % Stabilizer for Lot | **0.505** |

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | |
|---|---|
| **Analyst** KISHA DICKERSON | Avg. Tot. Stabilizers **0.50** % |
| Analyst Signature | Stable YES / Unstable |
| | Comments<br>**CATEGORY: A** |
| Lab. Supervisor Signature | |
| | Actions to be Taken |

Form #150

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND82D070113** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 6 JAN 2012** |

| Other Information | Sample Data | | Solvent |
|---|---|---|---|
| M6 Propellant | #1 | 0.50 g 100 ml | ACN |

| Standards (ERG-006) | | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 0.65 | 119.1 | 328.4 | 0.276 |
| 2,4-DNDPA | 50.0 | 3.304 | 1019.8 | 16 | 0.002 |
| 2,2' DNDPA | 50.0 | 4.943 | 1734.6 | 21955 | 0.000 |
| 2,4' DNDPA | 50.0 | 7.018 | 1103.9 | 0 | 0.000 |
| 4NDPA | 50.0 | 8.439 | 1782.5 | 66.8 | 0.004 |
| 2NDPA | 50.0 | 9.513 | 3182.1 | 143.1 | 0.004 |
| DPA | 200.0 | 10.956 | 6219.8 | 790.9 | 0.051 |
| N-NitrosoDPA | 75.0 | 11.669 | 1532.4 | 0 | 0.000 |

| | | |
|---|---|---|
| | | 0.336 |
| Avg. % Stabilizer for Lot | | **0.336** |

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | |
|---|---|
| **Analyst** TAKISHA DICKERSON | Avg. Tot. Stabilizers **0.34** % |
| Analyst Signature | Stable YES / Unstable |
| | Comments **CATEGORY: A** |
| Lab. Supervisor Signature | |
| | Actions to be Taken |

Form #150

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND81D070019** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 29 MAY 2012** |

| Other Information | Sample Data | | Solvent |
|---|---|---|---|
| M6 Propellant | #1 | 0.50 g 100 ml | ACN |

| Standards (ERG-006) | | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 0.86 | 235.9 | 525.7 | 0.223 |
| 2,4-DNDPA | 50.0 | 3.398 | 913.2 | 0 | 0.000 |
| 2,2' DNDPA | 50.0 | 5.133 | 1007.2 | 37577 | 0.000 |
| 2,4' DNDPA | 50.0 | 7.409 | 1002.4 | 0 | 0.000 |
| 4NDPA | 50.0 | 8.917 | 1612.8 | 186.9 | 0.012 |
| 2NDPA | 50.0 | 10.112 | 2882.2 | 282.1 | 0.010 |
| DPA | 200.0 | 11.607 | 5642.3 | 917.9 | 0.065 |
| N-NitrosoDPA | 75.0 | 12.414 | 1351.4 | | 0.000 |

0.309

| Avg. % Stabilizer for Lot | **0.309** |
|---|---|

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| **Analyst** Takisha Dickerson | Avg. Tot. Stabilizers **0.31** % |
|---|---|
| Analyst Signature | Stable YES \| Unstable |
| Lab. Supervisor Signature | Comments **CATEGORY: A** |
| | Actions to be Taken |

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND81D070015** | **D533 / M6 propellant** |
| Date of analysis: | **Date:20 OCT 2010** |

| Other Information | Sample Data | | | Solvent |
|---|---|---|---|---|
| M6 Propellant | #1 | 0.5000 g | 100 ml | ACN |

| Standards (ERG-006) | | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 5.024 | 281.6 | 2363.4 | 0.839 |
| 2,4-DNDPA | 50.0 | 10.59 | 329 | 0 | 0.000 |
| 2,2' DNDPA | 50.0 | 12.176 | 376.1 | 0 | 0.000 |
| 2,4' DNDPA | 50.0 | 12.67 | 275.3 | 35.7 | 0.013 |
| 4NDPA | 50.0 | 13.632 | 664.1 | 0 | 0.000 |
| 2NDPA | 50.0 | 14.943 | 1788.8 | 34.8 | 0.002 |
| DPA | 200.0 | 16.114 | 286 | 0 | 0.000 |
| N-NitrosoDPA | 75.0 | 19.917 | 329.9 | 158.8 | 0.000 |

| | | |
|---|---|---|
| | | 0.854 |
| Avg. % Stabilizer for Lot | | **0.854** |

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | | |
|---|---|---|
| **Analyst** Kisha Dickerson | Avg. Tot. Stabilizers | **0.85** % |
| Analyst Signature | Stable YES | Unstable |
| | Comments | |
| Lab. Supervisor Signature | **CATEGORY:** | **A** |
| | Actions to be Taken | |

CONTAINS HAZARDOUS MATERIALS

# STRAIGHT BILL OF LADING — NOT NEGOTIABLE

RECEIVED, subject to the classifications and tariffs in effect on the date of the issue of this Original Bill of Lading.
The property described below, in apparent good order, except as noted (contents and condition of contents of packages unknown) consigned, and destined as indicated below, which said carrier (the word carrier being understood throughout this contract meaning any person or corporation in possession of the property under the contract) agrees to carry to its usual place of delivery of said destination. It on its route, otherwise to deliver to another carrier on the route to said destination. It is mutually agreed, as to each of all or any of said property over all or any portion of said route to destination, and as to each party at any time interested in all or any of said property, that every service lobe performed hereunder shall be subject to all the terms and conditions of the Uniform Domestic Straight Bill of Lading Set forth (1) In Uniform Freight Classification in effect on the date hereof, if this is a rail or rail-water shipment, or (2) in the applicable motor carrier classification or tariff if this is a motor carrier shipment.
Shipper hereby certifies that he is familiar with all the terms and conditions of the said bill of lading, set forth in the classification or tariff which governs the transportation of this shipment, and the said terms and conditions are hereby agreed to by the shipper and accept for himself and his assigns.

Shipper: Explo Systems, Inc.
1600 Java Road
Minden, LA 71055

Shipper's No. 2831

At

Shipping Date

Purchase Order No.

By HHE Freight Charges: Collect ____ Prepaid XXX Location No. 1607

(Mail or Street Address of Consignee — For purposes of notification only)

Consigned to AUSTIN Powder #28 Fed Lic. 5-LA-119-20-1A-00057 Exp. Date 5/1/15

Destination 7440 13/Hwy 80 State State Lic. Exp. Date

County Lincoln, LA 71270 Customer No.

Route

Charge Account of 1-870-574-4580 Customer P.O. No. Rel. No.

| SHIPPED No. of PKGS | SHIPPED No. of UNITS | PROPER SHIPPING NAME AND HAZARD CLASS | RETURNED No. of PKGS | RETURNED No. of UNITS | EMERGENCY RESPONSE PHONE/GUIDE NO. | EXEMPTION NOTE | H M | Placards Applied to Railcar or Motor Vehicle |
|---|---|---|---|---|---|---|---|---|
| 952/14 | 42 | UN0161, Powder, Smokeless, 1.3C, PG II | | | #112 | 2006-0003 | X Y | EXPLOSIVES 1.3 |
| | | SEE BOL LIST | | | | | | |
| | | | | | | | | Truck No. 161331 |
| | | | | | | | | Trailer No. 161567 |
| | | 17AT21 | | | | | | Mileage |
| | | | | | | | | Total 952 Packages |
| | | | | | | | | Gross Weight # 38,080 |
| | | See # | | | | | | Net Explosive Weight |
| | | 7083731 / 7083732 | | | | | | 35,280 |

This is to certify that the above-named materials are properly classified, described, packaged, marked, and labeled and are in proper condition for transportation according to the applicable regulations of the Department of Transportation.

Signature [signature] Invoice No.

FOR CHEMICAL EMERGENCY SPILL, LEAK, FIRE, EXPOSURE OR ACCIDENT CALL CHEMTREC — DAY OR NIGHT
IN THE USA CALL 800-424-9300 IN CANADA (RRP #2-0040) 800-561-3636 ELSEWHERE CALL (703) 527-3887 CCN44587

Permanent Address of Shipper
**Explo Systems, Inc.**
1600 Java Road
Minden, Louisiana 71055
(318) 382-8700

Per

DOT Hazardous Material Handling Number
Local Federal Explosives License No. 5-LA-119-20-1A-00057
(Shipper)

I have been offered placards identifying the shipment as Specified in 49CFR Subpart F of Part 172. I have received the above goods in apparent good order and condition.

Received by [signature] Date 1-1-13
☐ CONSIGNEE ☐ CARRIER

By Date
AUTHORIZED RECEIVER

CONTAINS HAZARDOUS MATERIALS

CONTAINS HAZARDOUS MATERIALS

019496

EXP_001130

AUSTIN POWDER PACKING LIST

SHIPMENT DATE 11 JAN 2013

B/L# 2831

M-6

IND81G-070061 2 PTS
IND81D-070019 2 PTS
IND88E-070963 3 PTS
IND85C-070512 15 PTS
IND91H-071485 18 PTS
IND81F-070024 1 PT
IND88A-070891 1 PT

42 PTS WITH 6 FB @140 LBS PER DRUM

TOTAL 35,280

LIONEL KOONS

EXPLO SYSTEMS INC

2831

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND91H071485** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 23 JULY 2012** |

| Other Information | Sample Data | | Solvent |
|---|---|---|---|
| M6 Propellant | #1 | 0.50 g | 100 ml ACN |

| | Standards (ERG-006) | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 0.847 | 108.1 | 464.3 | 0.430 |
| 2,4-DNDPA | 50.0 | 3.366 | 967.8 | 0 | 0.000 |
| 2,2' DNDPA | 50.0 | 5.09 | 4480 | 20931 | 0.000 |
| 2,4' DNDPA | 50.0 | 7.496 | 1085.1 | 0 | 0.000 |
| 4NDPA | 50.0 | 8.926 | 1772.8 | 169.1 | 0.010 |
| 2NDPA | 50.0 | 9.898 | 1314.8 | 134.6 | 0.010 |
| DPA | 200.0 | 11.552 | 6236.1 | 208.7 | 0.013 |
| N-NitrosoDPA | 75.0 | 12.356 | 1452.1 | 0 | 0.000 |
| | | | | | 0.463 |
| | | Avg. % Stabilizer for Lot | | | **0.463** |

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | |
|---|---|
| **Analyst** Takisha Dickerson | Avg. Tot. Stabilizers **0.46** % |
| Analyst Signature TDickerson | Stable YES \| Unstable |
| Lab. Supervisor Signature | Comments **CATEGORY: A** |
| | Actions to be Taken |

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND88E070963** | **D533 / M6 propellant** |
| Date of analysis: | **Date:25 AUG 2010** |

| Other Information | Sample Data | | Solvent |
|---|---|---|---|
| M6 Propellant | #1 | 0.5000 g 100 ml | ACN |

| Standards (ERG-006) | | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 2.177 | 146.5 | 1369.8 | 0.935 |
| 2,4-DNDPA | 50.0 | 5.001 | 961.7 | 0 | 0.000 |
| 2,2' DNDPA | 50.0 | 7.038 | 2567.5 | 12491.2 | 0.000 |
| 2,4' DNDPA | 50.0 | 9.931 | 938.5 | 0 | 0.000 |
| 4NDPA | 50.0 | 11.434 | 1325.8 | 0 | 0.000 |
| 2NDPA | 50.0 | 12.813 | 1809.7 | 0 | 0.000 |
| DPA | 200.0 | 14.19 | 4886.9 | 610.3 | 0.050 |
| N-NitrosoDPA | 75.0 | 15.18 | 1296.7 | 0 | 0.000 |

| | |
|---|---|
| | 0.985 |
| Avg. % Stabilizer for Lot | **0.985** |

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | |
|---|---|
| **Analyst** Kisha Dickerson | Avg. Tot. Stabilizers **0.98** % |
| Analyst Signature | Stable YES / Unstable |
| Lab. Supervisor Signature | Comments **CATEGORY: A** |
| | Actions to be Taken |

Form #158

Original Print Date:07/19/2010

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND88A070891** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 10 NOV 2011** |

Other Information
M6 Propellant

| Sample Data | | | Solvent |
|---|---|---|---|
| #1 | 0.50 g | 100 ml | ACN |

| Standards (ERG-006) | | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 0.754 | 194.4 | 1458.4 | 0.750 |
| 2,4-DNDPA | 50.0 | 3.382 | 1272.7 | 25.7 | 0.002 |
| 2,2' DNDPA | 50.0 | 5.139 | 1982.5 | 27828 | 0.000 |
| 2,4' DNDPA | 50.0 | 7.414 | 1387.8 | 0 | 0.000 |
| 4NDPA | 50.0 | 8.918 | 2254.3 | 114.7 | 0.005 |
| 2NDPA | 50.0 | 10.088 | 4040.6 | 189.5 | 0.005 |
| DPA | 200.0 | 11.608 | 7993.7 | 1179.9 | 0.059 |
| N-NitrosoDPA | 75.0 | 12.407 | 1919.6 | 0 | 0.000 |

0.821

Avg. % Stabilizer for Lot **0.821**

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | |
|---|---|
| **Analyst** TAKISHA DICKERSON | Avg. Tot. Stabilizers **0.82** % |
| Analyst Signature | Stable YES / Unstable |
| Lab. Supervisor Signature | Comments<br>**CATEGORY: A** |
| | Actions to be Taken |

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND85C070512** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 10 AUGUST 2012** |

| Other Information | Sample Data | | Solvent |
|---|---|---|---|
| M6 Propellant | #1 | 0.50 g 100 ml | ACN |

| | Standards (ERG-006) | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 0.882 | 8.8 | 112.9 | 1.283 |
| 2,4-DNDPA | 50.0 | 3.343 | 910.9 | 0 | 0.000 |
| 2,2' DNDPA | 50.0 | 5.034 | 3858.6 | 22576 | 0.000 |
| 2,4' DNDPA | 50.0 | 7.363 | 1013.2 | 0 | 0.000 |
| 4NDPA | 50.0 | 8.784 | 1647.3 | 59.7 | 0.004 |
| 2NDPA | 50.0 | 9.95 | 2919.6 | 95.5 | 0.003 |
| DPA | 200.0 | 11.386 | 5857.1 | 714.1 | 0.049 |
| N-NitrosoDPA | 75.0 | 12.173 | 1371.4 | 0 | 0.000 |

1.339

| Avg. % Stabilizer for Lot | **1.339** |
|---|---|

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | |
|---|---|
| **Analyst** Takisha Dickerson | Avg. Tot. Stabilizers **1.34** % |
| Analyst Signature TDickerson | Stable YES \| Unstable |
| Lab. Supervisor Signature | Comments **CATEGORY: A** |
| | Actions to be Taken |

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND81D070019** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 29 MAY 2012** |

| Other Information | Sample Data | | Solvent |
|---|---|---|---|
| M6 Propellant | #1 | 0.50 g 100 ml | ACN |

| Standards (ERG-006) | | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 0.86 | 235.9 | 525.7 | 0.223 |
| 2,4-DNDPA | 50.0 | 3.398 | 913.2 | 0 | 0.000 |
| 2,2' DNDPA | 50.0 | 5.133 | 1007.2 | 37577 | 0.000 |
| 2,4' DNDPA | 50.0 | 7.409 | 1002.4 | 0 | 0.000 |
| 4NDPA | 50.0 | 8.917 | 1612.8 | 186.9 | 0.012 |
| 2NDPA | 50.0 | 10.112 | 2882.2 | 282.1 | 0.010 |
| DPA | 200.0 | 11.607 | 5642.3 | 917.9 | 0.065 |
| N-NitrosoDPA | 75.0 | 12.414 | 1351.4 | | 0.000 |
| | | | | | 0.309 |
| | | | Avg. % Stabilizer for Lot | | **0.309** |

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | |
|---|---|
| **Analyst** Takisha Dickerson | Avg. Tot. Stabilizers **0.31** % |
| Analyst Signature | Stable YES \| Unstable |
| | Comments |
| Lab. Supervisor Signature | **CATEGORY: A** |
| | Actions to be Taken |

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND81G070061** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 12 JULY 2011** |

| Other Information | Sample Data | | Solvent |
|---|---|---|---|
| M6 Propellant | #1 | 0.50 g 100 ml | ACN |

| Standards (ERG-006) | | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 0.71 | 111 | 358.1 | 0.323 |
| 2,4-DNDPA | 50.0 | 3.475 | 1001 | 79.1 | 0.008 |
| 2,2' DNDPA | 50.0 | 5.325 | 95 | 18335 | 0.000 |
| 2,4' DNDPA | 50.0 | 7.791 | 1061.3 | 83.2 | 0.008 |
| 4NDPA | 50.0 | 9.345 | 1700.8 | 167.7 | 0.010 |
| 2NDPA | 50.0 | 10.629 | 3041.2 | 330.5 | 0.011 |
| DPA | 200.0 | 12.152 | 5943.4 | 913.3 | 0.061 |
| N-NitrosoDPA | 75.0 | 13.034 | 1443.1 | 111.8 | 0.000 |

| | | |
|---|---|---|
| | | 0.421 |
| Avg. % Stabilizer for Lot | | **0.421** |

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | |
|---|---|
| **Analyst** Mike Kile | Avg. Tot. Stabilizers **0.42** % |
| Analyst Signature | Stable YES / Unstable |
| Lab. Supervisor Signature | Comments **CATEGORY: A** |
| | Actions to be Taken |

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND81F070024** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 9 DEC 2011** |

| Other Information | Sample Data | | Solvent |
|---|---|---|---|
| M6 Propellant | #1 | 0.50 g 100 ml | ACN |

| Standards (ERG-006) | | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 0.748 | 166.8 | 892.3 | 0.535 |
| 2,4-DNDPA | 50.0 | 3.333 | 991.5 | 0 | 0.000 |
| 2,2' DNDPA | 50.0 | 5.039 | 624.7 | 22530 | 0.000 |
| 2,4' DNDPA | 50.0 | 7.221 | 1076.5 | 0 | 0.000 |
| 4NDPA | 50.0 | 8.681 | 1747.7 | 46.9 | 0.003 |
| 2NDPA | 50.0 | 9.803 | 3112 | 109.9 | 0.004 |
| DPA | 200.0 | 11.276 | 5985.4 | 604.1 | 0.040 |
| N-NitrosoDPA | 75.0 | 12.035 | 1482.1 | 0 | 0.000 |

| | | |
|---|---|---|
| | | 0.582 |
| Avg. % Stabilizer for Lot | | **0.582** |

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | | |
|---|---|---|
| **Analyst** TAKISHA DICKERSON | Avg. Tot. Stabilizers | **0.58** % |
| Analyst Signature | Stable YES | Unstable |
| | Comments | |
| Lab. Supervisor Signature | **CATEGORY:** | **A** |
| | Actions to be Taken | |

CONTAINS HAZARDOUS MATERIALS

# STRAIGHT BILL OF LADING — NOT NEGOTIABLE

RECEIVED, subject to the classification and tariffs in effect on the date of the issue of this Original Bill of Lading.
The property described below, in apparent good order, except as noted (contents and condition of contents of packages unknown) consigned, and destined as indicated below, which said carrier (the word carrier being understood throughout this contract meaning any person or corporation in possession of the property under the contract) agrees to carry to its usual place of delivery of said destination, it on its route, otherwise to deliver to another carrier on the route to said destination. It is mutually agreed, as to each of all or any of said property over all or any portion of said route to destination, and as to each party at any time interested in all or any of said property, that every service lobe performed hereunder shall be subject to all the terms and conditions of the Uniform Domestic Straight Bill of Lading Set forth (1) in Uniform Freight Classification in effect on the date hereof, if this is a rail or rail-water shipment, or (2) in the applicable motor carrier classification or tariff if this is a motor carrier shipment.
Shipper hereby certifies that he is familiar with all the terms and conditions of the said bill of lading, set forth in the classification or tariff which governs the transportation of this shipment, and the said terms and conditions are hereby agreed to by the shipper and accept for himself and his assigns.

Shipper: Explo Systems, Inc.
1600 Java Road
Minden, LA 71055

Shipper's No. 2832
Shipping Date 1/23/13
Purchase Order No.
At
By AKC Freight Charges: Collect ___ Prepaid XXX Location No. 1607

(Mail or Street Address of Consignee — For purposes of notification only)
Consigned to Austin Powder Co. Fed Lic. 5-MR-10-70-SE-00137 Exp. Date 5/1/15
Destination 7-16-10 Blandy State State Lic. Exp. Date
County East Carolina MR 7171 Customer No.
Route
Charge Account of 1-870-574-6582-72302 Customer P.O. No. Rel. No.

| SHIPPED No. of PKGS | SHIPPED No. of UNITS | PROPER SHIPPING NAME AND HAZARD CLASS | RETURNED No. of PKGS | RETURNED No. of UNITS | EMERGENCY RESPONSE PROCEDURE GUIDE NO. | EXEMPTION DOT E | H M | Placards Applied to Railcar or Motor Vehicle |
|---|---|---|---|---|---|---|---|---|
| 252/16 | 92 | UN0161, Powder, Smokeless, 1.3C, PG II | | | #112 | [illegible] | | EXPLOSIVES 1.3 |
| | | | | | | | | Truck No. 14312 |
| | | | | | | | | Trailer No. 40747 |
| | | | | | | | | Mileage |
| | | | | | | | | Total 252,16,760 |
| | | | | | | | | Packages AT 1410 BLS |
| | | | | | | | | Gross |
| | | | | | | | | Weight # 38,000 |
| | | | | | | | | Net Explosive Weight |
| | | Seal # 7082933/7083934 | | | | | | 35,280 |

17AT21

This is to certify that the above named materials are properly classified, described, packaged, marked, and labeled and are in proper condition for transportation, according to the applicable regulations of the Department of Transportation.

Signature [signature] Invoice No.

FOR CHEMICAL EMERGENCY, SPILL, LEAK, FIRE, EXPOSURE OR ACCIDENT CALL CHEMTREC — DAY OR NIGHT
IN THE USA CALL 800-424-9300 IN CANADA (ERP #2-0040) 800-561-3636 ELSEWHERE CALL (703) 527-3887 [illegible]

Permanent Address of Shipper:
**Explo Systems, Inc.**
1600 Java Road
Minden, Louisiana 71055
(318) 382-8700

I have been offered placards identifying the shipment as Specified in 49CFR Subpart F of Part 172. I have received the above goods in apparent good order and condition.

Per
DOT Hazardous Material Handling Number
Local Federal Explosives License No. 5-LA-119-20-1A-00057
(Shipper)

Received By X Charles Knapp Date 1-23-13
☐ CONSIGNEE ☐ CARRIER
By Date
AUTHORIZED RECEIVER

CONTAINS HAZARDOUS MATERIALS

AUSTIN POWDER PACKING LIST

SHIPMENT DATE 16 JAN 2013

B/L# 2832

M-6

IND91H-071485 19 PTS 7·23
IND85C-070512 15 PTS 8·10
IND88E-070963 3 PTS
IND84L-070454 1 PT
IND88A-070891 4 PTS

2832
-24

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND91H071485** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 23 JULY 2012** |

| Other Information | Sample Data | | Solvent |
|---|---|---|---|
| M6 Propellant | #1 | 0.50 g 100 ml | ACN |

| | Standards (ERG-006) | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 0.847 | 108.1 | 464.3 | 0.430 |
| 2,4-DNDPA | 50.0 | 3.366 | 967.8 | 0 | 0.000 |
| 2,2' DNDPA | 50.0 | 5.09 | 4480 | 20931 | 0.000 |
| 2,4' DNDPA | 50.0 | 7.496 | 1085.1 | 0 | 0.000 |
| 4NDPA | 50.0 | 8.926 | 1772.8 | 169.1 | 0.010 |
| 2NDPA | 50.0 | 9.898 | 1314.8 | 134.6 | 0.010 |
| DPA | 200.0 | 11.552 | 6236.1 | 208.7 | 0.013 |
| N-NitrosoDPA | 75.0 | 12.356 | 1452.1 | 0 | 0.000 |
| | | | | | 0.463 |
| | | Avg. % Stabilizer for Lot | | | **0.463** |

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | |
|---|---|
| **Analyst** Takisha Dickerson | Avg. Tot. Stabilizers **0.46** % |
| Analyst Signature TDickerson | Stable YES \| Unstable |
| Lab. Supervisor Signature | Comments **CATEGORY: A** |
| | Actions to be Taken |

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND88E070963** | **D533 / M6 propellant** |
| Date of analysis: | **Date:25 AUG 2010** |

| Other Information | Sample Data | | Solvent |
|---|---|---|---|
| M6 Propellant | #1 | 0.5000 g 100 ml | ACN |

| | Standards (ERG-006) | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 2.177 | 146.5 | 1369.8 | 0.935 |
| 2,4-DNDPA | 50.0 | 5.001 | 961.7 | 0 | 0.000 |
| 2,2' DNDPA | 50.0 | 7.038 | 2567.5 | 12491.2 | 0.000 |
| 2,4' DNDPA | 50.0 | 9.931 | 938.5 | 0 | 0.000 |
| 4NDPA | 50.0 | 11.434 | 1325.8 | 0 | 0.000 |
| 2NDPA | 50.0 | 12.813 | 1809.7 | 0 | 0.000 |
| DPA | 200.0 | 14.19 | 4886.9 | 610.3 | 0.050 |
| N-NitrosoDPA | 75.0 | 15.18 | 1296.7 | 0 | 0.000 |

| | |
|---|---|
| | 0.985 |
| Avg. % Stabilizer for Lot | **0.985** |

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | |
|---|---|
| **Analyst** Kisha Dickerson | Avg. Tot. Stabilizers **0.98** % |
| Analyst Signature | Stable YES / Unstable |
| Lab. Supervisor Signature | Comments **CATEGORY: A** |
| | Actions to be Taken |

Form #158

Original Print Date:07/19/2010

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND88A070891** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 10 NOV 2011** |

| Other Information | Sample Data | | Solvent |
|---|---|---|---|
| M6 Propellant | #1 | 0.50 g 100 ml | ACN |

| Standards (ERG-006) | | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 0.754 | 194.4 | 1458.4 | 0.750 |
| 2,4-DNDPA | 50.0 | 3.382 | 1272.7 | 25.7 | 0.002 |
| 2,2' DNDPA | 50.0 | 5.139 | 1982.5 | 27828 | 0.000 |
| 2,4' DNDPA | 50.0 | 7.414 | 1387.8 | 0 | 0.000 |
| 4NDPA | 50.0 | 8.918 | 2254.3 | 114.7 | 0.005 |
| 2NDPA | 50.0 | 10.088 | 4040.6 | 189.5 | 0.005 |
| DPA | 200.0 | 11.608 | 7993.7 | 1179.9 | 0.059 |
| N-NitrosoDPA | 75.0 | 12.407 | 1919.6 | 0 | 0.000 |

0.821

| Avg. % Stabilizer for Lot | **0.821** |
|---|---|

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| **Analyst** TAKISHA DICKERSON | Avg. Tot. Stabilizers **0.82** % |
|---|---|
| Analyst Signature | Stable YES \| Unstable |
| Lab. Supervisor Signature | Comments **CATEGORY: A** |
| | Actions to be Taken |

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND85C070512** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 10 AUGUST 2012** |

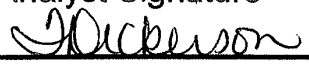
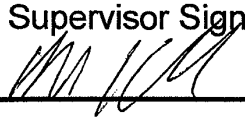
| Other Information | Sample Data | | Solvent |
|---|---|---|---|
| M6 Propellant | #1 | 0.50 g 100 ml | ACN |

| | Standards (ERG-006) | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 0.882 | 8.8 | 112.9 | 1.283 |
| 2,4-DNDPA | 50.0 | 3.343 | 910.9 | 0 | 0.000 |
| 2,2' DNDPA | 50.0 | 5.034 | 3858.6 | 22576 | 0.000 |
| 2,4' DNDPA | 50.0 | 7.363 | 1013.2 | 0 | 0.000 |
| 4NDPA | 50.0 | 8.784 | 1647.3 | 59.7 | 0.004 |
| 2NDPA | 50.0 | 9.95 | 2919.6 | 95.5 | 0.003 |
| DPA | 200.0 | 11.386 | 5857.1 | 714.1 | 0.049 |
| N-NitrosoDPA | 75.0 | 12.173 | 1371.4 | 0 | 0.000 |

1.339

| Avg. % Stabilizer for Lot | **1.339** |
|---|---|

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | |
|---|---|
| **Analyst** Takisha Dickerson | Avg. Tot. Stabilizers **1.34** % |
| Analyst Signature  | Stable YES / Unstable |
| Lab. Supervisor Signature  | Comments **CATEGORY: A** |
| | Actions to be Taken |

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND84L070454** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 4 MAY 2012** |

| Other Information | Sample Data | | | Solvent |
|---|---|---|---|---|
| M6 Propellant | #1 | 0.50 g | 100 ml | ACN |

| Standards (ERG-006) | | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 0.867 | 83.7 | 400.6 | 0.479 |
| 2,4-DNDPA | 50.0 | 3.338 | 1156.5 | 0 | 0.000 |
| 2,2' DNDPA | 50.0 | 5.017 | 5373.7 | 23342 | 0.000 |
| 2,4' DNDPA | 50.0 | 7.147 | 1263.8 | 0 | 0.000 |
| 4NDPA | 50.0 | 8.595 | 2061.4 | 48.3 | 0.002 |
| 2NDPA | 50.0 | 9.687 | 3694.9 | 94.1 | 0.003 |
| DPA | 200.0 | 11.119 | 7683.7 | 721.2 | 0.038 |
| N-NitrosoDPA | 75.0 | 11.99 | 2133.1 | | 0.000 |

| | |
|---|---|
| | 0.521 |
| Avg. % Stabilizer for Lot | **0.521** |

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | |
|---|---|
| **Analyst** Takisha Dickerson | Avg. Tot. Stabilizers **0.52** % |
| Analyst Signature | Stable YES / Unstable |
| Lab. Supervisor Signature | Comments **CATEGORY: A** |
| | Actions to be Taken |

Form #150

CONTAINS HAZARDOUS MATERIALS

# STRAIGHT BILL OF LADING — NOT NEGOTIABLE

RECEIVED, subject to the classification and tariffs in effect on the date of the issue of this Original Bill of Lading.
The property described below, in apparent good order, except as noted (contents and condition of contents of packages unknown) consigned, and destined as indicated below, which said carrier (the word carrier being understood throughout this contract meaning any person or corporation in possession of the property under the contract) agrees to carry to its usual place of delivery of said destination. It on its route, otherwise to deliver to another carrier on the route to said destination. It is mutually agreed, as to each of all or any of said property over all or any portion of said route to destination, and as to each party at any time interested in all or any of said property, that every service lobe performed hereunder shall be subject to all the terms and conditions of the Uniform Domestic Straight Bill of Lading Set forth (t) in Uniform Freight Classification in effect on the date hereof, if this is a rail or rail-water shipment, or (2) in the applicable motor carrier classification or tariff if this is a motor carrier shipment.
Shipper hereby certifies that he is familiar with all the terms and conditions of the said bill of lading, set forth in the classification or tariff which governs the transportation of this shipment, and the said terms and conditions are hereby agreed to by the shipper and accept for himself and his assigns.

Shipper: Explo Systems, Inc.
1600 Java Road
Minden, LA 71055

Shipper's No. 2835

Shipping Date 1-22-13

At

Purchase Order No.

By R/R /AMTK Freight Charges: Collect _____ Prepaid YYY Location No. 1603/1363

(Mail or Street Address of Consignee — For purposes of notification only)

Consigned to Austin Powder Co
Destination 7-11-10 Pkwy NW State
County East Ouachita Par.
Route
Charge Account of 1870 570 0580 14302

Fed Lic. 5-LA-119-20-1A-00057 Exp. Date 5/1/15
State Lic. Exp. Date
Customer No.
Customer P.O. No. Rel. No.

| SHIPPED No. of PKGS | SHIPPED No. of UNITS | PROPER SHIPPING NAME AND HAZARD CLASS | RETURNED No. of PKGS | RETURNED No. of UNITS | EMERGENCY RESPONSE PROCEDURE GUIDE NO. | EXEMPTION -DOT-E | H M | Placards Applied to Railcar or Motor Vehicle |
|---|---|---|---|---|---|---|---|---|
| 252/Rail | 4 MAG | UN0161, Powder, Smokeless, 1.3C, PG II | | | #112 | 2510016403 | X | EXPLOSIVES 1.3 |
| | | Set DR List | | | | | | |
| | | | | | | | | |
| | | | | | | | | Truck No. 7323 |
| | | | | | | | | Trailer No. LV10016 |
| | | 17AT21 | | | | | | Mileage |
| | | | | | | | | Total 252 16FM Packages |
| | | | | | | | | Gross Weight # 38 000 |
| | | Seal # | | | | | | Net Explosive Weight |
| | | 7083939/7083940 | | | | | | 25 180 |

This is to certify that the above-named materials are properly classified, described, packaged, marked, and labeled and are in proper condition for transportation, according to the applicable regulations of the Department of Transportation.

Signature _____ Invoice No. _____

FOR CHEMICAL EMERGENCY, SPILL, LEAK, FIRE, EXPOSURE OR ACCIDENT CALL CHEMTREC — DAY OR NIGHT
IN THE USA CALL 800-424-9300 IN CANADA (ERP #2-0040) 800-561-3636 ELSEWHERE CALL (703) 527-3887 CC: 1640 589

Permanent Address of Shipper:
**Explo Systems, Inc.**
1600 Java Road
Minden, Louisiana 71055
(318) 382-8700

Per _____

DOT Hazardous Material Handling Number _____
Local Federal Explosives License No. 5-LA-119-20-1A-00057
(Shipper)

I have been offered placards identifying the shipment as Specified in 49CFR Subpart F of Part 172. I have received the above goods in apparent good order and condition.

Received By _____ Date 1-22-13
☐ CONSIGNEE ☐ CARRIER

By _____ Date _____
AUTHORIZED RECEIVER

AUSTIN POWDER PACKING LIST

SHIPMENT DATE 22 JAN 2013

B/L# 2835 TRL 6810016

M-6

IND84K-070452 3 PTS
IND81D-070020 1 PT
IND94H-071485 2 PTS
IND81D-070019 2 PTS
IND85C-070572 2 PTS
IND85C-070512 8 PTS
IND89D-070039 4 PTS
IND81L-070072 1 PT
IND83F-070276 9 PTS
IND82H-070168 4 PTS
IND83E-070278 2 PTS
IND85F-070587 4 PTS

42 PTS WITH 6 FB @140 LBS PER DRUM

TOTAL 35,280 LBS

LIONEL KOONS

EXPLO SYSTEMS INC

2835
25

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND85F070587** | **D533 / M6 propellant** |
| Date of analysis: | **Date:25 AUG 2010** |

| Other Information | Sample Data | | Solvent |
|---|---|---|---|
| M6 Propellant | #1 | 0.5000 g 100 ml | ACN |

| Standards (ERG-006) | | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 2.177 | 146.5 | 1821.4 | 1.243 |
| 2,4-DNDPA | 50.0 | 5.001 | 961.7 | 0 | 0.000 |
| 2,2' DNDPA | 50.0 | 7.038 | 2567.5 | 14427.7 | 0.000 |
| 2,4' DNDPA | 50.0 | 9.931 | 938.5 | 0 | 0.000 |
| 4NDPA | 50.0 | 11.434 | 1325.8 | 0 | 0.000 |
| 2NDPA | 50.0 | 12.813 | 1809.7 | 0 | 0.000 |
| DPA | 200.0 | 14.19 | 4886.9 | 225 | 0.018 |
| N-NitrosoDPA | 75.0 | 15.18 | 1296.7 | 0 | 0.000 |

1.262

Avg. % Stabilizer for Lot **1.262**

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | |
|---|---|
| **Analyst** Kisha Dickerson | Avg. Tot. Stabilizers **1.26** % |
| Analyst Signature | Stable YES / Unstable |
| Lab. Supervisor Signature | Comments **CATEGORY: A** |
| | Actions to be Taken |

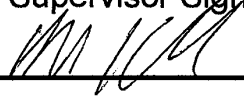
# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND85C070512** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 10 AUGUST 2012** |

| Other Information | Sample Data | | Solvent |
|---|---|---|---|
| M6 Propellant | #1 | 0.50 g 100 ml | ACN |

| Standards (ERG-006) | | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 0.882 | 8.8 | 112.9 | 1.283 |
| 2,4-DNDPA | 50.0 | 3.343 | 910.9 | 0 | 0.000 |
| 2,2' DNDPA | 50.0 | 5.034 | 3858.6 | 22576 | 0.000 |
| 2,4' DNDPA | 50.0 | 7.363 | 1013.2 | 0 | 0.000 |
| 4NDPA | 50.0 | 8.784 | 1647.3 | 59.7 | 0.004 |
| 2NDPA | 50.0 | 9.95 | 2919.6 | 95.5 | 0.003 |
| DPA | 200.0 | 11.386 | 5857.1 | 714.1 | 0.049 |
| N-NitrosoDPA | 75.0 | 12.173 | 1371.4 | 0 | 0.000 |
| | | | | | 1.339 |
| | | | Avg. % Stabilizer for Lot | | **1.339** |

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | |
|---|---|
| **Analyst** Takisha Dickerson | Avg. Tot. Stabilizers **1.34** % |
| Analyst Signature  | Stable YES / Unstable |
| Lab. Supervisor Signature  | Comments **CATEGORY: A** |
| | Actions to be Taken |

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND84K070452** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 13 AUGUST 2012** |

| Other Information | Sample Data | | Solvent |
|---|---|---|---|
| M6 Propellant | #1 | 0.50 g 100 ml | ACN |

| Standards (ERG-006) | | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 0.874 | 41.1 | 237.6 | 0.578 |
| 2,4-DNDPA | 50.0 | 3.363 | 1017.6 | 0 | 0.000 |
| 2,2' DNDPA | 50.0 | 5.079 | 4556.2 | 22977 | 0.000 |
| 2,4' DNDPA | 50.0 | 7.471 | 1126.4 | 0 | 0.000 |
| 4NDPA | 50.0 | 8.907 | 1830.9 | 53.4 | 0.003 |
| 2NDPA | 50.0 | 10.084 | 3271.2 | 114.5 | 0.004 |
| DPA | 200.0 | 11.54 | 6554.9 | 610.4 | 0.037 |
| N-NitrosoDPA | 75.0 | 12.349 | 1509.1 | 0 | 0.000 |
| | | | | | 0.622 |
| | | | Avg. % Stabilizer for Lot | | **0.622** |

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | |
|---|---|
| **Analyst** Takisha Dickerson | Avg. Tot. Stabilizers **0.62** % |
| Analyst Signature Dickerson | Stable YES \| Unstable |
| Lab. Supervisor Signature | Comments **CATEGORY: A** |
| | Actions to be Taken |

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND83F070276** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 4 Sep 2012** |

| Other Information | Sample Data | | Solvent |
|---|---|---|---|
| M6 Propellant | #1 | 0.50 g 100 ml | ACN |

| | Standards (ERG-006) | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 0.889 | 48.8 | 578.6 | 1.186 |
| 2,4-DNDPA | 50.0 | 3.418 | 914.3 | 0 | 0.000 |
| 2,2' DNDPA | 50.0 | 5.22 | 777.3 | 23990 | 0.000 |
| 2,4' DNDPA | 50.0 | 7.622 | 980.5 | 0 | 0.000 |
| 4NDPA | 50.0 | 9.134 | 1586.8 | 40.6 | 0.003 |
| 2NDPA | 50.0 | 10.417 | 2826.3 | 88.7 | 0.003 |
| DPA | 200.0 | 11.797 | 5671.5 | 812.6 | 0.057 |
| N-NitrosoDPA | 75.0 | 12.757 | 1337.5 | 0 | 0.000 |

| | |
|---|---|
| | 1.249 |
| Avg. % Stabilizer for Lot | **1.249** |

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | |
|---|---|
| **Analyst** Mike Kile | Avg. Tot. Stabilizers **1.25** % |
| Analyst Signature | Stable YES / Unstable |
| Lab. Supervisor Signature | Comments **CATEGORY: A** |
| | Actions to be Taken |

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND83F070278** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 11 JULY 2012** |

| Other Information | Sample Data | | Solvent |
|---|---|---|---|
| M6 Propellant | #1 | 0.50 g 100 ml | ACN |

| Standards (ERG-006) | | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 0.803 | 32.3 | 256.2 | 0.793 |
| 2,4-DNDPA | 50.0 | 3.397 | 945.1 | 0 | 0.000 |
| 2,2' DNDPA | 50.0 | 5.155 | 1995.1 | 21574 | 0.000 |
| 2,4' DNDPA | 50.0 | 7.525 | 949.2 | 0 | 0.000 |
| 4NDPA | 50.0 | 9.04 | 1580.4 | 89.7 | 0.006 |
| 2NDPA | 50.0 | 10.278 | 2854 | 35.4 | 0.001 |
| DPA | 200.0 | 11.761 | 5473.7 | 589.5 | 0.043 |
| N-NitrosoDPA | 75.0 | 12.606 | 1672.4 | 0 | 0.000 |
| | | | | | 0.843 |
| | | Avg. % Stabilizer for Lot | | | **0.843** |

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | |
|---|---|
| **Analyst** Takisha Dickerson | Avg. Tot. Stabilizers **0.84** % |
| Analyst Signature | Stable YES \| Unstable |
| | Comments **CATEGORY: A** |
| Lab. Supervisor Signature | |
| | Actions to be Taken |

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND82H070168** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 1 FEB 2011** |

Other Information
M6 Propellant

| Sample Data | | | Solvent |
|---|---|---|---|
| #1 | 0.5000 g | 100 ml | ACN |

| Standards (ERG-006) | | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 4.156 | 1116 | 2540.4 | 0.228 |
| 2,4-DNDPA | 50.0 | 9.388 | 1191.2 | 31231.4 | 2.622 |
| 2,2' DNDPA | 50.0 | 10.987 | 1694.7 | 51.5 | 0.000 |
| 2,4' DNDPA | 50.0 | 11.73 | 1272.3 | 143.2 | 0.011 |
| 4NDPA | 50.0 | 12.459 | 2443.3 | 0 | 0.000 |
| 2NDPA | 50.0 | 13.939 | 5852.1 | 838.5 | 0.014 |
| DPA | 200.0 | 15.022 | 1753.1 | 0 | 0.000 |
| N-NitrosoDPA | 75.0 | 18.932 | 2535.1 | 985.4 | 0.000 |

2.875

Avg. % Stabilizer for Lot **2.875**

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | |
|---|---|
| **Analyst** Mike Kile | Avg. Tot. Stabilizers **2.88** % |
| Analyst Signature | Stable YES / Unstable |
| Lab. Supervisor Signature | Comments<br>**CATEGORY: A** |
| | Actions to be Taken |

Form #158

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND81D070019** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 29 MAY 2012** |

| Other Information | Sample Data | | Solvent |
|---|---|---|---|
| M6 Propellant | #1 | 0.50 g 100 ml | ACN |

| Standards (ERG-006) | | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 0.86 | 235.9 | 525.7 | 0.223 |
| 2,4-DNDPA | 50.0 | 3.398 | 913.2 | 0 | 0.000 |
| 2,2' DNDPA | 50.0 | 5.133 | 1007.2 | 37577 | 0.000 |
| 2,4' DNDPA | 50.0 | 7.409 | 1002.4 | 0 | 0.000 |
| 4NDPA | 50.0 | 8.917 | 1612.8 | 186.9 | 0.012 |
| 2NDPA | 50.0 | 10.112 | 2882.2 | 282.1 | 0.010 |
| DPA | 200.0 | 11.607 | 5642.3 | 917.9 | 0.065 |
| N-NitrosoDPA | 75.0 | 12.414 | 1351.4 | | 0.000 |

| | |
|---|---|
| | 0.309 |
| Avg. % Stabilizer for Lot | **0.309** |

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | |
|---|---|
| **Analyst** Takisha Dickerson | Avg. Tot. Stabilizers **0.31** % |
| Analyst Signature | Stable YES / Unstable |
| | Comments |
| Lab. Supervisor Signature | **CATEGORY: A** |
| | Actions to be Taken |

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND81L070072** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 29 MAY 2012** |

| Other Information | Sample Data | | Solvent |
|---|---|---|---|
| M6 Propellant | #1 | 0.50 g 100 ml | ACN |

| | Standards (ERG-006) | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 0.86 | 235.9 | 624.2 | 0.265 |
| 2,4-DNDPA | 50.0 | 3.398 | 913.2 | 0 | 0.000 |
| 2,2' DNDPA | 50.0 | 5.133 | 1007.2 | 37338 | 0.000 |
| 2,4' DNDPA | 50.0 | 7.409 | 1002.4 | 0 | 0.000 |
| 4NDPA | 50.0 | 8.917 | 1612.8 | 156.8 | 0.010 |
| 2NDPA | 50.0 | 10.112 | 2882.2 | 297.6 | 0.010 |
| DPA | 200.0 | 11.607 | 5642.3 | 1100.9 | 0.078 |
| N-NitrosoDPA | 75.0 | 12.414 | 1351.4 | | 0.000 |
| | | | | | 0.363 |
| | | Avg. % Stabilizer for Lot | | | **0.363** |

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | |
|---|---|
| **Analyst** Takisha Dickerson | Avg. Tot. Stabilizers **0.36** % |
| Analyst Signature | Stable YES / Unstable |
| | Comments **CATEGORY: A** |
| Lab. Supervisor Signature | |
| | Actions to be Taken |

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND81D070020** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 10 Feb 2012** |

| Other Information | Sample Data | | Solvent |
|---|---|---|---|
| M6 Propellant | #1 | 0.50 g 100 ml | ACN |

| Standards (ERG-006) | | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 0.868 | 53.7 | 398.1 | 0.741 |
| 2,4-DNDPA | 50.0 | 3.292 | 916.2 | 0 | 0.000 |
| 2,2' DNDPA | 50.0 | 4.936 | 839.4 | 22071 | 0.000 |
| 2,4' DNDPA | 50.0 | 6.943 | 1003.3 | 0 | 0.000 |
| 4NDPA | 50.0 | 8.309 | 1616.5 | 50 | 0.003 |
| 2NDPA | 50.0 | 9.362 | 2912 | 113.3 | 0.004 |
| DPA | 200.0 | 10.749 | 5497.2 | 666 | 0.048 |
| N-NitrosoDPA | 75.0 | 11.362 | 1264.1 | 355.2 | 0.000 |

0.797

Avg. % Stabilizer for Lot **0.797**

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | |
|---|---|
| **Analyst** Mike Kile | Avg. Tot. Stabilizers **0.80** % |
| Analyst Signature | Stable YES / Unstable |
| Lab. Supervisor Signature | Comments **CATEGORY: A** |
| | Actions to be Taken |

**CONTAINS HAZARDOUS MATERIALS**

# STRAIGHT BILL OF LADING — NOT NEGOTIABLE

RECEIVED, subject to the classification and tariffs in effect on the date of the issue of this Original Bill of Lading.
The property described below, in apparent good order, except as noted (contents and condition of contents of packages unknown) consigned, and destined as indicated below, which said carrier (the word carrier being understood throughout this contract meaning any person or corporation in possession of the property under the contract) agrees to carry to its usual place of delivery of said destination. If on its route, otherwise to deliver to another carrier on the route to said destination. It is mutually agreed, as to each of all or any of said property over all or any portion of said route to destination, and as to each party at any time interested in all or any of said property, that every service lobe performed hereunder shall be subject to all the terms and conditions of the Uniform Domestic Straight Bill of Lading Set forth (1) in Uniform Freight Classification in effect on the date hereof, if this is a rail or rail-water shipment, or (2) in the applicable motor carrier classification or tariff if this is a motor carrier shipment.
Shipper hereby certifies that he is familiar with all the terms and conditions of the said bill of lading, set forth in the classification or tariff which governs the transportation of this shipment, and the said terms and conditions are hereby agreed to by the shipper and accept for himself and his assigns.

Shipper: Explo Systems, Inc.
1600 Java Road
Minden, LA 71055

Shipper's No.* 2834

Shipping Date 1/16/13

At

Purchase Order No.

By P/R Fence

Freight Charges: Collect ____ Prepaid XXX

Location No. 2430

(Mail or Street Address of Consignee — For purposes of notification only)

Consigned to Keltron Pipeline LP

Fed Lic. 5-72-13-20-1A-00039 Exp. Date 5/1/15

Destination Pipeline to Keltron MS State

State Lic. Exp. Date

County Choctaw Co.

Customer No.

Route

Charge Account of Keltron Pipeline LP Customer P.O. No. Rel. No.

| SHIPPED No. of PKGS | SHIPPED No. of UNITS | PROPER SHIPPING NAME AND HAZARD CLASS | RETURNED No. of PKGS | RETURNED No. of UNITS | EMERGENCY RESPONSE PROCEDURE GUIDE NO. | EXEMPTION DOT-E | H M | Placards Applied to Railcar or Motor Vehicle |
|---|---|---|---|---|---|---|---|---|
| 1 Pallet | 25 | UN0161, Powder, Smokeless, 1.3C, PG II | | | #112 | | X | EXPLOSIVES 1.3 |
| | | - 25# Per Lot - | | | | | | |
| | | | | | | | | Truck No. 2234 |
| | | | | | | | | Trailer No. 761022 |
| | | 17AT21 | | | | | | Mileage |
| | | | | | | | | Total 1250 1565 |
| | | | | | | | | Packages |
| | | | | | | | | Gross |
| | | | | | | | | Weight # 31000 |
| | | | | | | | | Net Explosive Weight |
| | | | | | | | | 21720 |

This is to certify that the above-named materials are properly classified, described, packaged, marked, and labeled and are in proper condition for transportation, according to the applicable regulations of the Department of Transportation.

Signature

Invoice No.

FOR CHEMICAL EMERGENCY, SPILL, LEAK, FIRE, EXPOSURE OR ACCIDENT CALL CHEMTREC DAY OR NIGHT
IN THE USA CALL 800-424-9300 IN CANADA (ERP #2 0040) 800-561 3636 ELSEWHERE CALL (703) 527 3887

Permanent Address of Shipper:
**Explo Systems, Inc.**
1600 Java Road
Minden, Louisiana 71055
(318) 382-8700

Per

DOT Hazardous Material Handling Number

Local Federal Explosives License No. 5-LA-119-20-1A-00057
(Shipper)

I have been offered placards identifying the shipment as Specified in 49CFR Subpart F of Part 172. I have received the above goods in apparent good order and condition.

Received By Date
☐ CONSIGNEE ☐ CARRIER

By Date
AUTHORIZED RECEIVER

ASC R/R

AUSTIN POWDER PACKING LIST

SHIPMENT DATE 16 JAN 2013

B/L# 2834

M-6

IND85F-070588 10 PTS
IND82H-070168 1 PT
IND82D-070113 1 PT
IND86E-070617 6 PTS 7-18
IND82H-070167 2 PTS 7-3
IND85C-070512 2 PTS
IND84B-070325 2 PTS
IND81E-070022 3 PTS 6-29
IND81D-070019 1 PT
IND84B-Y70325 1 PT
IND84G-070326 1 PT 7-18
IND81D-070020 3 PTS

33 PTS WITH 6 FB @140 LBS PER DRUM

TOTAL 27,720 LBS

LIONEL KOONS

EXPLO SYSTEMS INC

2834

26

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND86E070617** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 18 JULY 2012** |

Other Information
M6 Propellant

| Sample Data | | | Solvent |
|---|---|---|---|
| #1 | 0.50 g | 100 ml | ACN |

| Standards (ERG-006) | | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 0.863 | 133.9 | 389.2 | 0.291 |
| 2,4-DNDPA | 50.0 | 3.365 | 949.7 | 0 | 0.000 |
| 2,2' DNDPA | 50.0 | 5.091 | 2605.4 | 22628 | 0.000 |
| 2,4' DNDPA | 50.0 | 7.514 | 1047.9 | 0 | 0.000 |
| 4NDPA | 50.0 | 8.946 | 1698.8 | 45.3 | 0.003 |
| 2NDPA | 50.0 | 10.142 | 3039.5 | 80.7 | 0.003 |
| DPA | 200.0 | 11.585 | 6044.7 | 861.6 | 0.057 |
| N-NitrosoDPA | 75.0 | 12.4 | 1395.6 | 0 | 0.000 |

0.353

| Avg. % Stabilizer for Lot | **0.353** |
|---|---|

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | |
|---|---|
| **Analyst** Takisha Dickerson | Avg. Tot. Stabilizers **0.35** % |
| Analyst Signature TDickerson | Stable YES \| Unstable |
| Lab. Supervisor Signature | Comments **CATEGORY: A** |
| | Actions to be Taken |

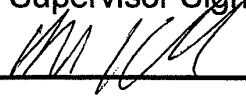
# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND85C070512** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 10 AUGUST 2012** |

| Other Information | Sample Data | | Solvent |
|---|---|---|---|
| M6 Propellant | #1 | 0.50 g 100 ml | ACN |

| Standards (ERG-006) | | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 0.882 | 8.8 | 112.9 | 1.283 |
| 2,4-DNDPA | 50.0 | 3.343 | 910.9 | 0 | 0.000 |
| 2,2' DNDPA | 50.0 | 5.034 | 3858.6 | 22576 | 0.000 |
| 2,4' DNDPA | 50.0 | 7.363 | 1013.2 | 0 | 0.000 |
| 4NDPA | 50.0 | 8.784 | 1647.3 | 59.7 | 0.004 |
| 2NDPA | 50.0 | 9.95 | 2919.6 | 95.5 | 0.003 |
| DPA | 200.0 | 11.386 | 5857.1 | 714.1 | 0.049 |
| N-NitrosoDPA | 75.0 | 12.173 | 1371.4 | 0 | 0.000 |
| | | | | | 1.339 |
| | | Avg. % Stabilizer for Lot | | | **1.339** |

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | |
|---|---|
| **Analyst** Takisha Dickerson | Avg. Tot. Stabilizers **1.34** % |
| Analyst Signature | Stable YES \| Unstable |
| Lab. Supervisor Signature  | Comments **CATEGORY: A** |
| | Actions to be Taken |

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND85F070588** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 20 Dec 2010** |

Other Information
M6 Propellant

| Sample Data | | | Solvent |
|---|---|---|---|
| #1 | 0.5000 g | 100 ml | ACN |

| Standards (ERG-006) | | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 2.059 | 87.1 | 1411.1 | 1.620 |
| 2,4-DNDPA | 50.0 | 5.198 | 631.9 | 845.8 | 0.134 |
| 2,2' DNDPA | 50.0 | 7.699 | 1074.2 | 15722.5 | 0.000 |
| 2,4' DNDPA | 50.0 | 11.782 | 545 | 0 | 0.000 |
| 4NDPA | 50.0 | 13.513 | 1464.9 | 246.8 | 0.017 |
| 2NDPA | 50.0 | 15.189 | 1011.6 | 0 | 0.000 |
| DPA | 200.0 | 16.638 | 2894.7 | 309.8 | 0.043 |
| N-NitrosoDPA | 75.0 | 18.069 | 720.1 | 0 | 0.000 |

1.814

Avg. % Stabilizer for Lot **1.814**

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | |
|---|---|
| **Analyst** Kisha Dickerson | Avg. Tot. Stabilizers **1.81** % |
| Analyst Signature | Stable YES / Unstable |
| Lab. Supervisor Signature | Comments **CATEGORY: A** |
| | Actions to be Taken |

Form #158

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND84G070326** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 3 MAY 2012** |

| Other Information | Sample Data | | | Solvent |
|---|---|---|---|---|
| M6 Propellant | #1 | 0.50 g | 100 ml | ACN |

| Standards (ERG-006) | | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 0.867 | 104.4 | 324.4 | 0.311 |
| 2,4-DNDPA | 50.0 | 3.335 | 1105.6 | 0 | 0.000 |
| 2,2' DNDPA | 50.0 | 5.007 | 4986.7 | 23068 | 0.000 |
| 2,4' DNDPA | 50.0 | 7.137 | 1206.9 | 0 | 0.000 |
| 4NDPA | 50.0 | 8.593 | 1969.2 | 87.1 | 0.004 |
| 2NDPA | 50.0 | 9.688 | 3527.8 | 151.4 | 0.004 |
| DPA | 200.0 | 11.153 | 7041.6 | 785.8 | 0.045 |
| N-NitrosoDPA | 75.0 | 11.897 | 1704.5 | | 0.000 |

| | | |
|---|---|---|
| | | 0.364 |
| Avg. % Stabilizer for Lot | | **0.364** |

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | | | |
|---|---|---|---|
| **Analyst** | Takisha Dickerson | Avg. Tot. Stabilizers | **0.36** % |
| Analyst Signature | | Stable YES | Unstable |
| Lab. Supervisor Signature | | Comments **CATEGORY:** | **A** |
| | | Actions to be Taken | |

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND84BY70325** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 4 AUGUST 2011** |

| Other Information | Sample Data | | Solvent |
|---|---|---|---|
| M6 Propellant | #1 | 0.50 g 100 ml | ACN |

| Standards (ERG-006) | | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 0.633 | 245.7 | 604.7 | 0.246 |
| 2,4-DNDPA | 50.0 | 3.489 | 1008 | 0 | 0.000 |
| 2,2' DNDPA | 50.0 | 5.345 | 162.1 | 23839 | 0.000 |
| 2,4' DNDPA | 50.0 | 7.825 | 1089.1 | 0 | 0.000 |
| 4NDPA | 50.0 | 9.38 | 1703.6 | 82.3 | 0.005 |
| 2NDPA | 50.0 | 10.682 | 3137.7 | 135.3 | 0.004 |
| DPA | 200.0 | 12.197 | 5674.1 | 602.8 | 0.042 |
| N-NitrosoDPA | 75.0 | 13.097 | 1505.3 | 0 | 0.000 |
| | | | | | 0.298 |
| | | Avg. % Stabilizer for Lot | | | **0.298** |

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | |
|---|---|
| **Analyst** TAKISHA DICKERSON | Avg. Tot. Stabilizers **0.30** % |
| Analyst Signature | Stable YES \| Unstable |
| Lab. Supervisor Signature | Comments **CATEGORY: A** |
| | Actions to be Taken |

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND82H070167** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 6 JAN 2012** |

| Other Information | Sample Data | | Solvent |
|---|---|---|---|
| M6 Propellant | #1 | 0.50 g 100 ml | ACN |

| Standards (ERG-006) | | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 0.65 | 119.1 | 308.2 | 0.259 |
| 2,4-DNDPA | 50.0 | 3.304 | 1019.8 | 0 | 0.000 |
| 2,2' DNDPA | 50.0 | 4.943 | 1734.6 | 23824 | 0.000 |
| 2,4' DNDPA | 50.0 | 7.018 | 1103.9 | 404.1 | 0.037 |
| 4NDPA | 50.0 | 8.439 | 1782.5 | 50.5 | 0.003 |
| 2NDPA | 50.0 | 9.513 | 3182.1 | 79.6 | 0.003 |
| DPA | 200.0 | 10.956 | 6219.8 | 750.3 | 0.048 |
| N-NitrosoDPA | 75.0 | 11.669 | 1532.4 | 0 | 0.000 |

| | |
|---|---|
| | 0.349 |
| Avg. % Stabilizer for Lot | **0.349** |

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | |
|---|---|
| **Analyst** TAKISHA DICKERSON | Avg. Tot. Stabilizers **0.35** % |
| Analyst Signature | Stable YES / Unstable |
| Lab. Supervisor Signature | Comments **CATEGORY: A** |
| | Actions to be Taken |

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND82D070113** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 6 JAN 2012** |

| Other Information | Sample Data | | Solvent |
|---|---|---|---|
| M6 Propellant | #1 | 0.50 g 100 ml | ACN |

| | Standards (ERG-006) | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 0.65 | 119.1 | 328.4 | 0.276 |
| 2,4-DNDPA | 50.0 | 3.304 | 1019.8 | 16 | 0.002 |
| 2,2' DNDPA | 50.0 | 4.943 | 1734.6 | 21955 | 0.000 |
| 2,4' DNDPA | 50.0 | 7.018 | 1103.9 | 0 | 0.000 |
| 4NDPA | 50.0 | 8.439 | 1782.5 | 66.8 | 0.004 |
| 2NDPA | 50.0 | 9.513 | 3182.1 | 143.1 | 0.004 |
| DPA | 200.0 | 10.956 | 6219.8 | 790.9 | 0.051 |
| N-NitrosoDPA | 75.0 | 11.669 | 1532.4 | 0 | 0.000 |

| | | |
|---|---|---|
| | | 0.336 |
| Avg. % Stabilizer for Lot | | **0.336** |

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | |
|---|---|
| **Analyst** TAKISHA DICKERSON | Avg. Tot. Stabilizers **0.34** % |
| Analyst Signature | Stable YES / Unstable |
| Lab. Supervisor Signature | Comments **CATEGORY: A** |
| | Actions to be Taken |

Form #159

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND82H070168** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 1 FEB 2011** |

| Other Information | Sample Data | | Solvent |
|---|---|---|---|
| M6 Propellant | #1 | 0.5000 g 100 ml | ACN |

| Standards (ERG-006) | | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 4.156 | 1116 | 2540.4 | 0.228 |
| 2,4-DNDPA | 50.0 | 9.388 | 1191.2 | 31231.4 | 2.622 |
| 2,2' DNDPA | 50.0 | 10.987 | 1694.7 | 51.5 | 0.000 |
| 2,4' DNDPA | 50.0 | 11.73 | 1272.3 | 143.2 | 0.011 |
| 4NDPA | 50.0 | 12.459 | 2443.3 | 0 | 0.000 |
| 2NDPA | 50.0 | 13.939 | 5852.1 | 838.5 | 0.014 |
| DPA | 200.0 | 15.022 | 1753.1 | 0 | 0.000 |
| N-NitrosoDPA | 75.0 | 18.932 | 2535.1 | 985.4 | 0.000 |

| | |
|---|---|
| | 2.875 |
| Avg. % Stabilizer for Lot | **2.875** |

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | |
|---|---|
| **Analyst** Mike Kile | Avg. Tot. Stabilizers **2.88** % |
| Analyst Signature | Stable YES / Unstable |
| Lab. Supervisor Signature | Comments **CATEGORY: A** |
| | Actions to be Taken |

Form #158

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND81E070022** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 23 AUG 2010** |

Other Information
M6 Propellant

| Sample Data | | | Solvent |
|---|---|---|---|
| #1 | 0.5000 g | 100 ml | ACN |

| Standards (ERG-006) | | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | | 0 | | |
| 2,4-DNDPA | 50.0 | 4.884 | 715.1 | 0 | 0.000 |
| 2,2' DNDPA | 50.0 | 9.663 | 794.8 | 17278.9 | 2.174 |
| 2,4' DNDPA | 50.0 | 11.213 | 1155.8 | 0 | 0.000 |
| 4NDPA | 50.0 | 11.899 | 750.7 | 0 | 0.000 |
| 2NDPA | 50.0 | 12.536 | 1565 | 0 | 0.000 |
| DPA | 200.0 | 13.934 | 4151.3 | 0 | 0.000 |
| N-NitrosoDPA | 75.0 | 14.875 | 1080.5 | 451.1 | 0.063 |

2.237

Avg. % Stabilizer for Lot **2.237**

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | |
|---|---|
| **Analyst** Kisha Dickerson | Avg. Tot. Stabilizers **2.24** % |
| Analyst Signature | Stable YES / Unstable |
| | Comments **CATEGORY: A** |
| Lab. Supervisor Signature | |
| | Actions to be Taken |

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND81D070019** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 29 MAY 2012** |

| Other Information | Sample Data | | Solvent |
|---|---|---|---|
| M6 Propellant | #1 | 0.50 g 100 ml | ACN |

| Standards (ERG-006) | | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 0.86 | 235.9 | 525.7 | 0.223 |
| 2,4-DNDPA | 50.0 | 3.398 | 913.2 | 0 | 0.000 |
| 2,2' DNDPA | 50.0 | 5.133 | 1007.2 | 37577 | 0.000 |
| 2,4' DNDPA | 50.0 | 7.409 | 1002.4 | 0 | 0.000 |
| 4NDPA | 50.0 | 8.917 | 1612.8 | 186.9 | 0.012 |
| 2NDPA | 50.0 | 10.112 | 2882.2 | 282.1 | 0.010 |
| DPA | 200.0 | 11.607 | 5642.3 | 917.9 | 0.065 |
| N-NitrosoDPA | 75.0 | 12.414 | 1351.4 | | 0.000 |
| | | | | | 0.309 |
| | | | Avg. % Stabilizer for Lot | | **0.309** |

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | |
|---|---|
| **Analyst** Takisha Dickerson | Avg. Tot. Stabilizers **0.31** % |
| Analyst Signature | Stable YES / Unstable |
| | Comments |
| Lab. Supervisor Signature | **CATEGORY: A** |
| | Actions to be Taken |

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND81D070020** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 10 Feb 2012** |

| Other Information | Sample Data | | | Solvent |
|---|---|---|---|---|
| M6 Propellant | #1 | 0.50 g | 100 ml | ACN |

| | Standards (ERG-006) | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 0.868 | 53.7 | 398.1 | 0.741 |
| 2,4-DNDPA | 50.0 | 3.292 | 916.2 | 0 | 0.000 |
| 2,2' DNDPA | 50.0 | 4.936 | 839.4 | 22071 | 0.000 |
| 2,4' DNDPA | 50.0 | 6.943 | 1003.3 | 0 | 0.000 |
| 4NDPA | 50.0 | 8.309 | 1616.5 | 50 | 0.003 |
| 2NDPA | 50.0 | 9.362 | 2912 | 113.3 | 0.004 |
| DPA | 200.0 | 10.749 | 5497.2 | 666 | 0.048 |
| N-NitrosoDPA | 75.0 | 11.362 | 1264.1 | 355.2 | 0.000 |

| | | |
|---|---|---|
| | | 0.797 |
| | Avg. % Stabilizer for Lot | **0.797** |

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | | |
|---|---|---|
| **Analyst** Mike Kile | Avg. Tot. Stabilizers | **0.80** % |
| Analyst Signature | Stable YES | Unstable |
| | Comments | |
| Lab. Supervisor Signature | **CATEGORY:** | **A** |
| | Actions to be Taken | |

CONTAINS HAZARDOUS MATERIALS

# STRAIGHT BILL OF LADING

# NOT NEGOTIABLE

RECEIVED, subject to the classification and tariffs in effect on the date of the issue of this Original Bill of Lading.
The property described below, in apparent good order, except as noted (contents and condition of contents of packages unknown) consigned, and destined as indicated below, which said carrier (the word carrier being understood throughout this contract meaning any person or corporation in possession of the property under the contract) agrees to curry to its usual place of delivery of said destination. It on its route, otherwise to deliver to another carrier on the route to said destination. It is mutually agreed, as to each of all or any of said property over all or any portion of said route to destination, and as to each party at any time interested in all or any of said property, that every service lobe performed hereunder shall be subject to all the terms and conditions of the Uniform Domestic Straight Bill of Lading Set forth (1) in Uniform Freight Classification in effect on the date hereof, if this is a rail or rail-water shipment, or (2) in the applicable motor carrier classification or tariff if this is a motor carrier shipment.
Shipper hereby certifies that he is familiar with all the terms and conditions of the said bill of lading, set forth in the classification or tariff which governs the transportation of this shipment, and the said terms and conditions are hereby agreed to by the shipper and accept for himself and his assigns.

Shipper: Explo Systems, Inc.
1600 Java Road
Minden, LA 71055

Shipper's No. 2836

Shipping Date [illegible]

At

Purchase Order No.

By [illegible] Freight Charges: Collect _____ Prepaid [illegible] Location No. [illegible]

(Mail or Street Address of Consignee — For purposes of notification only)

Consigned to [illegible] Fed Lic. [illegible] Exp. Date [illegible]

Destination [illegible] State State Lic. Exp. Date

County [illegible] Customer No.

Route

Charge Account of [illegible] Customer P.O. No. Rel. No.

| SHIPPED No. of PKGS | SHIPPED No. of UNITS | PROPER SHIPPING NAME AND HAZARD CLASS | RETURNED No. of PKGS | RETURNED No. of UNITS | EMERGENCY RESPONSE PROCEDURE GUIDE NO. | EXEMPTION DOTE | HM | Placards Applied to Railcar or Motor Vehicle |
|---|---|---|---|---|---|---|---|---|
| [illegible] | [illegible] | UN0161, Powder, Smokeless, 1.3C, PG II | | | #112 | [illegible] | [illegible] | EXPLOSIVES 1.3 |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | Truck No. 14356 |
| | | | | | | | | Trailer No. [illegible] |
| | | | | | | | | Mileage |
| | | | | | | | | Total [illegible] Packages |
| | | | | | | | | Gross Weight # 40,000 |
| | | | | | | | | Net Explosive Weight |
| | | 7083941/7083942 | | | | | | 36,960 |

~~UC14R~~ 17AT2C

This is to certify that the above-named materials are properly classified, described, packaged, marked, and labeled and are in proper condition for transportation, according to the applicable regulations of the Department of Transportation.

Signature [illegible] Invoice No. _____

FOR CHEMICAL EMERGENCY, SPILL, LEAK, FIRE, EXPOSURE OR ACCIDENT CALL CHEMTREC — DAY OR NIGHT
IN THE USA CALL 800-424-9300 IN CANADA (ERP #2 0040) 800-561-3636 ELSEWHERE CALL (703) 527-3887

Permanent Address of Shipper:
**Explo Systems, Inc.**
1600 Java Road
Minden, Louisiana 71055
(318) 382-8700

Per _____

DOT Hazardous Material Handling Number _____
Local Federal Explosives License No. 5-LA-119-20-1A-00057
(Shipper)

I have been offered placards identifying the shipment as Specified in 49CFR Subpart F of Part 172. I have received the above goods in apparent good order and condition.

Received By [illegible] Date 1-23-13
☐ CONSIGNEE ☐ CARRIER

By _____ Date _____
AUTHORIZED RECEIVER

CONTAINS HAZARDOUS MATERIALS

CONTAINS HAZARDOUS MATERIALS

Page 2

10/02/13 10:37 AM

019535

EXP_001169

AUSTIN POWDER PACKING LIST

SHIPMENT DATE 23 JAN 2013

B/L# 2836 TRL 41067

M-6

IND89D-071039 8 PTS
IND81L-070072 2 PTS
IND83F-070278 11 PTS
IND85F-070587 10 PTS
IND82H-070168 2 PTS
IND81D-070015 1 PT
IND83G-070281 1 PT
IND81G-070061 2 PTS
IND84L-070454 1 PT
IND83F-070274 1 PT
IND85B-070507 1 PT
IND81D-070020 3 PTS
IND84K-070452 1 PT

44 PTS WITH 6 FB @140 LBS PER DRUM

TOTAL 36,960 LBS

LIONEL KOONS

EXPLO SYSTEMS INC

27
2936

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND89D071039** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 21 SEP 2012** |

| Other Information | Sample Data | | Solvent |
|---|---|---|---|
| M6 Propellant | #1 | 0.50 g 100 ml | ACN |

| Standards (ERG-006) | | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 0.878 | 38 | 188.9 | 0.497 |
| 2,4-DNDPA | 50.0 | 3.469 | 956.6 | 0 | 0.000 |
| 2,2' DNDPA | 50.0 | 5.366 | 516.6 | 21344 | 0.000 |
| 2,4' DNDPA | 50.0 | 7.936 | 1019.9 | 0 | 0.000 |
| 4NDPA | 50.0 | 9.415 | 1618.4 | 80.3 | 0.005 |
| 2NDPA | 50.0 | 10.707 | 2844 | 100.2 | 0.004 |
| DPA | 200.0 | 12.006 | 5780.2 | 973.6 | 0.067 |
| N-NitrosoDPA | 75.0 | 13.019 | 1452.3 | 0 | 0.000 |

| | 0.573 |
|---|---|
| Avg. % Stabilizer for Lot | **0.573** |

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | |
|---|---|
| **Analyst** MIKE KILE | Avg. Tot. Stabilizers **0.57** % |
| Analyst Signature | Stable YES / Unstable |
| Lab. Supervisor Signature | Comments **CATEGORY: A** |
| | Actions to be Taken |

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND85F070587** | **D533 / M6 propellant** |
| Date of analysis: | **Date:25 AUG 2010** |

| Other Information | Sample Data | | Solvent |
|---|---|---|---|
| M6 Propellant | #1 | 0.5000 g 100 ml | ACN |

| | Standards (ERG-006) | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 2.177 | 146.5 | 1821.4 | 1.243 |
| 2,4-DNDPA | 50.0 | 5.001 | 961.7 | 0 | 0.000 |
| 2,2' DNDPA | 50.0 | 7.038 | 2567.5 | 14427.7 | 0.000 |
| 2,4' DNDPA | 50.0 | 9.931 | 938.5 | 0 | 0.000 |
| 4NDPA | 50.0 | 11.434 | 1325.8 | 0 | 0.000 |
| 2NDPA | 50.0 | 12.813 | 1809.7 | 0 | 0.000 |
| DPA | 200.0 | 14.19 | 4886.9 | 225 | 0.018 |
| N-NitrosoDPA | 75.0 | 15.18 | 1296.7 | 0 | 0.000 |

| | | |
|---|---|---|
| | | 1.262 |
| Avg. % Stabilizer for Lot | | **1.262** |

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | | | |
|---|---|---|---|
| **Analyst** | Kisha Dickerson | Avg. Tot. Stabilizers | **1.26** % |
| Analyst Signature | | Stable YES | Unstable |
| | | Comments | |
| Lab. Supervisor Signature | | **CATEGORY:** | **A** |
| | | Actions to be Taken | |

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND85B070507** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 16 JULY 2012** |

| Other Information | Sample Data | | Solvent |
|---|---|---|---|
| M6 Propellant | #1 | 0.50 g 100 ml | ACN |

| Standards (ERG-006) | | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 0.871 | 70.6 | 459.1 | 0.650 |
| 2,4-DNDPA | 50.0 | 3.368 | 934.1 | 0 | 0.000 |
| 2,2' DNDPA | 50.0 | 5.103 | 1888.6 | 22961 | 0.000 |
| 2,4' DNDPA | 50.0 | 7.516 | 1021.7 | 0 | 0.000 |
| 4NDPA | 50.0 | 8.938 | 1656.1 | 138.9 | 0.008 |
| 2NDPA | 50.0 | 10.131 | 2970.1 | 109.4 | 0.004 |
| DPA | 200.0 | 11.561 | 5887.3 | 342.8 | 0.023 |
| N-NitrosoDPA | 75.0 | 12.367 | 1376.5 | 0 | 0.000 |
| | | | | | 0.686 |
| | | Avg. % Stabilizer for Lot | | | **0.686** |

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | |
|---|---|
| **Analyst** Takisha Dickerson | Avg. Tot. Stabilizers **0.69** % |
| Analyst Signature Dickerson | Stable YES \| Unstable |
| Lab. Supervisor Signature | Comments **CATEGORY: A** |
| | Actions to be Taken |

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND84K070452** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 13 AUGUST 2012** |

| Other Information | Sample Data | | Solvent |
|---|---|---|---|
| M6 Propellant | #1 | 0.50 g 100 ml | ACN |

| Standards (ERG-006) | | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 0.874 | 41.1 | 237.6 | 0.578 |
| 2,4-DNDPA | 50.0 | 3.363 | 1017.6 | 0 | 0.000 |
| 2,2' DNDPA | 50.0 | 5.079 | 4556.2 | 22977 | 0.000 |
| 2,4' DNDPA | 50.0 | 7.471 | 1126.4 | 0 | 0.000 |
| 4NDPA | 50.0 | 8.907 | 1830.9 | 53.4 | 0.003 |
| 2NDPA | 50.0 | 10.084 | 3271.2 | 114.5 | 0.004 |
| DPA | 200.0 | 11.54 | 6554.9 | 610.4 | 0.037 |
| N-NitrosoDPA | 75.0 | 12.349 | 1509.1 | 0 | 0.000 |
| | | | | | 0.622 |
| | | | Avg. % Stabilizer for Lot | | **0.622** |

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | |
|---|---|
| **Analyst** Takisha Dickerson | Avg. Tot. Stabilizers **0.62** % |
| Analyst Signature Dickerson | Stable YES / Unstable |
| Lab. Supervisor Signature | Comments **CATEGORY: A** |
| | Actions to be Taken |

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND84L070454** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 4 MAY 2012** |

| Other Information | Sample Data | | Solvent |
|---|---|---|---|
| M6 Propellant | #1 | 0.50 g 100 ml | ACN |

| Standards (ERG-006) | | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 0.867 | 83.7 | 400.6 | 0.479 |
| 2,4-DNDPA | 50.0 | 3.338 | 1156.5 | 0 | 0.000 |
| 2,2' DNDPA | 50.0 | 5.017 | 5373.7 | 23342 | 0.000 |
| 2,4' DNDPA | 50.0 | 7.147 | 1263.8 | 0 | 0.000 |
| 4NDPA | 50.0 | 8.595 | 2061.4 | 48.3 | 0.002 |
| 2NDPA | 50.0 | 9.687 | 3694.9 | 94.1 | 0.003 |
| DPA | 200.0 | 11.119 | 7683.7 | 721.2 | 0.038 |
| N-NitrosoDPA | 75.0 | 11.99 | 2133.1 | | 0.000 |

0.521

| Avg. % Stabilizer for Lot | **0.521** |
|---|---|

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| **Analyst** Takisha Dickerson | Avg. Tot. Stabilizers **0.52** % | |
|---|---|---|
| Analyst Signature | Stable YES | Unstable |
| Lab. Supervisor Signature | Comments **CATEGORY: A** | |
| | Actions to be Taken | |

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND83G070281** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 4 April 2012** |

| Other Information | Sample Data | | Solvent |
|---|---|---|---|
| M6 Propellant | #1 | 0.50 g 100 ml | ACN |

| | Standards (ERG-006) | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 0.881 | 40.9 | 93.7 | 0.229 |
| 2,4-DNDPA | 50.0 | 3.279 | 928 | 0 | 0.000 |
| 2,2' DNDPA | 50.0 | 4.66 | 26957 | 26191 | 0.000 |
| 2,4' DNDPA | 50.0 | 6.571 | 992.8 | 0 | 0.000 |
| 4NDPA | 50.0 | 7.798 | 1662.7 | 158.3 | 0.010 |
| 2NDPA | 50.0 | 8.806 | 2938.9 | 98.9 | 0.003 |
| DPA | 200.0 | 10.221 | 5774.5 | 1004.4 | 0.070 |
| N-NitrosoDPA | 75.0 | 10.895 | 1475.9 | 0 | 0.000 |

| | | |
|---|---|---|
| | | 0.312 |
| | Avg. % Stabilizer for Lot | **0.312** |

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | | |
|---|---|---|
| **Analyst** Takisha Dickerson | Avg. Tot. Stabilizers | **0.31** % |
| Analyst Signature | Stable YES | Unstable |
| | Comments | |
| Lab. Supervisor Signature | **CATEGORY:** | **A** |
| | Actions to be Taken | |

Form #158

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND83F070274** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 27 JULY 2011** |

| Other Information | Sample Data | | Solvent |
|---|---|---|---|
| M6 Propellant | #1 | 0.50 g 100 ml | ACN |

| Standards (ERG-006) | | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 0.694 | 112.8 | 622.1 | 0.552 |
| 2,4-DNDPA | 50.0 | 3.477 | 942.8 | 0 | 0.000 |
| 2,2' DNDPA | 50.0 | 5.339 | 77.4 | 22209 | 0.000 |
| 2,4' DNDPA | 50.0 | 7.842 | 1020.3 | 0 | 0.000 |
| 4NDPA | 50.0 | 9.392 | 1634.2 | 48.5 | 0.003 |
| 2NDPA | 50.0 | 10.693 | 2956.2 | 98.3 | 0.003 |
| DPA | 200.0 | 12.201 | 5630.5 | 451.4 | 0.032 |
| N-NitrosoDPA | 75.0 | 13.103 | 1385.2 | 0 | 0.000 |

| | | |
|---|---|---|
| | | 0.590 |
| | Avg. % Stabilizer for Lot | **0.590** |

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | |
|---|---|
| **Analyst** Takisha Dickerson | Avg. Tot. Stabilizers **0.59** % |
| Analyst Signature | Stable YES / Unstable |
| Lab. Supervisor Signature | Comments **CATEGORY: A** |
| | Actions to be Taken |

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND83F070278** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 11 JULY 2012** |

Other Information
M6 Propellant

| Sample Data | | | Solvent |
|---|---|---|---|
| #1 | 0.50 g | 100 ml | ACN |

| Standards (ERG-006) | | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 0.803 | 32.3 | 256.2 | 0.793 |
| 2,4-DNDPA | 50.0 | 3.397 | 945.1 | 0 | 0.000 |
| 2,2' DNDPA | 50.0 | 5.155 | 1995.1 | 21574 | 0.000 |
| 2,4' DNDPA | 50.0 | 7.525 | 949.2 | 0 | 0.000 |
| 4NDPA | 50.0 | 9.04 | 1580.4 | 89.7 | 0.006 |
| 2NDPA | 50.0 | 10.278 | 2854 | 35.4 | 0.001 |
| DPA | 200.0 | 11.761 | 5473.7 | 589.5 | 0.043 |
| N-NitrosoDPA | 75.0 | 12.606 | 1672.4 | 0 | 0.000 |
| | | | | | 0.843 |
| | | Avg. % Stabilizer for Lot | | | **0.843** |

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | |
|---|---|
| **Analyst** Takisha Dickerson | Avg. Tot. Stabilizers **0.84** % |
| Analyst Signature | Stable YES / Unstable |
| Lab. Supervisor Signature | Comments **CATEGORY: A** |
| | Actions to be Taken |

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND82H070168** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 1 FEB 2011** |

| Other Information | Sample Data | | Solvent |
|---|---|---|---|
| M6 Propellant | #1 | 0.5000 g 100 ml | ACN |

| Standards (ERG-006) | | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 4.156 | 1116 | 2540.4 | 0.228 |
| 2,4-DNDPA | 50.0 | 9.388 | 1191.2 | 31231.4 | 2.622 |
| 2,2' DNDPA | 50.0 | 10.987 | 1694.7 | 51.5 | 0.000 |
| 2,4' DNDPA | 50.0 | 11.73 | 1272.3 | 143.2 | 0.011 |
| 4NDPA | 50.0 | 12.459 | 2443.3 | 0 | 0.000 |
| 2NDPA | 50.0 | 13.939 | 5852.1 | 838.5 | 0.014 |
| DPA | 200.0 | 15.022 | 1753.1 | 0 | 0.000 |
| N-NitrosoDPA | 75.0 | 18.932 | 2535.1 | 985.4 | 0.000 |

| | |
|---|---|
| | 2.875 |
| Avg. % Stabilizer for Lot | **2.875** |

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | |
|---|---|
| **Analyst** Mike Kile | Avg. Tot. Stabilizers **2.88** % |
| Analyst Signature | Stable YES / Unstable |
| Lab. Supervisor Signature | Comments **CATEGORY: A** |
| | Actions to be Taken |

Form #158

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND81L070072** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 29 MAY 2012** |

| Other Information | Sample Data | | | Solvent |
|---|---|---|---|---|
| M6 Propellant | #1 | 0.50 g | 100 ml | ACN |

| | Standards (ERG-006) | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 0.86 | 235.9 | 624.2 | 0.265 |
| 2,4-DNDPA | 50.0 | 3.398 | 913.2 | 0 | 0.000 |
| 2,2' DNDPA | 50.0 | 5.133 | 1007.2 | 37338 | 0.000 |
| 2,4' DNDPA | 50.0 | 7.409 | 1002.4 | 0 | 0.000 |
| 4NDPA | 50.0 | 8.917 | 1612.8 | 156.8 | 0.010 |
| 2NDPA | 50.0 | 10.112 | 2882.2 | 297.6 | 0.010 |
| DPA | 200.0 | 11.607 | 5642.3 | 1100.9 | 0.078 |
| N-NitrosoDPA | 75.0 | 12.414 | 1351.4 | | 0.000 |

| | |
|---|---|
| | 0.363 |
| Avg. % Stabilizer for Lot | **0.363** |

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | | |
|---|---|---|
| **Analyst** Takisha Dickerson | Avg. Tot. Stabilizers | **0.36** % |
| Analyst Signature | Stable YES | Unstable |
| | Comments | |
| Lab. Supervisor Signature | **CATEGORY:** | **A** |
| | Actions to be Taken | |

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND81G070061** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 12 JULY 2011** |

| Other Information | Sample Data | | Solvent |
|---|---|---|---|
| M6 Propellant | #1 | 0.50 g 100 ml | ACN |

| Standards (ERG-006) | | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 0.71 | 111 | 358.1 | 0.323 |
| 2,4-DNDPA | 50.0 | 3.475 | 1001 | 79.1 | 0.008 |
| 2,2' DNDPA | 50.0 | 5.325 | 95 | 18335 | 0.000 |
| 2,4' DNDPA | 50.0 | 7.791 | 1061.3 | 83.2 | 0.008 |
| 4NDPA | 50.0 | 9.345 | 1700.8 | 167.7 | 0.010 |
| 2NDPA | 50.0 | 10.629 | 3041.2 | 330.5 | 0.011 |
| DPA | 200.0 | 12.152 | 5943.4 | 913.3 | 0.061 |
| N-NitrosoDPA | 75.0 | 13.034 | 1443.1 | 111.8 | 0.000 |

| | |
|---|---|
| | 0.421 |
| Avg. % Stabilizer for Lot | **0.421** |

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | |
|---|---|
| **Analyst** Mike Kile | Avg. Tot. Stabilizers **0.42** % |
| Analyst Signature | Stable YES / Unstable |
| Lab. Supervisor Signature | Comments **CATEGORY: A** |
| | Actions to be Taken |

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND81D070015** | **D533 / M6 propellant** |
| Date of analysis: | **Date:20 OCT 2010** |

| Other Information | Sample Data | | Solvent |
|---|---|---|---|
| M6 Propellant | #1 | 0.5000 g 100 ml | ACN |

| | Standards (ERG-006) | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 5.024 | 281.6 | 2363.4 | 0.839 |
| 2,4-DNDPA | 50.0 | 10.59 | 329 | 0 | 0.000 |
| 2,2' DNDPA | 50.0 | 12.176 | 376.1 | 0 | 0.000 |
| 2,4' DNDPA | 50.0 | 12.67 | 275.3 | 35.7 | 0.013 |
| 4NDPA | 50.0 | 13.632 | 664.1 | 0 | 0.000 |
| 2NDPA | 50.0 | 14.943 | 1788.8 | 34.8 | 0.002 |
| DPA | 200.0 | 16.114 | 286 | 0 | 0.000 |
| N-NitrosoDPA | 75.0 | 19.917 | 329.9 | 158.8 | 0.000 |

| | | |
|---|---|---|
| | | 0.854 |
| Avg. % Stabilizer for Lot | | **0.854** |

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | | |
|---|---|---|
| **Analyst** Kisha Dickerson | Avg. Tot. Stabilizers | **0.85** % |
| Analyst Signature | Stable YES | Unstable |
| | Comments | |
| Lab. Supervisor Signature | **CATEGORY:** | **A** |
| | Actions to be Taken | |

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND81D070020** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 10 Feb 2012** |

| Other Information | Sample Data | | | Solvent |
|---|---|---|---|---|
| M6 Propellant | #1 | 0.50 g | 100 ml | ACN |

| | Standards (ERG-006) | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 0.868 | 53.7 | 398.1 | 0.741 |
| 2,4-DNDPA | 50.0 | 3.292 | 916.2 | 0 | 0.000 |
| 2,2' DNDPA | 50.0 | 4.936 | 839.4 | 22071 | 0.000 |
| 2,4' DNDPA | 50.0 | 6.943 | 1003.3 | 0 | 0.000 |
| 4NDPA | 50.0 | 8.309 | 1616.5 | 50 | 0.003 |
| 2NDPA | 50.0 | 9.362 | 2912 | 113.3 | 0.004 |
| DPA | 200.0 | 10.749 | 5497.2 | 666 | 0.048 |
| N-NitrosoDPA | 75.0 | 11.362 | 1264.1 | 355.2 | 0.000 |

| | | |
|---|---|---|
| | | 0.797 |
| Avg. % Stabilizer for Lot | | **0.797** |

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | | |
|---|---|---|
| **Analyst** Mike Kile | Avg. Tot. Stabilizers | **0.80** % |
| Analyst Signature | Stable YES | Unstable |
| | Comments | |
| Lab. Supervisor Signature | **CATEGORY:** | **A** |
| | Actions to be Taken | |

CONTAINS HAZARDOUS MATERIALS

# STRAIGHT BILL OF LADING

## NOT NEGOTIABLE

RECEIVED, subject to the classification and tariffs in effect on the date of the issue of this Original Bill of Lading.
The property described below, in apparent good order, except as noted (contents and condition of contents of packages unknown) consigned, and destined as indicated below, which said carrier (the word carrier being understood throughout this contract meaning any person or corporation in possession of the property under the contract) agrees to carry to its usual place of delivery of said destination. If on its route, otherwise to deliver to another carrier on the route to said destination. It is mutually agreed, as to each of all or any of said property over all or any portion of said route to destination, and as to each party at any time interested in all or any of said property, that every service lobe performed hereunder shall be subject to all the terms and conditions of the Uniform Domestic Straight Bill of Lading Set forth (1) in Uniform Freight Classification in effect on the date hereof, if this is a rail or rail-water shipment, or (2) in the applicable motor carrier classification or tariff if this is a motor carrier shipment.
Shipper hereby certifies that he is familiar with all the terms and conditions of the said bill of lading, set forth in the classification or tariff which governs the transportation of this shipment, and the said terms and conditions are hereby agreed to by the shipper and accept for himself and his assigns.

Shipper: Explo Systems, Inc.
1600 Java Road
Minden, LA 71055

Shipper's No. 2837

Shipping Date 1/24/13

At

Purchase Order No.

By APL

Freight Charges: Collect _____ Prepaid XXX

Location No. 2363/2328

(Mail or Street Address of Consignee — For purposes of notification only)

Consigned to [illegible]

Fed Lic. 5-AL-103-20-5E-00133

Exp. Date 5/1/15

Destination [illegible] State

State Lic.

Exp. Date

County [illegible]

Customer No.

Route

Charge Account of [illegible]

Customer P.O. No.

Rel. No.

| SHIPPED No. of PKGS | SHIPPED No. of UNITS | PROPER SHIPPING NAME AND HAZARD CLASS | RETURNED No. of PKGS | RETURNED No. of UNITS | EMERGENCY RESPONSE PROCEDURE GUIDE NO. | EXEMPTION ~~DOT-E~~ | H M | Placards Applied to Railcar or Motor Vehicle |
|---|---|---|---|---|---|---|---|---|
| 256/16 | 43 | UN0161, Powder, Smokeless, 1.3C, PG II | | | #112 | [illegible] | | EXPLOSIVES 1.3 |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | Truck No. 14312 |
| | | | | | | | | Trailer No. 41021 |
| | | | | | | | | Mileage |
| | | | | | | | | Total 256 16 FD [illegible] Packages |
| | | | | | | | | Gross |
| | | | | | | | | Weight # 39,000 |
| | | Seal # | | | | | | Net Explosive Weight |
| | | 7083943/7083944 | | | | | | 36,120 |

17AT26

This is to certify that the above-named materials are properly classified, described, packaged, marked, and labeled and are in proper condition for transportation, according to the applicable regulations of the Department of Transportation.

Signature [signature]

Invoice No. _____

FOR CHEMICAL EMERGENCY, SPILL, LEAK, FIRE, EXPOSURE OR ACCIDENT CALL CHEMTREC — DAY OR NIGHT
IN THE USA CALL 800-424-9300 IN CANADA (ERP #2-0040) 800-561-3636 ELSEWHERE CALL (703) 527-3887 [illegible]

Permanent Address of Shipper:
**Explo Systems, Inc.**
1600 Java Road
Minden, Louisiana 71055
(318) 382-8700

Per _____

DOT Hazardous Material Handling Number _____
Local Federal Explosives License No. 5-LA-119-20-1A-00057
(Shipper)

I have been offered placards identifying the shipment as Specified in 49CFR Subpart F of Part 172. I have received the above goods in apparent good order and condition.

Received By [signature] Date 1-24-13
☐ CONSIGNEE ☐ CARRIER

By _____ Date _____
AUTHORIZED RECEIVER

CONTAINS HAZARDOUS MATERIALS

CONTAINS HAZARDOUS MATERIALS

10/02/13 10:38 AM Page 1

019550

EXP_001184

AUSTIN POWDER PACKING LIST

SHIPMENT DATE 24 JAN 2013

B/L# 2837 TRL 41021

M-6

IND81D-070019 7 PTS
IND84G-070326 7 PTS
IND85B-070507 1 PT
IND84L-070454 1 PT
IND81F-070024 3 PTS
IND83F-070271 1 PT
IND81D-070020 2 PTS
IND84K-070452 1 PT
IND82K-070175 10 PTS
IND82D-070110 1 PT
IND83F-070276 2 PTS
IND82H-070168 2 PTS
IND83F-070076 1 PT
IND86E-070616 1 PT
IND83G-070281 2 PTS
IND83M-070322 1 PT

43 PTS WITH 6 FB @140 LBS PER DRUM

TOTAL 36,120 LBS

LIONEL KOONS

EXPLO SYSTEMS INC

2837
28

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND86E070616** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 19 NOV 2010** |

| Other Information | Sample Data | | Solvent |
|---|---|---|---|
| M6 Propellant | #1 | 0.5000 g 100 ml | ACN |

| Standards (ERG-006) | | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 2.068 | 135.8 | 654.4 | 0.482 |
| 2,4-DNDPA | 50.0 | 5.182 | 717.3 | 0 | 0.000 |
| 2,2' DNDPA | 50.0 | 7.635 | 736.3 | 13022.2 | 0.000 |
| 2,4' DNDPA | 50.0 | 11.713 | 779 | 0 | 0.000 |
| 4NDPA | 50.0 | 13.454 | 462.4 | 0 | 0.000 |
| 2NDPA | 50.0 | 15.161 | 1164.1 | 0 | 0.000 |
| DPA | 200.0 | 16.583 | 4078.5 | 221.2 | 0.022 |
| N-NitrosoDPA | 75.0 | 18.033 | 1011.7 | 0 | 0.000 |

0.504

| Avg. % Stabilizer for Lot | **0.504** |
|---|---|

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | |
|---|---|
| **Analyst** Kisha Dickerson | Avg. Tot. Stabilizers **0.50** % |
| Analyst Signature | Stable YES / Unstable |
| | Comments **CATEGORY: A** |
| Lab. Supervisor Signature | |
| | Actions to be Taken |

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND84L070454** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 4 MAY 2012** |

| Other Information | Sample Data | | Solvent |
|---|---|---|---|
| M6 Propellant | #1 | 0.50 g 100 ml | ACN |

| Standards (ERG-006) | | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 0.867 | 83.7 | 400.6 | 0.479 |
| 2,4-DNDPA | 50.0 | 3.338 | 1156.5 | 0 | 0.000 |
| 2,2' DNDPA | 50.0 | 5.017 | 5373.7 | 23342 | 0.000 |
| 2,4' DNDPA | 50.0 | 7.147 | 1263.8 | 0 | 0.000 |
| 4NDPA | 50.0 | 8.595 | 2061.4 | 48.3 | 0.002 |
| 2NDPA | 50.0 | 9.687 | 3694.9 | 94.1 | 0.003 |
| DPA | 200.0 | 11.119 | 7683.7 | 721.2 | 0.038 |
| N-NitrosoDPA | 75.0 | 11.99 | 2133.1 | | 0.000 |

0.521

| Avg. % Stabilizer for Lot | **0.521** |
|---|---|

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| **Analyst** Takisha Dickerson | Avg. Tot. Stabilizers **0.52** % |
|---|---|
| Analyst Signature | Stable YES / Unstable |
| Lab. Supervisor Signature | Comments<br>**CATEGORY: A** |
| | Actions to be Taken |

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND84G070326** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 3 MAY 2012** |

| Other Information | Sample Data | | Solvent |
|---|---|---|---|
| M6 Propellant | #1 | 0.50 g 100 ml | ACN |

| Standards (ERG-006) | | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 0.867 | 104.4 | 324.4 | 0.311 |
| 2,4-DNDPA | 50.0 | 3.335 | 1105.6 | 0 | 0.000 |
| 2,2' DNDPA | 50.0 | 5.007 | 4986.7 | 23068 | 0.000 |
| 2,4' DNDPA | 50.0 | 7.137 | 1206.9 | 0 | 0.000 |
| 4NDPA | 50.0 | 8.593 | 1969.2 | 87.1 | 0.004 |
| 2NDPA | 50.0 | 9.688 | 3527.8 | 151.4 | 0.004 |
| DPA | 200.0 | 11.153 | 7041.6 | 785.8 | 0.045 |
| N-NitrosoDPA | 75.0 | 11.897 | 1704.5 | | 0.000 |

| | | |
|---|---|---|
| | | 0.364 |
| Avg. % Stabilizer for Lot | | **0.364** |

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | | |
|---|---|---|
| **Analyst** Takisha Dickerson | Avg. Tot. Stabilizers | **0.36** % |
| Analyst Signature | Stable YES | Unstable |
| | Comments | |
| Lab. Supervisor Signature | **CATEGORY:** | **A** |
| | Actions to be Taken | |

Form #158

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND83M070322** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 12 APR 2012** |

| Other Information | Sample Data | | | Solvent |
|---|---|---|---|---|
| M6 Propellant | #1 | 0.50 g | 100 ml | ACN |

| Standards (ERG-006) | | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 0.882 | 28.4 | 566.5 | 1.995 |
| 2,4-DNDPA | 50.0 | 3.244 | 978.3 | 0 | 0.000 |
| 2,2' DNDPA | 50.0 | 4.803 | 3426.7 | 22442 | 0.000 |
| 2,4' DNDPA | 50.0 | 6.74 | 1061.1 | 499.4 | 0.047 |
| 4NDPA | 50.0 | 8.012 | 1726.9 | 66.2 | 0.004 |
| 2NDPA | 50.0 | 9.091 | 3662.4 | 113.4 | 0.003 |
| DPA | 200.0 | 10.394 | 6185.4 | 978.3 | 0.063 |
| N-NitrosoDPA | 75.0 | 10.968 | 1530.7 | 0 | 0.000 |
| | | | | | 2.112 |
| | | Avg. % Stabilizer for Lot | | | **2.112** |

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | |
|---|---|
| **Analyst** Kisha Dickerson | Avg. Tot. Stabilizers **2.11** % |
| Analyst Signature | Stable YES / Unstable |
| Lab. Supervisor Signature | Comments **CATEGORY: A** |
| | Actions to be Taken |

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND83G070281** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 4 April 2012** |

| Other Information | Sample Data | | Solvent |
|---|---|---|---|
| M6 Propellant | #1 | 0.50 g 100 ml | ACN |

| | Standards (ERG-006) | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 0.881 | 40.9 | 93.7 | 0.229 |
| 2,4-DNDPA | 50.0 | 3.279 | 928 | 0 | 0.000 |
| 2,2' DNDPA | 50.0 | 4.66 | 26957 | 26191 | 0.000 |
| 2,4' DNDPA | 50.0 | 6.571 | 992.8 | 0 | 0.000 |
| 4NDPA | 50.0 | 7.798 | 1662.7 | 158.3 | 0.010 |
| 2NDPA | 50.0 | 8.806 | 2938.9 | 98.9 | 0.003 |
| DPA | 200.0 | 10.221 | 5774.5 | 1004.4 | 0.070 |
| N-NitrosoDPA | 75.0 | 10.895 | 1475.9 | 0 | 0.000 |

| | | |
|---|---|---|
| | | 0.312 |
| | Avg. % Stabilizer for Lot | **0.312** |

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | | |
|---|---|---|
| **Analyst** Takisha Dickerson | Avg. Tot. Stabilizers | **0.31** % |
| Analyst Signature | Stable YES | Unstable |
| | Comments | |
| Lab. Supervisor Signature | **CATEGORY:** | **A** |
| | Actions to be Taken | |

Form #158

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND83F070276** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 4 Sep 2012** |

| Other Information | Sample Data | | Solvent |
|---|---|---|---|
| M6 Propellant | #1 | 0.50 g | 100 ml ACN |

| Standards (ERG-006) | | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 0.889 | 48.8 | 578.6 | 1.186 |
| 2,4-DNDPA | 50.0 | 3.418 | 914.3 | 0 | 0.000 |
| 2,2' DNDPA | 50.0 | 5.22 | 777.3 | 23990 | 0.000 |
| 2,4' DNDPA | 50.0 | 7.622 | 980.5 | 0 | 0.000 |
| 4NDPA | 50.0 | 9.134 | 1586.8 | 40.6 | 0.003 |
| 2NDPA | 50.0 | 10.417 | 2826.3 | 88.7 | 0.003 |
| DPA | 200.0 | 11.797 | 5671.5 | 812.6 | 0.057 |
| N-NitrosoDPA | 75.0 | 12.757 | 1337.5 | 0 | 0.000 |

| | 1.249 |
|---|---|
| Avg. % Stabilizer for Lot | **1.249** |

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | |
|---|---|
| **Analyst** Mike Kile | Avg. Tot. Stabilizers **1.25** % |
| Analyst Signature | Stable YES / Unstable |
| | Comments |
| Lab. Supervisor Signature | **CATEGORY: A** |
| | Actions to be Taken |

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND83D070271** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 4 April 2012** |

| Other Information | Sample Data | | Solvent |
|---|---|---|---|
| M6 Propellant | #1 | 0.50 g 100 ml | ACN |

| Standards (ERG-006) | | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 0.881 | 40.9 | 112.2 | 0.274 |
| 2,4-DNDPA | 50.0 | 3.279 | 928 | 0 | 0.000 |
| 2,2' DNDPA | 50.0 | 4.66 | 26957 | 18193 | 0.000 |
| 2,4' DNDPA | 50.0 | 6.571 | 992.8 | 34.8 | 0.004 |
| 4NDPA | 50.0 | 7.798 | 1662.7 | 61.8 | 0.004 |
| 2NDPA | 50.0 | 8.806 | 2938.9 | 88.1 | 0.003 |
| DPA | 200.0 | 10.221 | 5774.5 | 696.6 | 0.048 |
| N-NitrosoDPA | 75.0 | 10.895 | 1475.9 | 0 | 0.000 |

| | | |
|---|---|---|
| | | 0.333 |
| Avg. % Stabilizer for Lot | | **0.333** |

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | | |
|---|---|---|
| **Analyst** Takisha Dickerson | Avg. Tot. Stabilizers | **0.33** % |
| Analyst Signature | Stable YES | Unstable |
| | Comments | |
| Lab. Supervisor Signature | **CATEGORY:** | **A** |
| | Actions to be Taken | |

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND82H070168** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 1 FEB 2011** |

| Other Information | Sample Data | | Solvent |
|---|---|---|---|
| M6 Propellant | #1 | 0.5000 g 100 ml | ACN |

| Standards (ERG-006) | | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 4.156 | 1116 | 2540.4 | 0.228 |
| 2,4-DNDPA | 50.0 | 9.388 | 1191.2 | 31231.4 | 2.622 |
| 2,2' DNDPA | 50.0 | 10.987 | 1694.7 | 51.5 | 0.000 |
| 2,4' DNDPA | 50.0 | 11.73 | 1272.3 | 143.2 | 0.011 |
| 4NDPA | 50.0 | 12.459 | 2443.3 | 0 | 0.000 |
| 2NDPA | 50.0 | 13.939 | 5852.1 | 838.5 | 0.014 |
| DPA | 200.0 | 15.022 | 1753.1 | 0 | 0.000 |
| N-NitrosoDPA | 75.0 | 18.932 | 2535.1 | 985.4 | 0.000 |

| | |
|---|---|
| | 2.875 |
| Avg. % Stabilizer for Lot | **2.875** |

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | | |
|---|---|---|
| **Analyst** Mike Kile | Avg. Tot. Stabilizers | **2.88** % |
| Analyst Signature | Stable YES | Unstable |
| | Comments | |
| Lab. Supervisor Signature | **CATEGORY:** | **A** |
| | Actions to be Taken | |

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND82K070175** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 6 AUG 2010** |

| Other Information | Sample Data | | Solvent |
|---|---|---|---|
| M6 Propellant | #1 | 0.5000 g 100 ml | ACN |

| | Standards (ERG-006) | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | | 1 | 0 | 0.000 |
| 2,4-DNDPA | 50.0 | 4.91 | 382.3 | 5134.1 | 1.343 |
| 2,2' DNDPA | 50.0 | 9.825 | 437 | 0 | 0.000 |
| 2,4' DNDPA | 50.0 | 11.341 | 632.4 | 87.4 | 0.014 |
| 4NDPA | 50.0 | 11.95 | 441.7 | 0 | 0.000 |
| 2NDPA | 50.0 | 12.713 | 827.6 | 192.5 | 0.023 |
| DPA | 200.0 | 14.06 | 2176 | 90.1 | 0.017 |
| N-NitrosoDPA | 75.0 | 14.999 | 558.4 | 254.6 | 0.068 |

| | | |
|---|---|---|
| | | 1.465 |
| | Avg. % Stabilizer for Lot | **1.465** |

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | |
|---|---|
| **Analyst** Mike Kile | Avg. Tot. Stabilizers **1.46** % |
| Analyst Signature | Stable YES / Unstable |
| Lab. Supervisor Signature | Comments **CATEGORY: A** |
| | Actions to be Taken |

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND82D070110** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 27 JULY 2011** |

| Other Information | Sample Data | | Solvent |
|---|---|---|---|
| M6 Propellant | #1 | 0.50 g 100 ml | ACN |

| Standards (ERG-006) | | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 0.694 | 112.8 | 437.7 | 0.388 |
| 2,4-DNDPA | 50.0 | 3.477 | 942.8 | 0 | 0.000 |
| 2,2' DNDPA | 50.0 | 5.339 | 77.4 | 22925 | 0.000 |
| 2,4' DNDPA | 50.0 | 7.842 | 1020.3 | 0 | 0.000 |
| 4NDPA | 50.0 | 9.392 | 1634.2 | 119.1 | 0.007 |
| 2NDPA | 50.0 | 10.693 | 2956.2 | 134.9 | 0.005 |
| DPA | 200.0 | 12.201 | 5630.5 | 218.4 | 0.016 |
| N-NitrosoDPA | 75.0 | 13.103 | 1385.2 | 0 | 0.000 |
| | | | | | 0.415 |
| | | | Avg. % Stabilizer for Lot | | **0.415** |

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | |
|---|---|
| **Analyst** Mike Kile | Avg. Tot. Stabilizers **0.42** % |
| Analyst Signature | Stable YES / Unstable |
| | Comments |
| Lab. Supervisor Signature | **CATEGORY: A** |
| | Actions to be Taken |

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND81D070020** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 10 Feb 2012** |

| Other Information | Sample Data | | | Solvent |
|---|---|---|---|---|
| M6 Propellant | #1 | 0.50 g | 100 ml | ACN |

| | Standards (ERG-006) | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 0.868 | 53.7 | 398.1 | 0.741 |
| 2,4-DNDPA | 50.0 | 3.292 | 916.2 | 0 | 0.000 |
| 2,2' DNDPA | 50.0 | 4.936 | 839.4 | 22071 | 0.000 |
| 2,4' DNDPA | 50.0 | 6.943 | 1003.3 | 0 | 0.000 |
| 4NDPA | 50.0 | 8.309 | 1616.5 | 50 | 0.003 |
| 2NDPA | 50.0 | 9.362 | 2912 | 113.3 | 0.004 |
| DPA | 200.0 | 10.749 | 5497.2 | 666 | 0.048 |
| N-NitrosoDPA | 75.0 | 11.362 | 1264.1 | 355.2 | 0.000 |

| | | |
|---|---|---|
| | | 0.797 |
| Avg. % Stabilizer for Lot | | **0.797** |

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | | | |
|---|---|---|---|
| **Analyst** | Mike Kile | Avg. Tot. Stabilizers | **0.80** % |
| Analyst Signature | | Stable YES | Unstable |
| Lab. Supervisor Signature | | Comments **CATEGORY:** | **A** |
| | | Actions to be Taken | |

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND81F070024** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 9 DEC 2011** |

| Other Information | Sample Data | | | Solvent |
|---|---|---|---|---|
| M6 Propellant | #1 | 0.50 g | 100 ml | ACN |

| | Standards (ERG-006) | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 0.748 | 166.8 | 892.3 | 0.535 |
| 2,4-DNDPA | 50.0 | 3.333 | 991.5 | 0 | 0.000 |
| 2,2' DNDPA | 50.0 | 5.039 | 624.7 | 22530 | 0.000 |
| 2,4' DNDPA | 50.0 | 7.221 | 1076.5 | 0 | 0.000 |
| 4NDPA | 50.0 | 8.681 | 1747.7 | 46.9 | 0.003 |
| 2NDPA | 50.0 | 9.803 | 3112 | 109.9 | 0.004 |
| DPA | 200.0 | 11.276 | 5985.4 | 604.1 | 0.040 |
| N-NitrosoDPA | 75.0 | 12.035 | 1482.1 | 0 | 0.000 |

0.582

| Avg. % Stabilizer for Lot | **0.582** |
|---|---|

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| **Analyst** TAKISHA DICKERSON | Avg. Tot. Stabilizers **0.58** % |
|---|---|
| Analyst Signature | Stable YES / Unstable |
| Lab. Supervisor Signature | Comments **CATEGORY: A** |
| | Actions to be Taken |

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND81D070019** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 29 MAY 2012** |

| Other Information | Sample Data | | Solvent |
|---|---|---|---|
| M6 Propellant | #1 | 0.50 g 100 ml | ACN |

| Standards (ERG-006) | | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 0.86 | 235.9 | 525.7 | 0.223 |
| 2,4-DNDPA | 50.0 | 3.398 | 913.2 | 0 | 0.000 |
| 2,2' DNDPA | 50.0 | 5.133 | 1007.2 | 37577 | 0.000 |
| 2,4' DNDPA | 50.0 | 7.409 | 1002.4 | 0 | 0.000 |
| 4NDPA | 50.0 | 8.917 | 1612.8 | 186.9 | 0.012 |
| 2NDPA | 50.0 | 10.112 | 2882.2 | 282.1 | 0.010 |
| DPA | 200.0 | 11.607 | 5642.3 | 917.9 | 0.065 |
| N-NitrosoDPA | 75.0 | 12.414 | 1351.4 | | 0.000 |

| | |
|---|---|
| | 0.309 |
| Avg. % Stabilizer for Lot | **0.309** |

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | |
|---|---|
| **Analyst** Takisha Dickerson | Avg. Tot. Stabilizers **0.31** % |
| Analyst Signature | Stable YES / Unstable |
| Lab. Supervisor Signature | Comments **CATEGORY: A** |
| | Actions to be Taken |

CONTAINS HAZARDOUS MATERIALS

# STRAIGHT BILL OF LADING

## NOT NEGOTIABLE

RECEIVED, subject to the classification and tariffs in effect on the date of the issue of this Original Bill of Lading.
The property described below, in apparent good order, except as noted (contents and condition of contents of packages unknown), consigned, and destined as indicated below, which said carrier (the word carrier being understood throughout this contract meaning any person) or corporation in possession of the property under the contract) agrees to carry to its usual place of delivery of said destination, if on its route, otherwise to deliver to another carrier on the route to said destination. It is mutually agreed, as to each of all or any of said property over all or any portion of said route to destination, and as to each party at any time interested in all or any of said property, that every service to be performed hereunder shall be subject to all the terms and conditions of the Uniform Domestic Straight Bill of Lading set forth (1) in Uniform Freight Classification in effect on the date hereof, if this is a rail or rail-water shipment, or (2) in the applicable motor carrier classification or tariff if this is a motor carrier shipment.
Shipper hereby certifies that he is familiar with all the terms and conditions of the said bill of lading, set forth in the classification or tariff which governs the transportation of this shipment, and the said terms and conditions are hereby agreed to by the shipper and accepted for himself and his assigns.

Shipper: Explo Systems, Inc.
1600 Java Road
Minden, LA 71055

Shipper's No. 2839

Shipping Date 1/24/13

At

Purchase Order No.

By APC

Freight Charges: Collect ___ Prepaid YYY

Location No. 2326

(Mail or Street Address of Consignee — For purposes of notification only)

Consigned to [illegible]

Destination [illegible] State

County [illegible]

Route

Charge Account of [illegible]

Fed Lic. [illegible] Exp. Date 5/1/15

State Lic. Exp. Date

Customer No.

Customer P.O. No. Rel. No.

| SHIPPED No. of PKGS | SHIPPED No. of UNITS | PROPER SHIPPING NAME AND HAZARD CLASS | RETURNED No. of PKGS | RETURNED No. of UNITS | EMERGENCY RESPONSE PROCEDURE GUIDE NO. | EXEMPTION "DOT-E" | H M | Placards Applied to Railcar or Motor Vehicle |
|---|---|---|---|---|---|---|---|---|
| 2 sb/pg | 43 | UN0161, Powder, Smokeless, 1.3C, PG II | | | #112 | [illegible] | X | EXPLOSIVES 1.3 |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | Truck No. 11356 |
| | | | | | | | | Trailer No. 11067 |
| | | | | | | | | Mileage |
| | | INAT 26 | | | | | | Total 25,614 LB 2 MAGAZINES Packages |
| | | | | | | | | Gross |
| | | | | | | | | Weight # 33,000 |
| | | Seal # 708947/708948 | | | | | | Net Explosive Weight |
| | | | | | | | | 32,120 |

This is to certify that the above-named materials are properly classified, described, packaged, marked, and labeled and are in proper condition for transportation, according to the applicable regulations of the Department of Transportation.

Signature [signature]

Invoice No.

FOR CHEMICAL EMERGENCY SPILL, LEAK, FIRE, EXPOSURE OR ACCIDENT CALL CHEMTREC — DAY OR NIGHT
IN THE USA CALL 800-424-9300 IN CANADA (ERP #2-0040) 800-561-3636 ELSEWHERE CALL (703) 527-3887 CCN 244589

Permanent Address of Shipper:
**Explo Systems, Inc.**
1600 Java Road
Minden, Louisiana 71055
(318) 382-8700

Per ___

DOT Hazardous Material Handling Number ___
Local Federal Explosives License No. 5-LA-119-20-1A-00057
(Shipper)

I have been offered placards identifying the shipment as Specified in 49CFR Subpart F of Part 172. I have received the above goods in apparent good order and condition.

Received By [signature] Date 1-24-13
☐ CONSIGNEE ☐ CARRIER

By ___ Date ___
AUTHORIZED RECEIVER

CONTAINS HAZARDOUS MATERIALS

AUSTIN POWDER PACKING LIST

SHIPMENT DATE 24 JAN 2013

B/L# 2839 TRL 41067

M-6

IND82K-070175 5 PTS
IND83G-070281 8 PTS
IND86E-070616 4 PTS
IND81F-070024 5 PTS
IND83M-070322 6 PTS
IND83K-070319 1 PT
IND83F-070276 6 PTS
IND82D-070110 1 PT
IND82H-070168 3 PTS
IND84G-070326 3 PTS
IND83A-070227 1 PT

43 PTS WITH 6 FB @140 LBS PER DRUM

TOTAL 36,120 LBS

LIONEL KOONS

EXPLO SYSTEMS INC

2839

29

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND86E070616** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 19 NOV 2010** |

Other Information
M6 Propellant

| Sample Data | | Solvent |
|---|---|---|
| #1 | 0.5000 g | 100 ml ACN |

| Standards (ERG-006) | | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 2.068 | 135.8 | 654.4 | 0.482 |
| 2,4-DNDPA | 50.0 | 5.182 | 717.3 | 0 | 0.000 |
| 2,2' DNDPA | 50.0 | 7.635 | 736.3 | 13022.2 | 0.000 |
| 2,4' DNDPA | 50.0 | 11.713 | 779 | 0 | 0.000 |
| 4NDPA | 50.0 | 13.454 | 462.4 | 0 | 0.000 |
| 2NDPA | 50.0 | 15.161 | 1164.1 | 0 | 0.000 |
| DPA | 200.0 | 16.583 | 4078.5 | 221.2 | 0.022 |
| N-NitrosoDPA | 75.0 | 18.033 | 1011.7 | 0 | 0.000 |

0.504

Avg. % Stabilizer for Lot **0.504**

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | |
|---|---|
| **Analyst** Kisha Dickerson | Avg. Tot. Stabilizers **0.50** % |
| Analyst Signature | Stable YES / Unstable |
| Lab. Supervisor Signature | Comments **CATEGORY: A** |
| | Actions to be Taken |

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND84G070326** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 3 MAY 2012** |

| Other Information | Sample Data | | Solvent |
|---|---|---|---|
| M6 Propellant | #1 | 0.50 g 100 ml | ACN |

| Standards (ERG-006) | | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 0.867 | 104.4 | 324.4 | 0.311 |
| 2,4-DNDPA | 50.0 | 3.335 | 1105.6 | 0 | 0.000 |
| 2,2' DNDPA | 50.0 | 5.007 | 4986.7 | 23068 | 0.000 |
| 2,4' DNDPA | 50.0 | 7.137 | 1206.9 | 0 | 0.000 |
| 4NDPA | 50.0 | 8.593 | 1969.2 | 87.1 | 0.004 |
| 2NDPA | 50.0 | 9.688 | 3527.8 | 151.4 | 0.004 |
| DPA | 200.0 | 11.153 | 7041.6 | 785.8 | 0.045 |
| N-NitrosoDPA | 75.0 | 11.897 | 1704.5 | | 0.000 |

| | | |
|---|---|---|
| | | 0.364 |
| | Avg. % Stabilizer for Lot | **0.364** |

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | |
|---|---|
| **Analyst** Takisha Dickerson | Avg. Tot. Stabilizers **0.36** % |
| Analyst Signature | Stable YES / Unstable |
| Lab. Supervisor Signature | Comments **CATEGORY: A** |
| | Actions to be Taken |

Form #152

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND83A070227** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 1 FEB 2011** |

| Other Information | Sample Data | | Solvent |
|---|---|---|---|
| M6 Propellant | #1 | 0.5000 g 100 ml | ACN |

| Standards (ERG-006) | | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 4.156 | 1116 | 2436.1 | 0.218 |
| 2,4-DNDPA | 50.0 | 9.388 | 1191.2 | 22347.3 | 1.876 |
| 2,2' DNDPA | 50.0 | 10.987 | 1694.7 | 118.9 | 0.000 |
| 2,4' DNDPA | 50.0 | 11.73 | 1272.3 | 378.1 | 0.030 |
| 4NDPA | 50.0 | 12.459 | 2443.3 | 0 | 0.000 |
| 2NDPA | 50.0 | 13.939 | 5852.1 | 512.3 | 0.009 |
| DPA | 200.0 | 15.022 | 1753.1 | 0 | 0.000 |
| N-NitrosoDPA | 75.0 | 18.932 | 2535.1 | 321 | 0.000 |

| | | |
|---|---|---|
| | | 2.133 |
| Avg. % Stabilizer for Lot | | **2.133** |

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | |
|---|---|
| **Analyst** Mike Kile | Avg. Tot. Stabilizers **2.13** % |
| Analyst Signature | Stable YES / Unstable |
| | Comments **CATEGORY: A** |
| Lab. Supervisor Signature | |
| | Actions to be Taken |

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND83F070276** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 4 Sep 2012** |

| Other Information | Sample Data | | Solvent |
|---|---|---|---|
| M6 Propellant | #1 | 0.50 g 100 ml | ACN |

| Standards (ERG-006) | | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 0.889 | 48.8 | 578.6 | 1.186 |
| 2,4-DNDPA | 50.0 | 3.418 | 914.3 | 0 | 0.000 |
| 2,2' DNDPA | 50.0 | 5.22 | 777.3 | 23990 | 0.000 |
| 2,4' DNDPA | 50.0 | 7.622 | 980.5 | 0 | 0.000 |
| 4NDPA | 50.0 | 9.134 | 1586.8 | 40.6 | 0.003 |
| 2NDPA | 50.0 | 10.417 | 2826.3 | 88.7 | 0.003 |
| DPA | 200.0 | 11.797 | 5671.5 | 812.6 | 0.057 |
| N-NitrosoDPA | 75.0 | 12.757 | 1337.5 | 0 | 0.000 |
| | | | | | 1.249 |
| | | | Avg. % Stabilizer for Lot | | **1.249** |

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | |
|---|---|
| **Analyst** Mike Kile | Avg. Tot. Stabilizers **1.25** % |
| Analyst Signature | Stable YES / Unstable |
| | Comments **CATEGORY: A** |
| Lab. Supervisor Signature | |
| | Actions to be Taken |

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND83K070319** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 15 JUNE 2012** |

| Other Information | Sample Data | | Solvent |
|---|---|---|---|
| M6 Propellant | #1 | 0.50 g 100 ml | ACN |

| | Standards (ERG-006) | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 0.782 | 41.2 | 275.4 | 0.668 |
| 2,4-DNDPA | 50.0 | 3.401 | 926.1 | 0 | 0.000 |
| 2,2' DNDPA | 50.0 | 5.141 | 1554.2 | 22992 | 0.000 |
| 2,4' DNDPA | 50.0 | 7.435 | 1019.1 | 0 | 0.000 |
| 4NDPA | 50.0 | 8.937 | 1639.5 | 159.8 | 0.010 |
| 2NDPA | 50.0 | 10.056 | 2924.6 | 174.6 | 0.006 |
| DPA | 200.0 | 11.627 | 5690.8 | 138.2 | 0.010 |
| N-NitrosoDPA | 75.0 | 12.44 | 1376.8 | 0 | 0.000 |

| | |
|---|---|
| | 0.694 |
| Avg. % Stabilizer for Lot | **0.694** |

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | |
|---|---|
| **Analyst** Takisha Dickerson | Avg. Tot. Stabilizers **0.69** % |
| Analyst Signature | Stable YES / Unstable |
| | Comments **CATEGORY: A** |
| Lab. Supervisor Signature | |
| | Actions to be Taken |

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND83M070322** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 12 APR 2012** |

| Other Information | Sample Data | | | Solvent |
|---|---|---|---|---|
| M6 Propellant | #1 | 0.50 g | 100 ml | ACN |

| Standards (ERG-006) | | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 0.882 | 28.4 | 566.5 | 1.995 |
| 2,4-DNDPA | 50.0 | 3.244 | 978.3 | 0 | 0.000 |
| 2,2' DNDPA | 50.0 | 4.803 | 3426.7 | 22442 | 0.000 |
| 2,4' DNDPA | 50.0 | 6.74 | 1061.1 | 499.4 | 0.047 |
| 4NDPA | 50.0 | 8.012 | 1726.9 | 66.2 | 0.004 |
| 2NDPA | 50.0 | 9.091 | 3662.4 | 113.4 | 0.003 |
| DPA | 200.0 | 10.394 | 6185.4 | 978.3 | 0.063 |
| N-NitrosoDPA | 75.0 | 10.968 | 1530.7 | 0 | 0.000 |

| | | |
|---|---|---|
| | | 2.112 |
| Avg. % Stabilizer for Lot | | **2.112** |

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | | | |
|---|---|---|---|
| **Analyst** | Kisha Dickerson | Avg. Tot. Stabilizers | **2.11** % |
| Analyst Signature | | Stable YES | Unstable |
| Lab. Supervisor Signature | | Comments **CATEGORY:** | **A** |
| | | Actions to be Taken | |

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND83G070281** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 4 April 2012** |

| Other Information | Sample Data | | Solvent |
|---|---|---|---|
| M6 Propellant | #1 | 0.50 g 100 ml | ACN |

| Standards (ERG-006) | | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 0.881 | 40.9 | 93.7 | 0.229 |
| 2,4-DNDPA | 50.0 | 3.279 | 928 | 0 | 0.000 |
| 2,2' DNDPA | 50.0 | 4.66 | 26957 | 26191 | 0.000 |
| 2,4' DNDPA | 50.0 | 6.571 | 992.8 | 0 | 0.000 |
| 4NDPA | 50.0 | 7.798 | 1662.7 | 158.3 | 0.010 |
| 2NDPA | 50.0 | 8.806 | 2938.9 | 98.9 | 0.003 |
| DPA | 200.0 | 10.221 | 5774.5 | 1004.4 | 0.070 |
| N-NitrosoDPA | 75.0 | 10.895 | 1475.9 | 0 | 0.000 |

| | | |
|---|---|---|
| | | 0.312 |
| Avg. % Stabilizer for Lot | | **0.312** |

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | |
|---|---|
| **Analyst** Takisha Dickerson | Avg. Tot. Stabilizers **0.31** % |
| Analyst Signature | Stable YES \| Unstable |
| Lab. Supervisor Signature | Comments **CATEGORY: A** |
| | Actions to be Taken |

Form #158

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND82H070168** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 1 FEB 2011** |

Other Information
M6 Propellant

| Sample Data | | | Solvent |
|---|---|---|---|
| #1 | 0.5000 g | 100 ml | ACN |

| Standards (ERG-006) | | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 4.156 | 1116 | 2540.4 | 0.228 |
| 2,4-DNDPA | 50.0 | 9.388 | 1191.2 | 31231.4 | 2.622 |
| 2,2' DNDPA | 50.0 | 10.987 | 1694.7 | 51.5 | 0.000 |
| 2,4' DNDPA | 50.0 | 11.73 | 1272.3 | 143.2 | 0.011 |
| 4NDPA | 50.0 | 12.459 | 2443.3 | 0 | 0.000 |
| 2NDPA | 50.0 | 13.939 | 5852.1 | 838.5 | 0.014 |
| DPA | 200.0 | 15.022 | 1753.1 | 0 | 0.000 |
| N-NitrosoDPA | 75.0 | 18.932 | 2535.1 | 985.4 | 0.000 |

| | | |
|---|---|---|
| | | 2.875 |
| Avg. % Stabilizer for Lot | | **2.875** |

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | | | |
|---|---|---|---|
| **Analyst** | Mike Kile | Avg. Tot. Stabilizers | **2.88** % |
| Analyst Signature | | Stable YES | Unstable |
| Lab. Supervisor Signature | | Comments<br>**CATEGORY:** **A** | |
| | | Actions to be Taken | |

Form #158

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND82D070110** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 27 JULY 2011** |

| Other Information | Sample Data | | Solvent |
|---|---|---|---|
| M6 Propellant | #1 | 0.50 g 100 ml | ACN |

| Standards (ERG-006) | | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 0.694 | 112.8 | 437.7 | 0.388 |
| 2,4-DNDPA | 50.0 | 3.477 | 942.8 | 0 | 0.000 |
| 2,2' DNDPA | 50.0 | 5.339 | 77.4 | 22925 | 0.000 |
| 2,4' DNDPA | 50.0 | 7.842 | 1020.3 | 0 | 0.000 |
| 4NDPA | 50.0 | 9.392 | 1634.2 | 119.1 | 0.007 |
| 2NDPA | 50.0 | 10.693 | 2956.2 | 134.9 | 0.005 |
| DPA | 200.0 | 12.201 | 5630.5 | 218.4 | 0.016 |
| N-NitrosoDPA | 75.0 | 13.103 | 1385.2 | 0 | 0.000 |

| | |
|---|---|
| | 0.415 |
| Avg. % Stabilizer for Lot | **0.415** |

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | |
|---|---|
| **Analyst** Mike Kile | Avg. Tot. Stabilizers **0.42** % |
| Analyst Signature | Stable YES / Unstable |
| Lab. Supervisor Signature | Comments **CATEGORY: A** |
| | Actions to be Taken |

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND82K070175** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 6 AUG 2010** |

| Other Information | Sample Data | | Solvent |
|---|---|---|---|
| M6 Propellant | #1 | 0.5000 g 100 ml | ACN |

| | Standards (ERG-006) | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | | 1 | 0 | 0.000 |
| 2,4-DNDPA | 50.0 | 4.91 | 382.3 | 5134.1 | 1.343 |
| 2,2' DNDPA | 50.0 | 9.825 | 437 | 0 | 0.000 |
| 2,4' DNDPA | 50.0 | 11.341 | 632.4 | 87.4 | 0.014 |
| 4NDPA | 50.0 | 11.95 | 441.7 | 0 | 0.000 |
| 2NDPA | 50.0 | 12.713 | 827.6 | 192.5 | 0.023 |
| DPA | 200.0 | 14.06 | 2176 | 90.1 | 0.017 |
| N-NitrosoDPA | 75.0 | 14.999 | 558.4 | 254.6 | 0.068 |

| | | |
|---|---|---|
| | | 1.465 |
| | Avg. % Stabilizer for Lot | **1.465** |

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | | |
|---|---|---|
| **Analyst** Mike Kile | Avg. Tot. Stabilizers | **1.46** % |
| Analyst Signature | Stable YES | Unstable |
| | Comments | |
| Lab. Supervisor Signature | **CATEGORY:** | **A** |
| | Actions to be Taken | |

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND81F070024** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 9 DEC 2011** |

| Other Information | Sample Data | | Solvent |
|---|---|---|---|
| M6 Propellant | #1 | 0.50 g 100 ml | ACN |

| Standards (ERG-006) | | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 0.748 | 166.8 | 892.3 | 0.535 |
| 2,4-DNDPA | 50.0 | 3.333 | 991.5 | 0 | 0.000 |
| 2,2' DNDPA | 50.0 | 5.039 | 624.7 | 22530 | 0.000 |
| 2,4' DNDPA | 50.0 | 7.221 | 1076.5 | 0 | 0.000 |
| 4NDPA | 50.0 | 8.681 | 1747.7 | 46.9 | 0.003 |
| 2NDPA | 50.0 | 9.803 | 3112 | 109.9 | 0.004 |
| DPA | 200.0 | 11.276 | 5985.4 | 604.1 | 0.040 |
| N-NitrosoDPA | 75.0 | 12.035 | 1482.1 | 0 | 0.000 |

| | | |
|---|---|---|
| | | 0.582 |
| | Avg. % Stabilizer for Lot | **0.582** |

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | |
|---|---|
| **Analyst** TAKISHA DICKERSON | Avg. Tot. Stabilizers **0.58** % |
| Analyst Signature | Stable YES / Unstable |
| Lab. Supervisor Signature | Comments **CATEGORY: A** |
| | Actions to be Taken |

CONTAINS HAZARDOUS MATERIALS

# STRAIGHT BILL OF LADING

# NOT NEGOTIABLE

RECEIVED, subject to the classification and tariffs in effect on the date of the issue of this Original Bill of Lading.
The property described below, in apparent good order, except as noted (contents and condition of contents of packages unknown) consigned, and destined as indicated below, which said carrier (the word carrier being understood throughout this contract meaning any person or corporation in possession of the property under the contract) agrees to carry to its usual place of delivery of said destination. It on its route, otherwise to deliver to another carrier on the route to said destination. It is mutually agreed, as to each of all or any of said property over all or any portion of said route to destination, and as to each party at any time interested in all or any of said property, that every service lobe performed hereunder shall be subject to all the terms and conditions of the Uniform Domestic Straight Bill of Lading Set forth (t) in Uniform Freight Classification in effect on the date hereof. If this is a rail or rail-water shipment, or (2) in the applicable motor carrier classification or tariff if this is a motor carrier shipment.
Shipper hereby certifies that he is familiar with all the terms and conditions of the said bill of lading, set forth in the classification or tariff which governs the transportation of this shipment; and the said terms and conditions are hereby agreed to by the shipper and accept for himself and his assigns.

Shipper: Explo Systems, Inc.
1600 Java Road
Minden, LA 71055

Shipper's No. 2840

Shipping Date 1/25/13

At

Purchase Order No.

By APC

Freight Charges: Collect ____ Prepaid XXX

Location No. 2328/2319

(Mail or Street Address of Consignee — For purposes of notification only)

Consigned to [illegible] Co.

Fed Lic. 5-AR-103-20-5E-00139

Exp. Date 5/1/15

Destination [illegible]

State

State Lic.

Exp. Date

County [illegible]

Customer No.

Route

Charge Account of 1-800-574-0580 Ex 302

Customer P.O. No.

Rel. No.

| SHIPPED No. of PKGS | SHIPPED No. of UNITS | PROPER SHIPPING NAME AND HAZARD CLASS | RETURNED No. of PKGS | RETURNED No. of UNITS | EMERGENCY RESPONSE PROCEDURE GUIDE NO. | EXEMPTION DOT E | H M | Placards Applied to Railcar or Motor Vehicle |
|---|---|---|---|---|---|---|---|---|
| 258/16 | 43 | UN0161, Powder, Smokeless, 1.3C, PG II | | | #112 | [illegible] | X | EXPLOSIVES 1.3 |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | Truck No. 14312 |
| | | | | | | | | Trailer No. 40947 |
| | | | | | | | | Mileage |
| | | | | | | | | Total 258/16 FA 8/40/15 Packages |
| | | | | | | | | Gross |
| | | | | | | | | Weight # 37000 |
| | | Seal # | | | | | | Net Explosive Weight |
| | | 7083949/7083950 | | | | | | 36120 |

MAT 26

This is to certify that the above-named materials are properly classified, described, packaged, marked, and labeled and are in proper condition for transportation, according to the applicable regulations of the Department of Transportation.

Signature [signature]

Invoice No. ____

FOR CHEMICAL EMERGENCY, SPILL, LEAK, FIRE, EXPOSURE OR ACCIDENT CALL CHEMTREC — DAY OR NIGHT
IN THE USA CALL 800-424-9300 IN CANADA (ERP #2-0040) 800-561-3636 ELSEWHERE CALL (703) 527-3887 [illegible]

Permanent Address of Shipper:
**Explo Systems, Inc.**
1600 Java Road
Minden, Louisiana 71055
(318) 382-8700

Per ____

DOT Hazardous Material Handling Number ____
Local Federal Explosives License No. 5-LA-119-20-1A-00057
(Shipper)

I have been offered placards identifying the shipment as Specified in 49CFR Subpart F of Part 172. I have received the above goods in apparent good order and condition.

Received By + Charles Knapp Date 1-25-13
☐ CONSIGNEE ☐ CARRIER

By ____ Date ____
AUTHORIZED RECEIVER

CONTAINS HAZARDOUS MATERIALS

Page 8

10/02/13 10:40 AM

019578

EXP_001212

AUSTIN POWDER PACKING LIST

SHIPMENT DATE 24 JAN 2013

B/L# 2840 TRL 40947

M-6

IND82K-070175 10 PTS
IND86E-070616 5 PTS
IND83G-070281 2 PTS
IND83M-070322 9 PTS
IND83K-070319 4 PTS
IND82D-070110 1 PT
IND83F-070276 3 PTS
IND84G-070326 5 PTS
IND83F-070274 4 PTS
I

43 PTS WITH 6 FB @140 LBS PER DRUM

TOTAL 36,120 LBS

LIONEL KOONS

EXPLO SYSTEMS INC

2840
30

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND82K070175** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 6 AUG 2010** |

| Other Information | Sample Data | | Solvent |
|---|---|---|---|
| M6 Propellant | #1 | 0.5000 g 100 ml | ACN |

| Standards (ERG-006) | | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | | 1 | 0 | 0.000 |
| 2,4-DNDPA | 50.0 | 4.91 | 382.3 | 5134.1 | 1.343 |
| 2,2' DNDPA | 50.0 | 9.825 | 437 | 0 | 0.000 |
| 2,4' DNDPA | 50.0 | 11.341 | 632.4 | 87.4 | 0.014 |
| 4NDPA | 50.0 | 11.95 | 441.7 | 0 | 0.000 |
| 2NDPA | 50.0 | 12.713 | 827.6 | 192.5 | 0.023 |
| DPA | 200.0 | 14.06 | 2176 | 90.1 | 0.017 |
| N-NitrosoDPA | 75.0 | 14.999 | 558.4 | 254.6 | 0.068 |

| | | |
|---|---|---|
| | | 1.465 |
| Avg. % Stabilizer for Lot | | **1.465** |

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | |
|---|---|
| **Analyst** Mike Kile | Avg. Tot. Stabilizers **1.46** % |
| Analyst Signature | Stable YES / Unstable |
| | Comments **CATEGORY: A** |
| Lab. Supervisor Signature | |
| | Actions to be Taken |

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND82D070110** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 27 JULY 2011** |

| Other Information | Sample Data | | Solvent |
|---|---|---|---|
| M6 Propellant | #1 | 0.50 g 100 ml | ACN |

| Standards (ERG-006) | | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 0.694 | 112.8 | 437.7 | 0.388 |
| 2,4-DNDPA | 50.0 | 3.477 | 942.8 | 0 | 0.000 |
| 2,2' DNDPA | 50.0 | 5.339 | 77.4 | 22925 | 0.000 |
| 2,4' DNDPA | 50.0 | 7.842 | 1020.3 | 0 | 0.000 |
| 4NDPA | 50.0 | 9.392 | 1634.2 | 119.1 | 0.007 |
| 2NDPA | 50.0 | 10.693 | 2956.2 | 134.9 | 0.005 |
| DPA | 200.0 | 12.201 | 5630.5 | 218.4 | 0.016 |
| N-NitrosoDPA | 75.0 | 13.103 | 1385.2 | 0 | 0.000 |

| | | |
|---|---|---|
| | | 0.415 |
| | Avg. % Stabilizer for Lot | **0.415** |

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | | |
|---|---|---|
| **Analyst** Mike Kile | Avg. Tot. Stabilizers | **0.42** % |
| Analyst Signature | Stable YES | Unstable |
| | Comments | |
| Lab. Supervisor Signature | **CATEGORY:** | **A** |
| | Actions to be Taken | |

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND83F070274** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 27 JULY 2011** |

Other Information
M6 Propellant

| Sample Data | | | Solvent |
|---|---|---|---|
| #1 | 0.50 g | 100 ml | ACN |

| Standards (ERG-006) | | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 0.694 | 112.8 | 622.1 | 0.552 |
| 2,4-DNDPA | 50.0 | 3.477 | 942.8 | 0 | 0.000 |
| 2,2' DNDPA | 50.0 | 5.339 | 77.4 | 22209 | 0.000 |
| 2,4' DNDPA | 50.0 | 7.842 | 1020.3 | 0 | 0.000 |
| 4NDPA | 50.0 | 9.392 | 1634.2 | 48.5 | 0.003 |
| 2NDPA | 50.0 | 10.693 | 2956.2 | 98.3 | 0.003 |
| DPA | 200.0 | 12.201 | 5630.5 | 451.4 | 0.032 |
| N-NitrosoDPA | 75.0 | 13.103 | 1385.2 | 0 | 0.000 |

| | |
|---|---|
| | 0.590 |
| Avg. % Stabilizer for Lot | **0.590** |

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | |
|---|---|
| **Analyst** Takisha Dickerson | Avg. Tot. Stabilizers **0.59** % |
| Analyst Signature | Stable YES / Unstable |
| Lab. Supervisor Signature | Comments<br>**CATEGORY: A** |
| | Actions to be Taken |

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND83G070281** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 4 April 2012** |

Other Information
M6 Propellant

| Sample Data | | | Solvent |
|---|---|---|---|
| #1 | 0.50 g | 100 ml | ACN |

| | Standards (ERG-006) | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 0.881 | 40.9 | 93.7 | 0.229 |
| 2,4-DNDPA | 50.0 | 3.279 | 928 | 0 | 0.000 |
| 2,2' DNDPA | 50.0 | 4.66 | 26957 | 26191 | 0.000 |
| 2,4' DNDPA | 50.0 | 6.571 | 992.8 | 0 | 0.000 |
| 4NDPA | 50.0 | 7.798 | 1662.7 | 158.3 | 0.010 |
| 2NDPA | 50.0 | 8.806 | 2938.9 | 98.9 | 0.003 |
| DPA | 200.0 | 10.221 | 5774.5 | 1004.4 | 0.070 |
| N-NitrosoDPA | 75.0 | 10.895 | 1475.9 | 0 | 0.000 |

0.312

| Avg. % Stabilizer for Lot | **0.312** |
|---|---|

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | |
|---|---|
| **Analyst** Takisha Dickerson | Avg. Tot. Stabilizers **0.31** % |
| Analyst Signature | Stable YES / Unstable |
| Lab. Supervisor Signature | Comments **CATEGORY: A** |
| | Actions to be Taken |

Form #159

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND83M070322** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 12 APR 2012** |

| Other Information | Sample Data | | Solvent |
|---|---|---|---|
| M6 Propellant | #1 | 0.50 g 100 ml | ACN |

| Standards (ERG-006) | | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 0.882 | 28.4 | 566.5 | 1.995 |
| 2,4-DNDPA | 50.0 | 3.244 | 978.3 | 0 | 0.000 |
| 2,2' DNDPA | 50.0 | 4.803 | 3426.7 | 22442 | 0.000 |
| 2,4' DNDPA | 50.0 | 6.74 | 1061.1 | 499.4 | 0.047 |
| 4NDPA | 50.0 | 8.012 | 1726.9 | 66.2 | 0.004 |
| 2NDPA | 50.0 | 9.091 | 3662.4 | 113.4 | 0.003 |
| DPA | 200.0 | 10.394 | 6185.4 | 978.3 | 0.063 |
| N-NitrosoDPA | 75.0 | 10.968 | 1530.7 | 0 | 0.000 |

| | | |
|---|---|---|
| | | 2.112 |
| | Avg. % Stabilizer for Lot | **2.112** |

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | |
|---|---|
| **Analyst** Kisha Dickerson | Avg. Tot. Stabilizers **2.11** % |
| Analyst Signature | Stable YES / Unstable |
| Lab. Supervisor Signature | Comments **CATEGORY: A** |
| | Actions to be Taken |

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND83K070319** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 15 JUNE 2012** |

| Other Information | Sample Data | | Solvent |
|---|---|---|---|
| M6 Propellant | #1 | 0.50 g 100 ml | ACN |

| | Standards (ERG-006) | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 0.782 | 41.2 | 275.4 | 0.668 |
| 2,4-DNDPA | 50.0 | 3.401 | 926.1 | 0 | 0.000 |
| 2,2' DNDPA | 50.0 | 5.141 | 1554.2 | 22992 | 0.000 |
| 2,4' DNDPA | 50.0 | 7.435 | 1019.1 | 0 | 0.000 |
| 4NDPA | 50.0 | 8.937 | 1639.5 | 159.8 | 0.010 |
| 2NDPA | 50.0 | 10.056 | 2924.6 | 174.6 | 0.006 |
| DPA | 200.0 | 11.627 | 5690.8 | 138.2 | 0.010 |
| N-NitrosoDPA | 75.0 | 12.44 | 1376.8 | 0 | 0.000 |

| | |
|---|---|
| | 0.694 |
| Avg. % Stabilizer for Lot | **0.694** |

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | |
|---|---|
| **Analyst** Takisha Dickerson | Avg. Tot. Stabilizers **0.69** % |
| Analyst Signature | Stable YES / Unstable |
| | Comments **CATEGORY: A** |
| Lab. Supervisor Signature | |
| | Actions to be Taken |

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND83F070276** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 4 Sep 2012** |

| Other Information | Sample Data | | Solvent |
|---|---|---|---|
| M6 Propellant | #1 | 0.50 g 100 ml | ACN |

| | Standards (ERG-006) | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 0.889 | 48.8 | 578.6 | 1.186 |
| 2,4-DNDPA | 50.0 | 3.418 | 914.3 | 0 | 0.000 |
| 2,2' DNDPA | 50.0 | 5.22 | 777.3 | 23990 | 0.000 |
| 2,4' DNDPA | 50.0 | 7.622 | 980.5 | 0 | 0.000 |
| 4NDPA | 50.0 | 9.134 | 1586.8 | 40.6 | 0.003 |
| 2NDPA | 50.0 | 10.417 | 2826.3 | 88.7 | 0.003 |
| DPA | 200.0 | 11.797 | 5671.5 | 812.6 | 0.057 |
| N-NitrosoDPA | 75.0 | 12.757 | 1337.5 | 0 | 0.000 |

| | | |
|---|---|---|
| | | 1.249 |
| | Avg. % Stabilizer for Lot | **1.249** |

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | |
|---|---|
| **Analyst** Mike Kile | Avg. Tot. Stabilizers **1.25** % |
| Analyst Signature | Stable YES / Unstable |
| Lab. Supervisor Signature | Comments **CATEGORY: A** |
| | Actions to be Taken |

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND84G070326** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 3 MAY 2012** |

| Other Information | Sample Data | | Solvent |
|---|---|---|---|
| M6 Propellant | #1 | 0.50 g 100 ml | ACN |

| Standards (ERG-006) | | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 0.867 | 104.4 | 324.4 | 0.311 |
| 2,4-DNDPA | 50.0 | 3.335 | 1105.6 | 0 | 0.000 |
| 2,2' DNDPA | 50.0 | 5.007 | 4986.7 | 23068 | 0.000 |
| 2,4' DNDPA | 50.0 | 7.137 | 1206.9 | 0 | 0.000 |
| 4NDPA | 50.0 | 8.593 | 1969.2 | 87.1 | 0.004 |
| 2NDPA | 50.0 | 9.688 | 3527.8 | 151.4 | 0.004 |
| DPA | 200.0 | 11.153 | 7041.6 | 785.8 | 0.045 |
| N-NitrosoDPA | 75.0 | 11.897 | 1704.5 | | 0.000 |

| | |
|---|---|
| | 0.364 |
| Avg. % Stabilizer for Lot | **0.364** |

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | |
|---|---|
| **Analyst** Takisha Dickerson | Avg. Tot. Stabilizers **0.36** % |
| Analyst Signature | Stable YES / Unstable |
| Lab. Supervisor Signature | Comments **CATEGORY: A** |
| | Actions to be Taken |

Form #159

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND86E070616** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 19 NOV 2010** |

| Other Information | Sample Data | | Solvent |
|---|---|---|---|
| M6 Propellant | #1 | 0.5000 g 100 ml | ACN |

| Standards (ERG-006) | | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 2.068 | 135.8 | 654.4 | 0.482 |
| 2,4-DNDPA | 50.0 | 5.182 | 717.3 | 0 | 0.000 |
| 2,2' DNDPA | 50.0 | 7.635 | 736.3 | 13022.2 | 0.000 |
| 2,4' DNDPA | 50.0 | 11.713 | 779 | 0 | 0.000 |
| 4NDPA | 50.0 | 13.454 | 462.4 | 0 | 0.000 |
| 2NDPA | 50.0 | 15.161 | 1164.1 | 0 | 0.000 |
| DPA | 200.0 | 16.583 | 4078.5 | 221.2 | 0.022 |
| N-NitrosoDPA | 75.0 | 18.033 | 1011.7 | 0 | 0.000 |

| | |
|---|---|
| | 0.504 |
| Avg. % Stabilizer for Lot | **0.504** |

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | |
|---|---|
| **Analyst** Kisha Dickerson | Avg. Tot. Stabilizers **0.50** % |
| Analyst Signature | Stable YES / Unstable |
| Lab. Supervisor Signature | Comments **CATEGORY: A** |
| | Actions to be Taken |

CONTAINS HAZARDOUS MATERIALS

# STRAIGHT BILL OF LADING

**NOT NEGOTIABLE** Load 1

RECEIVED, subject to the classification and tariffs in effect on the date of the issue of this Original Bill of Lading.
The property described below, in apparent good order, except as noted (contents and condition of contents of packages unknown) consigned, and destined as indicated below, which said carrier (the word carrier being understood throughout this contract meaning any person or corporation in possession of the property under the contract) agrees to curry to its usual place of delivery of said destination. It on its route, otherwise to deliver to another carrier on the route to said destination. It is mutually agreed, as to each of all or any of said property over all or any portion of said route to destination, and as to each party at any time interested in all or any of said property, that every service lobe performed hereunder shall be subject to all the terms and conditions of the Uniform Domestic Straight Bill of Lading Set forth (t) in Uniform Freight Classification in effect on the date hereof, It this is a rail or rail-water shipment, or (2) in the applicable motor carrier classification or tariff it this is a motor carrier shipment.

Shipper hereby certifies that he is familiar with all the terms and conditions of the said bill of lading, set forth in the classification or tariff which governs the transportation of this shipment, and the sold terms and conditions are hereby agreed to by the shipper and accept for himself and his assigns.

Shipper: Explo Systems, Inc.
1600 Java Road
Minden, LA 71055

Shipper's No. 2853

Shipping Date 3/12/13

At

Purchase Order No.

By RRUK Freight Charges: Collect _____ Prepaid XXX Location No. 2416

(Mail or Street Address of Consignee — For purposes of notification only) 25-58-20138

Consigned to AUSTIN Powder Co
Destination 7126 Highway 88 State
County EAST Camden AR
Route
Charge Account of 1810-574-0000 P.O. 300

Fed Lic. 5-AR-105-20-58-20138 Exp. Date 5/1/15
State Lic. Exp. Date
Customer No.
Customer P.O. No. Rel. No.

| SHIPPED No. of PKGS | SHIPPED No. of UNITS | PROPER SHIPPING NAME AND HAZARD CLASS | RETURNED No. of PKGS | RETURNED No. of UNITS | EMERGENCY RESPONSE PROCEDURE GUIDE NO. | EXEMPTION DOT-E | H M | Placards Applied to Railcar or Motor Vehicle |
|---|---|---|---|---|---|---|---|---|
| 252/14 | 42 | UN0161, Powder, Smokeless, 1.3C, PG II | | | #112 | Smokeless | X | EXPLOSIVES 1.3 |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | Truck No. 6436 |
| | | | | | | | | Trailer No. 980210 |
| | | W/OR 214300 | | | | | | Mileage |
| | | | | | | | | Total 252/1512 Packages |
| | | | | | | | | Gross Weight # 39,000 |
| | | Seal | | | | 3/12/13 | | Net Explosive Weight |
| | | 7083977/7083978 | | | | | | 25,280 |

RECEIVED
17AT13
MAR 13 2013
AUSTIN POWDER COMPANY
EAST CAMDEN PLANT

ENTERED 3/14/13 mle

This is to certify that the above-named materials are properly classified, described, packaged, marked, and labeled and are in proper condition for transportation, according to the applicable regulations of the Department of Transportation.

Signature _____ Invoice No. _____

FOR CHEMICAL EMERGENCY, SPILL, LEAK, FIRE, EXPOSURE OR ACCIDENT CALL CHEMTREC — DAY OR NIGHT
IN THE USA CALL 800-424-9300 IN CANADA (ERP #2-0040) 800-561-3636 ELSEWHERE CALL (703) 527-3887

Permanent Address of Shipper:
**Explo Systems, Inc.**
1600 Java Road
Minden, Louisiana 71055
(318) 382-8700

Per _____

DOT Hazardous Material Handling Number _____
Local Federal Explosives License No. 5-LA-119-20-1A-00057
(Shipper)

I have been offered placards identifying the shipment as Specified in 49CFR Subpart F of Part 172. I have received the above goods in apparent good order and condition.

Received By _____ Date 3-13-13
☐ CONSIGNEE ☐ CARRIER

By _____ Date _____
AUTHORIZED RECEIVER

CONTAINS HAZARDOUS MATERIALS

Agent must detach and retain this Shipping Order

019589

EXP_001223

AUSTIN POWDER PACKING LIST

SHIPMENT DATE 12 MAR 2013

B/L# ~~2853~~ 28534 TRL 980210

M-6

IND87H-070847 11 PTS
IND86F-070620 4 PTS
IND84K-070448 8 PTS
IND86M-070673 8 PTS
IND80M-070009 7 PTS
IND82D-070113 4 PTS

42 PTS WITH 6 FB @140 LBS PER DRUM

TOTAL 35,280 LBS

LIONEL KOONS

EXPLO SYSTEMS INC

Explo Systems, Inc.
1600 Java Road
Minden, LA 71055

# MATERIAL SAFETY DATA SHEET

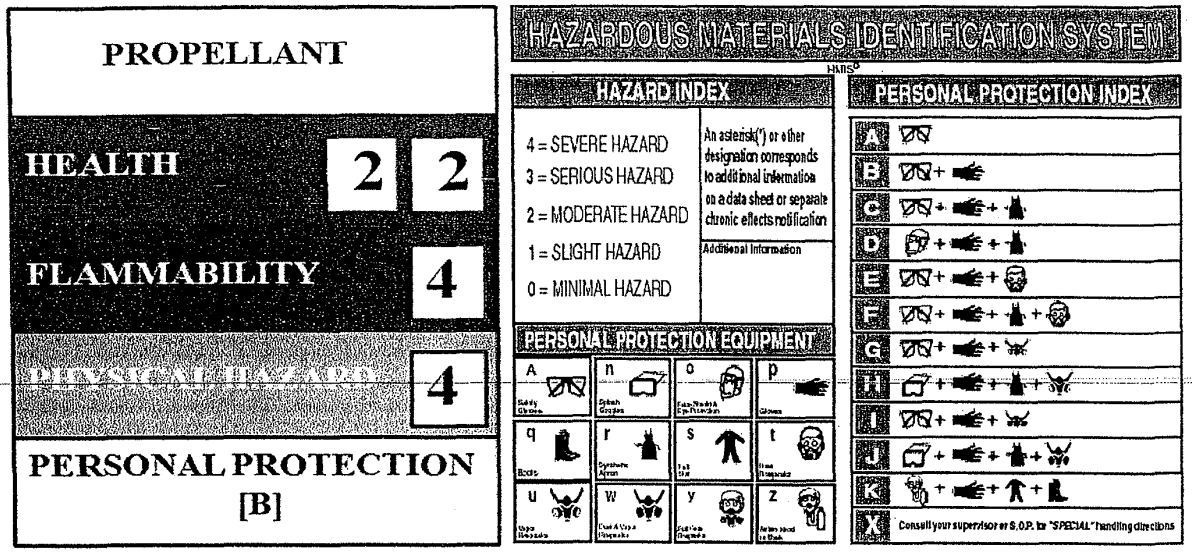
## PROPELLANT (Wetted)

## SECTION I - PRODUCT IDENTIFICATION

PRODUCT NAME: Propellant, Explosive, Solid, Wetted
Technical Information Phone No.: 318.382.8700
For Chemical Emergency (Spill, Fire, Exposure or Accident) call CHEMTREC day or night. Within the US and Canada: +1 800-424-9300. Outside the US and Canada: +1 703-527-3887 (collect calls accepted).

| Ingredient | CAS No. | Wt. % | OSHA PEL<br>ACGIH TLV<br>EPA RQ (if defined)<br>DOT RQ (if defined) |
|---|---|---|---|
| Dibutyl Phthalate | 84-74-2 | 3.00 | OSHA PEL 5 mg/m$^3$<br>ACGIH TLV 5 mg/m$^3$<br>EPA RQ 10 lbs<br>DOT RQ 10 lbs |
| Diphenylamine | 122-39-4 | 1.00 | OSHA PEL 10 mg/m$^3$<br>ACGIH TLV 10 mg/m$^3$<br>EPA RQ (none defined)<br>DOT RQ (none defined) |
| Potassium Sulfate | 7778-80-5 | 2.00 | OSHA PEL none published<br>ACGIH TLV none published<br>EPA RQ (none defined)<br>DOT RQ (none defined) |
| Nitrocellulose (flammable solid) | -- | 87.00 | OSHA PEL none published<br>ACGIH TLV none published<br>EPA RQ (none defined)<br>DOT RQ (none defined) |
| Dinitrotoluene | 25321-14-6 | 10.00 | OSHA PEL 10 mg/m$^3$<br>ACGIH TLV 10 mg/m$^3$<br>EPA RQ 10 lbs<br>DOT RQ 10 lbs |

## SECTION II - HAZARDS IDENTIFICATION




Routes of Entry: Inhalation; Skin; Ingestion
Carcinogenicity: None
First Aid Measures: EYES - Immediately flush with copious amount of water (low pressure) for 15 minutes, remove contact lenses; call physician. SKIN - Wash with soap and running water. INGESTION - Contact physician immediately. INHALATION - Remove to fresh air. Treat irritation symptomatically; call physician.
Firefighting Measures: Self-oxidizing, deluge with water. Will not be able to extinguish unless large quantity of water is used in very short time. Use NIOSH/MSHA approved SCBA and full protective equipment; evacuate area.
Unusual Fire/Explosion Hazard: Easily ignited, highly combustible; protect from fire and sparks and extreme heat.
Autoignition: 383°F (195°C)
Hazardous Combustion Products: Oxides of Carbon
Accidental Release Measures: SPILL - Clean immediately with soft (horsehair) brush and conductive rubber or plastic shovel. Use brass or other non-sparking tools and utensils. DO NOT hammer or otherwise cause impact forces to spilled material (explosion or autoignition could occur with impact force being applied).

## SECTION III - HANDLING AND STORAGE

Precautions: Avoid prolonged temperature above 125°F (50°C). Normal storage conditions should be 75°F (21°C) and 50% Humidity. Storage must conform to local, state and federal regulations, specifically: 29 CFR OSHA 1910.109; 27 CFR BATFE 55 subpart K.
Other Special Precautions: Flammable Solid…Keep away from heat, sparks, open flame…Keep containers closed…use with adequate ventilation.
Ventilation: Local and general ventilation necessary to keep air concentration below TLV's.
Personal Protective Equipment: Safety Glasses, Cotton or Leather Gloves, Fire Resistant Coveralls.

## SECTION IV - PHYSICAL AND CHEMICAL PROPERTIES

Specific Gravity: 1.496
Evaporation Rate: <1 (Butylacetate = 1)
Solubility in Water: negligible
Appearance and Odor: Hard Cylinder Perforated, Smooth, Greenish Yellow. Odorless.
Materials to Avoid: Oxides of Nitrogen and Carbon.

Conditions to Avoid: Open Flame, Sparks, Heat, Direct Sunlight.
Hazardous Decomposition Products: Oxides of Carbon

## SECTION V – TRANSPORTATION INFORMATION

DOT Proper Shipping Name: Smokeless Powder (wetted)
Hazard Class: 1.3C
UN No. UN0161
Packing Group: II

## SECTION VI - DISPOSAL CONSIDERATIONS

Disposal must be in accordance with federal, state and local regulations. Burn in open burning ground in accordance with regulatory requirements. It may also be burned in an incinerator approved for explosives.

## DISCLAIMER

The information contained in this MSDS (Material Safety Data Sheet) is based upon available constituent data for the components of **Propellant** and is believed to be correct. However, as this information has been obtained from various sources, including the manufacturers of its components and independent laboratories, it is provided herein without warranty or representation that it is complete, accurate and can be relied upon. Explo Systems, Inc. has not attempted to conceal in any manner the deleterious aspects of this product, and makes no warranty as such. Explo Systems, Inc. cannot anticipate nor control the many situations in which this product or this information may be used; there is no guarantee that the health and safety precautions suggested herein will be proper under all conditions. It is the sole responsibility of each user of the product to determine and comply with the requirements of all applicable laws and regulations regarding its use. This information is given solely for the purposes of safety to persons and property. Any other use of this information is expressly prohibited.

## AUTHOR

This MSDS was prepared by: Ferris Callihan, PE - Director Support Technology - Explo Systems, Inc. - 1600 Java Road - Minden, LA 71055 - Tel 318 382 8700 - E-mail: fcallihan@explosystems.com

U.S. Department
of Transportation

Pipeline and Hazardous
Materials Safety Administration

East Building, PHH – 32
1200 New Jersey Avenue, Southeast
Washington, D.C. 20590

The US Department of Transportation
Competent Authority for the United States

## CLASSIFICATION OF EXPLOSIVES
## FIRST REVISION

Based upon a request by Explo Systems Inc., 1600 Java Road, Minden, LA 71055, United States the following items are classed in accordance with Section 173.56, Title 49, Code of Federal Regulations (49 CFR). A copy of your application, all supporting documentation and a copy of this approval must be retained and made available to DOT upon request.

**U.N. PROPER SHIPPING NAME AND NUMBER:**
Powder, smokeless, UN0161

**U.N. CLASSIFICATION CODE**: 1.3C

| REFERENCE NUMBER | PRODUCT DESIGNATION/PART NUMBER |
|---|---|
| EX2010040603 | Reclaimed M6 Propellant |

**NOTES:** This classification is only valid when the smokeless powder has been tested and found to have sufficient residual stabilizers present per US Army Safety Bulletin: "Inspection of Supplies and Equipment, Ammunition Surveillance Procedures" (SB 742-1). The following packaging methods are assigned:
Packaging Method A: Inner Packaging - Not necessary. Outer Packaging – UN 1G fiberdrum, each containing not more than one hundred and forty (140) pounds of smokeless propellant.
Packaging Method B: Inner Packaging: Flexible static-resistant reinforced plastic cloth and strapping lifting bag, each containing not more than eight hundred and eighty (880) pounds of smokeless propellant. Outer Packaging - UN 4G heavy-wall fiberboard box with a volumetric capacity of 119 gallons or less. (see 49 CFR Section 171.8 Definition for "Non-bulk packaging")

**DATED:** 05/05/2011

Harpreet Singh

For Dr. Magdy El-Sibaie
Associate Administrator for Hazardous Materials Safety

Tracking No: 2011040848

Load 1

2853

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND80M070009** | **D533 / M6 propellant** |
| Date of analysis: | **Date:20 SEP 2010** |

| Other Information | Sample Data | | Solvent |
|---|---|---|---|
| M6 Propellant | #1 | 0.5000 g 100 ml | ACN |

| Standards (ERG-006) | | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 2.113 | 241.3 | 1503.9 | 0.623 |
| 2,4-DNDPA | 50.0 | 4.997 | 1505.8 | 0 | 0.000 |
| 2,2' DNDPA | 50.0 | 7.178 | 3394.6 | 16988.6 | 0.000 |
| 2,4' DNDPA | 50.0 | 10.355 | 947.6 | 0 | 0.000 |
| 4NDPA | 50.0 | 11.977 | 1346.1 | 0 | 0.000 |
| 2NDPA | 50.0 | 13.451 | 1788.2 | 0 | 0.000 |
| DPA | 200.0 | 14.881 | 5045.5 | 586 | 0.046 |
| N-NitrosoDPA | 75.0 | 16.02 | 1339.6 | 0 | 0.000 |

| | | |
|---|---|---|
| | | 0.670 |
| Avg. % Stabilizer for Lot | | **0.670** |

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | |
|---|---|
| **Analyst** Kisha Dickerson | Avg. Tot. Stabilizers **0.67** % |
| Analyst Signature | Stable YES / Unstable |
| | Comments |
| Lab. Supervisor Signature | **CATEGORY: A** |
| | Actions to be Taken |

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND82D070113** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 6 JAN 2012** |

| Other Information | Sample Data | | Solvent |
|---|---|---|---|
| M6 Propellant | #1 | 0.50 g 100 ml | ACN |

| Standards (ERG-006) | | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 0.65 | 119.1 | 328.4 | 0.276 |
| 2,4-DNDPA | 50.0 | 3.304 | 1019.8 | 16 | 0.002 |
| 2,2' DNDPA | 50.0 | 4.943 | 1734.6 | 21955 | 0.000 |
| 2,4' DNDPA | 50.0 | 7.018 | 1103.9 | 0 | 0.000 |
| 4NDPA | 50.0 | 8.439 | 1782.5 | 66.8 | 0.004 |
| 2NDPA | 50.0 | 9.513 | 3182.1 | 143.1 | 0.004 |
| DPA | 200.0 | 10.956 | 6219.8 | 790.9 | 0.051 |
| N-NitrosoDPA | 75.0 | 11.669 | 1532.4 | 0 | 0.000 |

| | | |
|---|---|---|
| | | 0.336 |
| Avg. % Stabilizer for Lot | | **0.336** |

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | | |
|---|---|---|
| **Analyst** TAKISHA DICKERSON | Avg. Tot. Stabilizers | **0.34** % |
| Analyst Signature | Stable YES | Unstable |
| | Comments | |
| Lab. Supervisor Signature | **CATEGORY:** | **A** |
| | Actions to be Taken | |

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND84K070448** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 21 Apr 2011** |

| Other Information | Sample Data | | Solvent |
|---|---|---|---|
| M6 Propellant | #1 | 0.5000 g 100 ml | ACN |

| | Standards (ERG-006) | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 4.152 | 1065.2 | 3146.4 | 0.295 |
| 2,4-DNDPA | 50.0 | 9.483 | 1128.5 | 32287.2 | 2.861 |
| 2,2' DNDPA | 50.0 | 11.075 | 1789.9 | 481.5 | 0.000 |
| 2,4' DNDPA | 50.0 | 11.744 | 1596.2 | 239.9 | 0.015 |
| 4NDPA | 50.0 | 12.553 | 2329 | 181.2 | 0.008 |
| 2NDPA | 50.0 | 14.006 | 5766.8 | 335.1 | 0.006 |
| DPA | 200.0 | 15.107 | 1617.9 | 0 | 0.000 |
| N-NitrosoDPA | 75.0 | 18.991 | 2304.9 | 507.1 | 0.000 |

| | 3.185 |
|---|---|
| Avg. % Stabilizer for Lot | **3.185** |

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | |
|---|---|
| **Analyst** Kisha Dickerson | Avg. Tot. Stabilizers **3.19** % |
| Analyst Signature | Stable YES / Unstable |
| Lab. Supervisor Signature | Comments **CATEGORY: A** |
| | Actions to be Taken |

Form #158 Original Print Date:07/19/2010

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND86M070673** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 7 FEB 2012** |

| Other Information | Sample Data | | Solvent |
|---|---|---|---|
| M6 Propellant | #1 | 0.50 g 100 ml | ACN |

| Standards (ERG-006) | | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 0.863 | 50.1 | 452.6 | 0.903 |
| 2,4-DNDPA | 50.0 | 3.336 | 893.6 | 0 | 0.000 |
| 2,2' DNDPA | 50.0 | 5.03 | 726.8 | 22299 | 0.000 |
| 2,4' DNDPA | 50.0 | 7.182 | 1225.5 | 0 | 0.000 |
| 4NDPA | 50.0 | 8.642 | 1532.1 | 67.5 | 0.004 |
| 2NDPA | 50.0 | 9.759 | 2784.7 | 120.3 | 0.004 |
| DPA | 200.0 | 11.235 | 5480.9 | 727.3 | 0.053 |
| N-NitrosoDPA | 75.0 | 11.979 | 1363.1 | 0 | 0.000 |

| | | |
|---|---|---|
| | | 0.965 |
| Avg. % Stabilizer for Lot | | **0.965** |

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | | |
|---|---|---|
| **Analyst** TAKISHA DICKERSON | Avg. Tot. Stabilizers | **0.97** % |
| Analyst Signature | Stable YES | Unstable |
| | Comments | |
| Lab. Supervisor Signature | **CATEGORY:** | **A** |
| | Actions to be Taken | |

**CONTAINS HAZARDOUS MATERIALS**

# STRAIGHT BILL OF LADING

**NOT NEGOTIABLE** Load 2

RECEIVED, subject to the classification and tariffs in effect on the date of the issue of this Original Bill of Lading.
The property described below, in apparent good order, except as noted (contents and condition of contents of packages unknown) consigned, end destined as indicated below, which said carrier (the word carrier being understood throughout this contract meaning any person or corporation in possession of the property under the contract) agrees to curry to its usual place of delivery of said destination. It on its route, otherwise to deliver to another carrier on the route to said destination. It is mutually agreed, as to each of all or any of said property over all or any portion of said route to destination, and as to each party at any time interested in all or any of said property, that every service lobe performed hereunder shall be subject to all the terms and conditions of the Uniform Domestic Straight Bill of Lading Set forth (t) in Uniform Freight Classification in effect on the date hereof, It this is a rail or rail-water shipment, or (2) in the applicable motor carrier classification or tariff it this is a motor carrier shipment.

Shipper hereby certifies that he is familiar with all the terms and conditions of the said bill of lading, set forth in the classification or tariff which governs the transportation of this shipment, and the sold terms and conditions are hereby agreed to by the shipper and accept for himself and his assigns.

Shipper: Explo Systems, Inc.
1600 Java Road
Minden, LA 71055

Shipper's No. 2855

Shipping Date 3/12/13

At

Purchase Order No.

By RRUR Freight Charges: Collect _____ Prepaid XXX Location No. 7416

(Mail or Street Address of Consignee — For purposes of notification only) 20-5E-00139

Consigned to AUSTIN POWDER CO

Destination 7LL-10 BRADY RD State

County EAST CAMDEN AR

Route

Charge Account of 1-870 574-0580

Fed Lic. 5-AR-103-20-5E-00139 Exp. Date 5/1/15

State Lic. Exp. Date

Customer No.

Customer P.O. No. Rel. No.

| SHIPPED No. of PKGS | SHIPPED No. of UNITS | PROPER SHIPPING NAME AND HAZARD CLASS | RETURNED No. of PKGS | RETURNED No. of UNITS | EMERGENCY RESPONSE PROCEDURE GUIDE NO. | EXEMPTION ~~DOT E~~ | H M | Placards Applied to Railcar or Motor Vehicle |
|---|---|---|---|---|---|---|---|---|
| 952/1L | 42ST | UN0161, Powder, Smokeless, 1.3C, PG II | | | #112 | 20105400003 | X K | EXPLOSIVES 1.3 |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | Truck No. 7306 |
| | | Monica Kelly 03/13/13 | | | | | | Trailer No. 6840020 |
| | | | | | | | | Mileage |
| | | | | | | | | Total 952 16 PD @ 140165 LA Packages |
| | | | | | | | | Gross Weight # 39,000 |
| | | Seal # 7083981/7083982 | | | | | | Net Explosive Weight 35.280 |

ENTERED 3/14/13 MK

RECEIVED 17AT 13 MAR 13 2013 AUSTIN POWDER COMPANY EAST CAMDEN PLANT

This is to certify that the above-named materials are properly classified, described, packaged, marked, and labeled and are in proper condition for transportation, according to the applicable regulations of the Department of Transportation.

Signature _____ Invoice No. _____

FOR CHEMICAL EMERGENCY, SPILL, LEAK, FIRE, EXPOSURE OR ACCIDENT CALL CHEMTREC — DAY OR NIGHT
IN THE USA CALL 800-424-9300 IN CANADA (ERP #2-0040) 800-561-3636 ELSEWHERE CALL (703) 527-3887 CCN644549

Permanent Address of Shipper:
**Explo Systems, Inc.**
1600 Java Road
Minden, Louisiana 71055
(318) 382-8700

Per _____

DOT Hazardous Material Handling Number _____
Local Federal Explosives License No. 5-LA-119-20-1A-00057
(Shipper)

I have been offered placards identifying the shipment as Specified in 49CFR Subpart F of Part 172. I have received the above goods in apparent good order and condition.

Received By _____ Date 3/12/13
☐ CONSIGNEE ☐ CARRIER

By _____ Date _____
AUTHORIZED RECEIVER

019599

EXP_001233

# MOTOR VEHICLE INSPECTION (TRANSPORTING HAZARDOUS MATERIALS)

*(Read Instructions before completing this form.)*

This form applies to all vehicles which must be marked or placarded in accordance with Title 49 CFR.

1. BILL OF LADING/TRANSPORTATION CONTROL NUMBER: 2855

| SECTION 1 - DOCUMENTATION | ORIGIN a. | DESTINATION b. |
|---|---|---|
| 2. CARRIER/GOVERNMENT ORGANIZATION | RRUL/ARITO | |
| 3. DATE/TIME OF INSPECTION | 3/12/13 | |
| 4. LOCATION OF INSPECTION | EXDLO SYSTEMS INC | |
| 5. OPERATOR(S) NAME(S) | PEDIGO, THOMAS | |
| 6. OPERATOR(S) LICENSE NUMBER(S) | P320 825-47 006-8 | |
| 7. MEDICAL EXAMINER'S CERTIFICATE* | 2/25/15 | |

8. *(X if satisfactory at origin)*

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| a. MILITARY HAZMAT ENDORSEMENT | | d. ERG OR EQUIVALENT COMMERCIAL: | | YES | | NO | | 9. CVSA DECAL DISPLAYED ON COMMERCIAL EQUIPMENT* | YES / NO |
| b. VALID LEASE* | | e. DRIVER'S VEHICLE INSPECTION REPORT* | | | | | | a. TRUCK/TRACTOR | |
| c. ROUTE PLAN | | f. COPY OF 49 CFR PART 397 | | | | | | b. TRAILER | |

## SECTION II - MECHANICAL INSPECTION

*All items shall be checked on empty equipment prior to loading. Items with an asterisk shall be checked on all incoming loaded equipment.*

10. TYPE OF VEHICLE(S): TRACTOR / TRAILER / DROM

11. VEHICLE NUMBER(S): TRAC #7306 / TRL #681020

| 12. PART INSPECTED *(X as applicable)* | ORIGIN (1) SAT | ORIGIN (1) UNSAT | DESTINATION (2) SAT | DESTINATION (2) UNSAT | | ORIGIN (1) SAT | ORIGIN (1) UNSAT | DESTINATION (2) SAT | DESTINATION (2) UNSAT | COMMENTS (3) |
|---|---|---|---|---|---|---|---|---|---|---|
| a. SPARE ELECTRICAL FUSES | | | | | k. EXHAUST SYSTEM | | | | | |
| b. HORN OPERATIVE | | | | | l. BRAKE SYSTEM* | | | | | |
| c. STEERING SYSTEM | | | | | m. SUSPENSION | | | | | |
| d. WINDSHIELD/WIPERS | | | | | n. COUPLING DEVICES | | | | | |
| e. MIRRORS | | | | | o. CARGO SPACE | | | | | |
| f. WARNING EQUIPMENT | | | | | p. LANDING GEAR* | | | | | |
| g. FIRE EXTINGUISHER* | | | | | q. TIRES, WHEELS, RIMS | | | | | |
| h. ELECTRICAL WIRING | | | | | r. TAILGATE/DOORS* | | | | | |
| i. LIGHTS AND REFLECTORS | | | | | s. TARPAULIN* | | | | | |
| j. FUEL SYSTEM* | | | | | t. OTHER *(Specify)* | | | | | |

13. INSPECTION RESULTS *(X one)* ACCEPTED ✓ REJECTED

*(If rejected give reason under "Remarks". Equipment will be approved if deficiencies are corrected prior to loading.)*

14. SATELLITE MOTOR SURVEILLANCE SYSTEM: *(X one)* ACCEPTED N/A REJECTED

15. REMARKS

16. INSPECTOR SIGNATURE *(Origin)*

17. INSPECTOR SIGNATURE *(Destination)*

## SECTION III - POST LOADING INSPECTION

This section applies to Commercial and Government/Military vehicles. All items will be checked prior to release of loaded equipment and shall be checked on all incoming loaded equipment.

| | ORIGIN (1) SAT | ORIGIN (1) UNSAT | DESTINATION (2) SAT | DESTINATION (2) UNSAT | COMMENTS (3) |
|---|---|---|---|---|---|
| 18. LOADED IAW APPLICABLE SEGREGATION/COMPATIBILITY TABLE OF 49 CFR | | | | | |
| 19. LOAD PROPERLY SECURED TO PREVENT MOVEMENT | | | | | |
| 20. SEALS APPLIED TO CLOSED VEHICLE; TARPAULIN APPLIED ON OPEN EQUIPMENT | | | | | |
| 21. PROPER PLACARDS APPLIED | | | | | |
| 22. SHIPPING PAPERS/DD FORM 836 FOR GOVERNMENT VEHICLE SHIPMENTS | N/A | | | | |
| 23. COPY OF DD FORM 626 FOR DRIVER | | | | | |
| 24. SHIPPED UNDER DOT SPECIAL PERMIT 868 | N/A | | | | |

25. INSPECTOR SIGNATURE *(Origin)*

26. DRIVER(S) SIGNATURE *(Origin)*

27. INSPECTOR SIGNATURE *(Destination)*

28. DRIVER(S) SIGNATURE *(Destination)*

AUSTIN POWDER PACKING LIST

SHIPMENT DATE 12 MAR 2013

B/L# 2855 TRL 684 0020

M-6

IND82D-070113 25 PTS
IND82E-070114 5 PTS
IND86M-070673 7 PTS
IND82K-070178 1 PT
IND82K-070173 1 PT
IND81B-070013 1 PT
IND84C-070331 2 PTS
42 PTS WITH 6 FB @140 LBS PER DRUM

TOTAL 35,280 LBS

LIONEL KOONS

EXPLO SYSTEMS INC

Explo Systems, Inc.
1600 Java Road
Minden, LA 71055

# MATERIAL SAFETY DATA SHEET

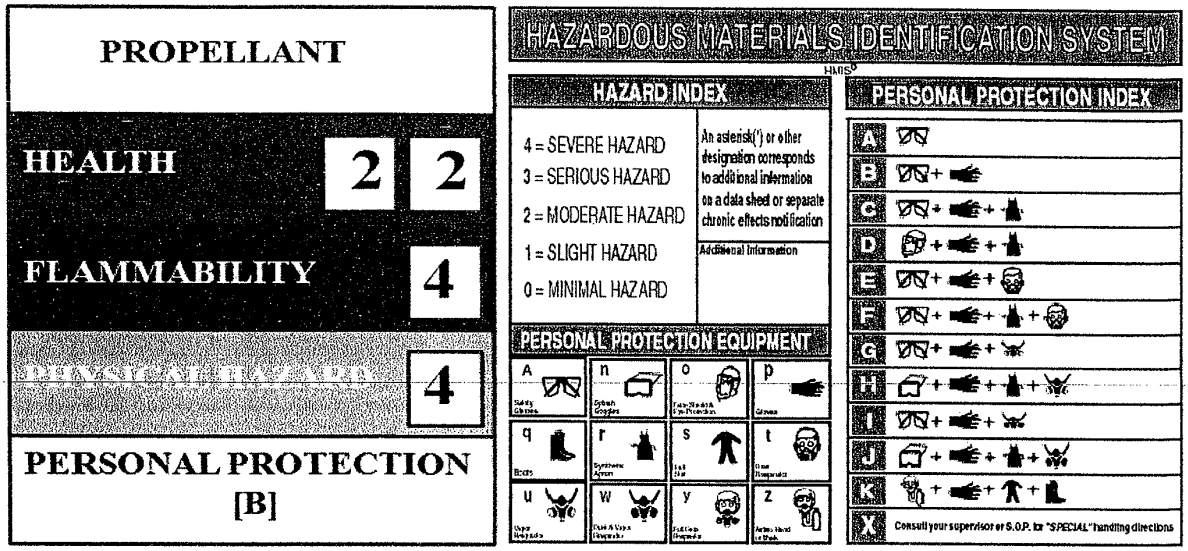
## PROPELLANT (Wetted)

## SECTION I - PRODUCT IDENTIFICATION

PRODUCT NAME: Propellant, Explosive, Solid, Wetted
Technical Information Phone No.: 318.382.8700
For Chemical Emergency (Spill, Fire, Exposure or Accident) call CHEMTREC day or night. Within the US and Canada: +1 800-424-9300. Outside the US and Canada: +1 703-527-3887 (collect calls accepted).

| Ingredient | CAS No. | Wt. % | OSHA PEL<br>ACGIH TLV<br>EPA RQ (if defined)<br>DOT RQ (if defined) |
|---|---|---|---|
| Dibutyl Phthalate | 84-74-2 | 3.00 | OSHA PEL 5 mg/m$^3$<br>ACGIH TLV 5 mg/m$^3$<br>EPA RQ 10 lbs<br>DOT RQ 10 lbs |
| Diphenylamine | 122-39-4 | 1.00 | OSHA PEL 10 mg/m$^3$<br>ACGIH TLV 10 mg/m$^3$<br>EPA RQ (none defined)<br>DOT RQ (none defined) |
| Potassium Sulfate | 7778-80-5 | 2.00 | OSHA PEL none published<br>ACGIH TLV none published<br>EPA RQ (none defined)<br>DOT RQ (none defined) |
| Nitrocellulose<br>(flammable solid) | -- | 87.00 | OSHA PEL none published<br>ACGIH TLV none published<br>EPA RQ (none defined)<br>DOT RQ (none defined) |
| Dinitrotoluene | 25321-14-6 | 10.00 | OSHA PEL 10 mg/m$^3$<br>ACGIH TLV 10 mg/m$^3$<br>EPA RQ 10 lbs<br>DOT RQ 10 lbs |

## SECTION II - HAZARDS IDENTIFICATION




Routes of Entry: Inhalation; Skin; Ingestion
Carcinogenicity: None
First Aid Measures: EYES - Immediately flush with copious amount of water (low pressure) for 15 minutes, remove contact lenses; call physician. SKIN - Wash with soap and running water. INGESTION - Contact physician immediately. INHALATION - Remove to fresh air. Treat irritation symptomatically; call physician.
Firefighting Measures: Self-oxidizing, deluge with water. Will not be able to extinguish unless large quantity of water is used in very short time. Use NIOSH/MSHA approved SCBA and full protective equipment; evacuate area.
Unusual Fire/Explosion Hazard: Easily ignited, highly combustible; protect from fire and sparks and extreme heat.
Autoignition: 383°F (195°C)
Hazardous Combustion Products: Oxides of Carbon
Accidental Release Measures: SPILL - Clean immediately with soft (horsehair) brush and conductive rubber or plastic shovel. Use brass or other non-sparking tools and utensils. DO NOT hammer or otherwise cause impact forces to spilled material (explosion or autoignition could occur with impact force being applied).

## SECTION III - HANDLING AND STORAGE

Precautions: Avoid prolonged temperature above 125°F (50°C). Normal storage conditions should be 75°F (21°C) and 50% Humidity. Storage must conform to local, state and federal regulations, specifically: 29 CFR OSHA 1910.109; 27 CFR BATFE 55 subpart K.
Other Special Precautions: Flammable Solid…Keep away from heat, sparks, open flame…Keep containers closed…use with adequate ventilation.
Ventilation: Local and general ventilation necessary to keep air concentration below TLV's.
Personal Protective Equipment: Safety Glasses, Cotton or Leather Gloves, Fire Resistant Coveralls.

## SECTION IV - PHYSICAL AND CHEMICAL PROPERTIES

Specific Gravity: 1.496
Evaporation Rate: <1 (Butylacetate = 1)
Solubility in Water: negligible
Appearance and Odor: Hard Cylinder Perforated, Smooth, Greenish Yellow. Odorless.
Materials to Avoid: Oxides of Nitrogen and Carbon.



019603
EXP_001237

Conditions to Avoid: Open Flame, Sparks, Heat, Direct Sunlight.
Hazardous Decomposition Products: Oxides of Carbon

## SECTION V – TRANSPORTATION INFORMATION

DOT Proper Shipping Name: Smokeless Powder (wetted)
Hazard Class: 1.3C
UN No. UN0161
Packing Group: II

## SECTION VI - DISPOSAL CONSIDERATIONS

Disposal must be in accordance with federal, state and local regulations. Burn in open burning ground in accordance with regulatory requirements. It may also be burned in an incinerator approved for explosives.

## DISCLAIMER

The information contained in this MSDS (Material Safety Data Sheet) is based upon available constituent data for the components of **Propellant** and is believed to be correct. However, as this information has been obtained from various sources, including the manufacturers of its components and independent laboratories, it is provided herein without warranty or representation that it is complete, accurate and can be relied upon. Explo Systems, Inc. has not attempted to conceal in any manner the deleterious aspects of this product, and makes no warranty as such. Explo Systems, Inc. cannot anticipate nor control the many situations in which this product or this information may be used; there is no guarantee that the health and safety precautions suggested herein will be proper under all conditions. It is the sole responsibility of each user of the product to determine and comply with the requirements of all applicable laws and regulations regarding its use. This information is given solely for the purposes of safety to persons and property. Any other use of this information is expressly prohibited.

## AUTHOR

This MSDS was prepared by: Ferris Callihan, PE - Director Support Technology - Explo Systems, Inc. - 1600 Java Road - Minden, LA 71055 - Tel 318 382 8700 - E-mail: fcallihan@explosystems.com

Load 2

2855

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND81BY70013** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 29 AUGUST 2011** |

| Other Information | Sample Data | | Solvent |
|---|---|---|---|
| M6 Propellant | #1 | 0.50 g 100 ml | ACN |

| Standards (ERG-006) | | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 0.645 | 25.8 | 276.6 | 1.072 |
| 2,4-DNDPA | 50.0 | 3.455 | 935.1 | 0 | 0.000 |
| 2,2' DNDPA | 50.0 | 5.27 | 617.1 | 21259 | 0.000 |
| 2,4' DNDPA | 50.0 | 7.689 | 1017.5 | 0 | 0.000 |
| 4NDPA | 50.0 | 9.239 | 1621.4 | 113 | 0.007 |
| 2NDPA | 50.0 | 10.527 | 2921.7 | 196.9 | 0.007 |
| DPA | 200.0 | 12.049 | 5600.8 | 332.6 | 0.024 |
| N-NitrosoDPA | 75.0 | 12.932 | 1374.7 | 0 | 0.000 |

1.110

| Avg. % Stabilizer for Lot | **1.110** |
|---|---|

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | |
|---|---|
| **Analyst** KISHA DICKERSON | Avg. Tot. Stabilizers **1.11** % |
| Analyst Signature | Stable YES / Unstable |
| Lab. Supervisor Signature | Comments **CATEGORY: A** |
| | Actions to be Taken |

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND82D070113** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 6 JAN 2012** |

| Other Information | Sample Data | | Solvent |
|---|---|---|---|
| M6 Propellant | #1 | 0.50 g 100 ml | ACN |

| Standards (ERG-006) | | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 0.65 | 119.1 | 328.4 | 0.276 |
| 2,4-DNDPA | 50.0 | 3.304 | 1019.8 | 16 | 0.002 |
| 2,2' DNDPA | 50.0 | 4.943 | 1734.6 | 21955 | 0.000 |
| 2,4' DNDPA | 50.0 | 7.018 | 1103.9 | 0 | 0.000 |
| 4NDPA | 50.0 | 8.439 | 1782.5 | 66.8 | 0.004 |
| 2NDPA | 50.0 | 9.513 | 3182.1 | 143.1 | 0.004 |
| DPA | 200.0 | 10.956 | 6219.8 | 790.9 | 0.051 |
| N-NitrosoDPA | 75.0 | 11.669 | 1532.4 | 0 | 0.000 |

0.336

| Avg. % Stabilizer for Lot | **0.336** |
|---|---|

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| **Analyst** TAKISHA DICKERSON | Avg. Tot. Stabilizers **0.34** % |
|---|---|
| Analyst Signature | Stable YES / Unstable |
| Lab. Supervisor Signature | Comments **CATEGORY: A** |
| | Actions to be Taken |

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND82E070114** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 22 NOV 2011** |

| Other Information | Sample Data | | Solvent |
|---|---|---|---|
| M6 Propellant | #1 | 0.50 g 100 ml | ACN |

| Standards (ERG-006) | | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 0.753 | 205.4 | 623.3 | 0.303 |
| 2,4-DNDPA | 50.0 | 3.383 | 927.4 | 0 | 0.000 |
| 2,2' DNDPA | 50.0 | 5.127 | 481.8 | 21922 | 0.000 |
| 2,4' DNDPA | 50.0 | 7.38 | 1001.4 | 0 | 0.000 |
| 4NDPA | 50.0 | 8.893 | 1609.3 | 58.6 | 0.004 |
| 2NDPA | 50.0 | 10.053 | 2886.9 | 118 | 0.004 |
| DPA | 200.0 | 11.586 | 5621.7 | 791.2 | 0.056 |
| N-NitrosoDPA | 75.0 | 12.383 | 1361.9 | 0 | 0.000 |

0.367

| Avg. % Stabilizer for Lot | **0.367** |
|---|---|

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| **Analyst** TAKISHA DICKERSON | Avg. Tot. Stabilizers **0.37** % |
|---|---|
| Analyst Signature | Stable YES / Unstable |
| Lab. Supervisor Signature | Comments **CATEGORY: A** |
| | Actions to be Taken |

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND82K070173** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 21 Apr 2011** |

Other Information
M6 Propellant

Sample Data
#1 0.5000 g 100 ml Solvent ACN

| Standards (ERG-006) | | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 4.152 | 1065.2 | 3146.2 | 0.295 |
| 2,4-DNDPA | 50.0 | 9.483 | 1128.5 | 28956.1 | 2.566 |
| 2,2' DNDPA | 50.0 | 11.075 | 1789.9 | 196.4 | 0.000 |
| 2,4' DNDPA | 50.0 | 11.744 | 1596.2 | 254 | 0.016 |
| 4NDPA | 50.0 | 12.553 | 2329 | 0 | 0.000 |
| 2NDPA | 50.0 | 14.006 | 5766.8 | 251.9 | 0.004 |
| DPA | 200.0 | 15.107 | 1617.9 | 612.3 | 0.151 |
| N-NitrosoDPA | 75.0 | 18.991 | 2304.9 | 398.1 | 0.000 |

3.033

Avg. % Stabilizer for Lot **3.033**

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

**Analyst** Kisha Dickerson

Analyst Signature

Lab. Supervisor Signature

Avg. Tot. Stabilizers **3.03** %

Stable YES | Unstable

Comments
**CATEGORY: A**

Actions to be Taken

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND84C070331** | **D533 / M6 propellant** |
| Date of analysis: | **Date:21 SEP 2010** |

| Other Information | Sample Data | | Solvent |
|---|---|---|---|
| M6 Propellant | #1 | 0.5000 g 100 ml | ACN |

| Standards (ERG-006) | | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 2.168 | 128.5 | 113.7 | 0.088 |
| 2,4-DNDPA | 50.0 | 5.033 | 432 | 217.6 | 0.050 |
| 2,2' DNDPA | 50.0 | 7.206 | 1480.6 | 820.7 | 0.000 |
| 2,4' DNDPA | 50.0 | 10.409 | 485.4 | 222.7 | 0.046 |
| 4NDPA | 50.0 | 12.024 | 1113.3 | 522 | 0.047 |
| 2NDPA | 50.0 | 13.489 | 784 | 396.3 | 0.051 |
| DPA | 200.0 | 14.97 | 2121.4 | 1130.5 | 0.213 |
| N-NitrosoDPA | 75.0 | 16.167 | 463.9 | 299.3 | 0.000 |

| | | |
|---|---|---|
| | | 0.495 |
| | Avg. % Stabilizer for Lot | **0.495** |

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | |
|---|---|
| **Analyst** Mike Kile | Avg. Tot. Stabilizers **0.50** % |
| Analyst Signature | Stable YES \| Unstable |
| | Comments **CATEGORY: A** |
| Lab. Supervisor Signature | |
| | Actions to be Taken |

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND86M070673** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 7 FEB 2012** |

Other Information
M6 Propellant

| Sample Data | | | Solvent |
|---|---|---|---|
| #1 | 0.50 g | 100 ml | ACN |

| Standards (ERG-006) | | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 0.863 | 50.1 | 452.6 | 0.903 |
| 2,4-DNDPA | 50.0 | 3.336 | 893.6 | 0 | 0.000 |
| 2,2' DNDPA | 50.0 | 5.03 | 726.8 | 22299 | 0.000 |
| 2,4' DNDPA | 50.0 | 7.182 | 1225.5 | 0 | 0.000 |
| 4NDPA | 50.0 | 8.642 | 1532.1 | 67.5 | 0.004 |
| 2NDPA | 50.0 | 9.759 | 2784.7 | 120.3 | 0.004 |
| DPA | 200.0 | 11.235 | 5480.9 | 727.3 | 0.053 |
| N-NitrosoDPA | 75.0 | 11.979 | 1363.1 | 0 | 0.000 |

0.965

Avg. % Stabilizer for Lot **0.965**

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | |
|---|---|
| **Analyst** TAKISHA DICKERSON | Avg. Tot. Stabilizers **0.97** % |
| Analyst Signature | Stable YES / Unstable |
| Lab. Supervisor Signature | Comments **CATEGORY: A** |
| | Actions to be Taken |

CONTAINS HAZARDOUS MATERIALS

# STRAIGHT BILL OF LADING — NOT NEGOTIABLE

RECEIVED, subject to the classification and tariffs in effect on the date of the issue of this Original Bill of Lading.
The property described below, in apparent good order, except as noted (contents and condition of contents of packages unknown) consigned, and destined as indicated below, which said carrier (the word carrier being understood throughout this contract meaning any person or corporation in possession of the property under the contract) agrees to curry to its usual place of delivery of said destination. It on its route, otherwise to deliver to another carrier on the route to said destination. It is mutually agreed, as to each of all or any of said property over all or any portion of said route to destination, and as to each party at any time interested in all or any of said property, that every service lobe performed hereunder shall be subject to all the terms and conditions of the Uniform Domestic Straight Bill of Lading Set forth (t) in Uniform Freight Classification in effect on the date hereof, It this is a rail or rail-water shipment, or (2) in the applicable motor carrier classification or tariff it this is a motor carrier shipment.

Shipper hereby certifies that he is familiar with all the terms and conditions of the said bill of lading, set forth in the classification or tariff which governs the transportation of this shipment, and the sold terms and conditions are hereby agreed to by the shipper and accept for himself and his assigns.

Shipper: Explo Systems, Inc.
1600 Java Road
Minden, LA 71055

Load 3

Shipper's No. 2858

Shipping Date 3/13/13

At

Purchase Order No.

By RRW

Freight Charges: Collect _____ Prepaid XX

Location No. 2420

(Mail or Street Address of Consignee — For purposes of notification only)

Consigned to Austin Powder Co

Fed Lic. 5-LA-[illegible]-CE-00139 Exp. Date 5/1/15

Destination 7 Lee 10 Camden AR

State

State Lic. Exp. Date

County East Camden AR

Customer No.

Route

Charge Account of 1870-5[illegible] Fax 502

Customer P.O. No.

Rel. No.

| SHIPPED No. of PKGS | SHIPPED No. of UNITS | PROPER SHIPPING NAME AND HAZARD CLASS | RETURNED No. of PKGS | RETURNED No. of UNITS | EMERGENCY RESPONSE PROCEDURE GUIDE NO. | EXEMPTION DOT-E | H M | Placards Applied to Railcar or Motor Vehicle |
|---|---|---|---|---|---|---|---|---|
| 25/14 | 1921 | UN0161, Powder, Smokeless, 1.3C, PG II | | | #112 | | | EXPLOSIVES 1.3 |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | Truck No. 6172 |
| | | | | | | | | Trailer No. 16922 |
| | | Glenn Kelly | | | | | | Mileage |
| | | Glenn Kelly 3/14/13 | | | | | | Total 25 14 19 Packages |
| | | | | | | | | Gross Weight # 51,000 |
| | | Seal | | | | | | Net Explosive Weight |
| | | 7283967/7283968 | | | | | | 15,000 |

RECEIVED
17ATL3
MAR 14 2013
AUSTIN POWDER COMPANY
EAST CAMDEN PLANT

This is to certify that the above-named materials are properly classified, described, packaged, marked, and labeled and are in proper condition for transportation, according to the applicable regulations of the Department of Transportation.

Signature _____

Invoice No. _____

FOR CHEMICAL EMERGENCY, SPILL, LEAK, FIRE, EXPOSURE OR ACCIDENT CALL CHEMTREC — DAY OR NIGHT
IN THE USA CALL 800-424-9300 IN CANADA (ERP #2-0040) 800-561-3636 ELSEWHERE CALL (703) 527-3887

Permanent Address of Shipper:
**Explo Systems, Inc.**
1600 Java Road
Minden, Louisiana 71055
(318) 382-8700

Per _____

DOT Hazardous Material Handling Number _____
Local Federal Explosives License No. 5-LA-119-20-1A-00057
(Shipper)

I have been offered placards identifying the shipment as Specified in 49CFR Subpart F of Part 172. I have received the above goods in apparent good order and condition.

Received By _____ Date 3-13-13
❑ CONSIGNEE ❑ CARRIER

By _____ Date _____
AUTHORIZED RECEIVER

CONTAINS HAZARDOUS MATERIALS

Agent must detach and retain this Shipping Order

019611

EXP_001245

AUSTIN POWDER PACKING LIST

SHIPMENT DATE 3-~~14~~-13

B/L# 2858 TRL 18477

M-6

IND84G-070326 4 PTS
IND81D-070020 1 PTS
IND82L-070178 5 PTS
IND86M-070673 6 PTS
IND84C-070331 6 PTS
IND81E-070022 15 PTS
IND81D-070019 1 PT
IND82E-070114 1 PT
IND82A-070101 1 PT
IND83F-070274 1 PT
IND85K-070598 1 PT

42 PTS WITH 6 FB @140 LBS PER DRUM

TOTAL 35,280 LBS

LIONEL KOONS

EXPLO SYSTEMS INC

# MOTOR VEHICLE INSPECTION (TRANSPORTING HAZARDOUS MATERIALS)

*(Read Instructions before completing this form.)*

This form applies to all vehicles which must be marked or placarded in accordance with Title 49 CFR.

1. BILL OF LADING/TRANSPORTATION CONTROL NUMBER: 2858

| SECTION 1 - DOCUMENTATION | ORIGIN a. | DESTINATION b. |
|---|---|---|
| 2. CARRIER/GOVERNMENT ORGANIZATION | RRWK | |
| 3. DATE/TIME OF INSPECTION | 3/13/13 | |
| 4. LOCATION OF INSPECTION | EXPLO SYSTEMS INC | |
| 5. OPERATOR(S) NAME(S) | BRAGG, BRIAN | |
| 6. OPERATOR(S) LICENSE NUMBER(S) | 8123128 UC | |
| 7. MEDICAL EXAMINER'S CERTIFICATE* | 10/17/14 | |

8. *(X if satisfactory at origin)*

| | | | | | |
|---|---|---|---|---|---|
| a. MILITARY HAZMAT ENDORSEMENT | | d. ERG OR EQUIVALENT COMMERCIAL: | ✓ YES | NO | |
| b. VALID LEASE* | | e. DRIVER'S VEHICLE INSPECTION REPORT* | | | ✓ |
| c. ROUTE PLAN | | f. COPY OF 49 CFR PART 397 | | | ✓ |

9. CVSA DECAL DISPLAYED ON COMMERCIAL EQUIPMENT*

| | YES | NO |
|---|---|---|
| a. TRUCK/TRACTOR | ✓ | |
| b. TRAILER | | ✓ |

## SECTION II - MECHANICAL INSPECTION

*All items shall be checked on empty equipment prior to loading. Items with an asterisk shall be checked on all incoming loaded equipment.*

10. TYPE OF VEHICLE(S): TRACTOR / TRAILER / DROM

11. VEHICLE NUMBER(S): TRAC # 6172 / TRL # 18477

| 12. PART INSPECTED (X as applicable) | ORIGIN (1) SAT | ORIGIN (1) UNSAT | DESTINATION (2) SAT | DESTINATION (2) UNSAT | | ORIGIN (1) SAT | ORIGIN (1) UNSAT | DESTINATION (2) SAT | DESTINATION (2) UNSAT | COMMENTS (3) |
|---|---|---|---|---|---|---|---|---|---|---|
| a. SPARE ELECTRICAL FUSES | | | | | k. EXHAUST SYSTEM | | | | | |
| b. HORN OPERATIVE | | | | | l. BRAKE SYSTEM* | | | | | |
| c. STEERING SYSTEM | | | | | m. SUSPENSION | | | | | |
| d. WINDSHIELD/WIPERS | | | | | n. COUPLING DEVICES | | | | | |
| e. MIRRORS | | | | | o. CARGO SPACE | | | | | |
| f. WARNING EQUIPMENT | | | | | p. LANDING GEAR* | | | | | |
| g. FIRE EXTINGUISHER* | | | | | q. TIRES, WHEELS, RIMS | | | | | |
| h. ELECTRICAL WIRING | | | | | r. TAILGATE/DOORS* | | | | | |
| i. LIGHTS AND REFLECTORS | | | | | s. TARPAULIN* | N/A | | | | |
| j. FUEL SYSTEM* | | | | | t. OTHER (Specify) | | | | | |

13. INSPECTION RESULTS (X one) ACCEPTED ✓ REJECTED

*(If rejected give reason under "Remarks". Equipment will be approved if deficiencies are corrected prior to loading.)*

14. SATELLITE MOTOR SURVEILLANCE SYSTEM: (X one) ACCEPTED N/A REJECTED

15. REMARKS

16. INSPECTOR SIGNATURE *(Origin)*

17. INSPECTOR SIGNATURE *(Destination)*

## SECTION III - POST LOADING INSPECTION

This section applies to Commercial and Government/Military vehicles. All items will be checked prior to release of loaded equipment and shall be checked on all incoming loaded equipment.

| | ORIGIN (1) SAT | ORIGIN (1) UNSAT | DESTINATION (2) SAT | DESTINATION (2) UNSAT | COMMENTS (3) |
|---|---|---|---|---|---|
| 18. LOADED IAW APPLICABLE SEGREGATION/COMPATIBILITY TABLE OF 49 CFR | | | | | |
| 19. LOAD PROPERLY SECURED TO PREVENT MOVEMENT | | | | | |
| 20. SEALS APPLIED TO CLOSED VEHICLE; TARPAULIN APPLIED ON OPEN EQUIPMENT | | | | | |
| 21. PROPER PLACARDS APPLIED | | | | | |
| 22. SHIPPING PAPERS/DD FORM 836 FOR GOVERNMENT VEHICLE SHIPMENTS | N/A | | | | |
| 23. COPY OF DD FORM 626 FOR DRIVER | | | | | |
| 24. SHIPPED UNDER DOT SPECIAL PERMIT 868 | N/A | | | | |

25. INSPECTOR SIGNATURE *(Origin)*

26. DRIVER(S) SIGNATURE *(Origin)* Brian A. Bragg

27. INSPECTOR SIGNATURE *(Destination)*

28. DRIVER(S) SIGNATURE *(Destination)*

**Explo Systems, Inc.**
**1600 Java Road**
**Minden, LA 71055**

# MATERIAL SAFETY DATA SHEET

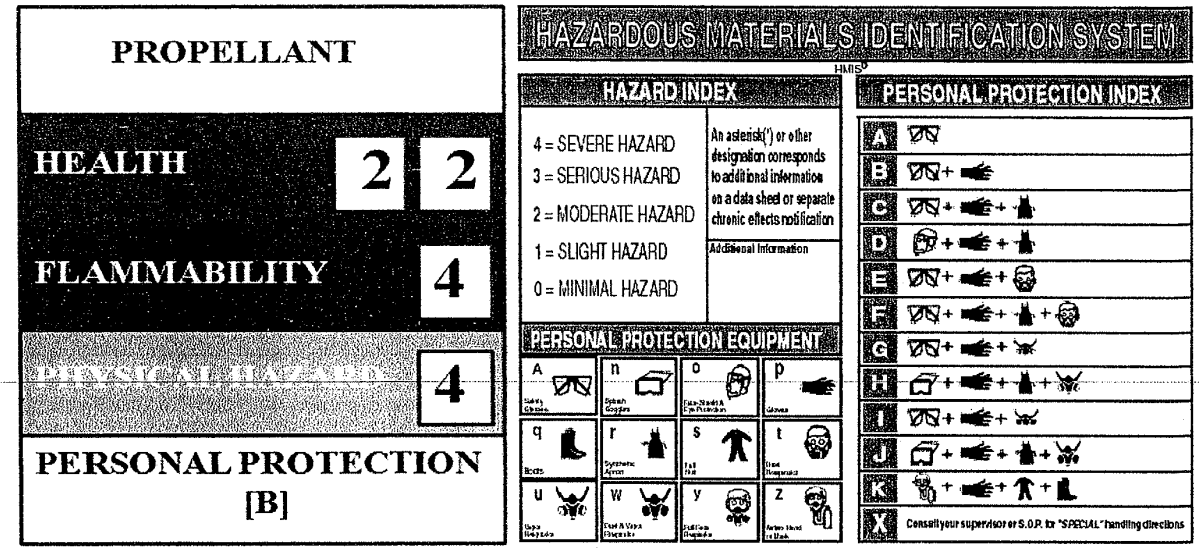
## PROPELLANT (Wetted)

## SECTION I - PRODUCT IDENTIFICATION

PRODUCT NAME: Propellant, Explosive, Solid, Wetted
Technical Information Phone No.: 318 382 8700
For Chemical Emergency (Spill, Fire, Exposure or Accident) call CHEMTREC day or night. Within the US and Canada: +1 800-424-9300. Outside the US and Canada: +1 703-527-3887 (collect calls accepted).

| **Ingredient** | **CAS No.** | **Wt. %** | **OSHA PEL**<br>**ACGIH TLV**<br>**EPA RQ (if defined)**<br>**DOT RQ (if defined)** |
|---|---|---|---|
| Dibutyl Phthalate | 84-74-2 | 3.00 | OSHA PEL 5 mg/m$^3$<br>ACGIH TLV 5 mg/m$^3$<br>EPA RQ 10 lbs<br>DOT RQ 10 lbs |
| Diphenylamine | 122-39-4 | 1.00 | OSHA PEL 10 mg/m$^3$<br>ACGIH TLV 10 mg/m$^3$<br>EPA RQ (none defined)<br>DOT RQ (none defined) |
| Potassium Sulfate | 7778-80-5 | 2.00 | OSHA PEL none published<br>ACGIH TLV none published<br>EPA RQ (none defined)<br>DOT RQ (none defined) |
| Nitrocellulose<br>(flammable solid) | -- | 87.00 | OSHA PEL none published<br>ACGIH TLV none published<br>EPA RQ (none defined)<br>DOT RQ (none defined) |
| Dinitrotoluene | 25321-14-6 | 10.00 | OSHA PEL 10 mg/m$^3$<br>ACGIH TLV 10 mg/m$^3$<br>EPA RQ 10 lbs<br>DOT RQ 10 lbs |

## SECTION II - HAZARDS IDENTIFICATION




Routes of Entry: Inhalation; Skin; Ingestion
Carcinogenicity: None
First Aid Measures: EYES - Immediately flush with copious amount of water (low pressure) for 15 minutes, remove contact lenses; call physician. SKIN - Wash with soap and running water. INGESTION - Contact physician immediately. INHALATION - Remove to fresh air. Treat irritation symptomatically; call physician.
Firefighting Measures: Self-oxidizing, deluge with water. Will not be able to extinguish unless large quantity of water is used in very short time. Use NIOSH/MSHA approved SCBA and full protective equipment; evacuate area.
Unusual Fire/Explosion Hazard: Easily ignited, highly combustible; protect from fire and sparks and extreme heat.
Autoignition: 383°F (195°C)
Hazardous Combustion Products: Oxides of Carbon
Accidental Release Measures: SPILL - Clean immediately with soft (horsehair) brush and conductive rubber or plastic shovel. Use brass or other non-sparking tools and utensils. DO NOT hammer or otherwise cause impact forces to spilled material (explosion or autoignition could occur with impact force being applied).

## SECTION III - HANDLING AND STORAGE

Precautions: Avoid prolonged temperature above 125°F (50°C). Normal storage conditions should be 75°F (21°C) and 50% Humidity. Storage must conform to local, state and federal regulations, specifically: 29 CFR OSHA 1910.109; 27 CFR BATFE 55 subpart K.
Other Special Precautions: Flammable Solid…Keep away from heat, sparks, open flame…Keep containers closed…use with adequate ventilation.
Ventilation: Local and general ventilation necessary to keep air concentration below TLV's.
Personal Protective Equipment: Safety Glasses, Cotton or Leather Gloves, Fire Resistant Coveralls.

## SECTION IV - PHYSICAL AND CHEMICAL PROPERTIES

Specific Gravity: 1.496
Evaporation Rate: <1 (Butylacetate = 1)
Solubility in Water: negligible
Appearance and Odor: Hard Cylinder Perforated, Smooth, Greenish Yellow. Odorless.
Materials to Avoid: Oxides of Nitrogen and Carbon.



019615
EXP_001249

Conditions to Avoid: Open Flame, Sparks, Heat, Direct Sunlight.
Hazardous Decomposition Products: Oxides of Carbon

## SECTION V – TRANSPORTATION INFORMATION

DOT Proper Shipping Name: Smokeless Powder (wetted)
Hazard Class: 1.3C
UN No. UN0161
Packing Group: II

## SECTION VI - DISPOSAL CONSIDERATIONS

Disposal must be in accordance with federal, state and local regulations. Burn in open burning ground in accordance with regulatory requirements. It may also be burned in an incinerator approved for explosives.

## DISCLAIMER

The information contained in this MSDS (Material Safety Data Sheet) is based upon available constituent data for the components of **Propellant** and is believed to be correct. However, as this information has been obtained from various sources, including the manufacturers of its components and independent laboratories, it is provided herein without warranty or representation that it is complete, accurate and can be relied upon. Explo Systems, Inc. has not attempted to conceal in any manner the deleterious aspects of this product, and makes no warranty as such. Explo Systems, Inc. cannot anticipate nor control the many situations in which this product or this information may be used; there is no guarantee that the health and safety precautions suggested herein will be proper under all conditions. It is the sole responsibility of each user of the product to determine and comply with the requirements of all applicable laws and regulations regarding its use. This information is given solely for the purposes of safety to persons and property. Any other use of this information is expressly prohibited.

## AUTHOR

This MSDS was prepared by: Ferris Callihan, PE - Director Support Technology - Explo Systems, Inc. - 1600 Java Road - Minden, LA 71055 - Tel 318 382 8700 - E-mail: fcallihan@explosystems.com

Lot 3

2858

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND86M070673** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 7 FEB 2012** |

| Other Information | Sample Data | | Solvent |
|---|---|---|---|
| M6 Propellant | #1 | 0.50 g 100 ml | ACN |

| | Standards (ERG-006) | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 0.863 | 50.1 | 452.6 | 0.903 |
| 2,4-DNDPA | 50.0 | 3.336 | 893.6 | 0 | 0.000 |
| 2,2' DNDPA | 50.0 | 5.03 | 726.8 | 22299 | 0.000 |
| 2,4' DNDPA | 50.0 | 7.182 | 1225.5 | 0 | 0.000 |
| 4NDPA | 50.0 | 8.642 | 1532.1 | 67.5 | 0.004 |
| 2NDPA | 50.0 | 9.759 | 2784.7 | 120.3 | 0.004 |
| DPA | 200.0 | 11.235 | 5480.9 | 727.3 | 0.053 |
| N-NitrosoDPA | 75.0 | 11.979 | 1363.1 | 0 | 0.000 |

| | 0.965 |
|---|---|
| Avg. % Stabilizer for Lot | **0.965** |

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | |
|---|---|
| **Analyst** TAKISHA DICKERSON | Avg. Tot. Stabilizers **0.97** % |
| Analyst Signature | Stable YES / Unstable |
| Lab. Supervisor Signature | Comments **CATEGORY: A** |
| | Actions to be Taken |

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND85K070598** | **D533 / M6 propellant** |
| Date of analysis: | **Date:25 AUG 2010** |

| Other Information | Sample Data | | Solvent |
|---|---|---|---|
| M6 Propellant | #1 | 0.5000 g 100 ml | ACN |

| Standards (ERG-006) | | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 2.177 | 146.5 | 1423.9 | 0.972 |
| 2,4-DNDPA | 50.0 | 5.001 | 961.7 | 0 | 0.000 |
| 2,2' DNDPA | 50.0 | 7.038 | 2567.5 | 14670.5 | 0.000 |
| 2,4' DNDPA | 50.0 | 9.931 | 938.5 | 0 | 0.000 |
| 4NDPA | 50.0 | 11.434 | 1325.8 | 0 | 0.000 |
| 2NDPA | 50.0 | 12.813 | 1809.7 | 0 | 0.000 |
| DPA | 200.0 | 14.19 | 4886.9 | 403.2 | 0.033 |
| N-NitrosoDPA | 75.0 | 15.18 | 1296.7 | 0 | 0.000 |

| | | |
|---|---|---|
| | | 1.005 |
| | Avg. % Stabilizer for Lot | **1.005** |

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | | |
|---|---|---|
| **Analyst** Kisha Dickerson | Avg. Tot. Stabilizers | **1.00** % |
| Analyst Signature | Stable YES | Unstable |
| | Comments | |
| Lab. Supervisor Signature | **CATEGORY:** | **A** |
| | Actions to be Taken | |

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND84G070326** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 18 JULY 2012** |

| Other Information | Sample Data | | Solvent |
|---|---|---|---|
| M6 Propellant | #1 | 0.50 g 100 ml | ACN |

| Standards (ERG-006) | | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 0.863 | 133.9 | 498.4 | 0.372 |
| 2,4-DNDPA | 50.0 | 3.365 | 949.7 | 0 | 0.000 |
| 2,2' DNDPA | 50.0 | 5.091 | 2605.4 | 24044 | 0.000 |
| 2,4' DNDPA | 50.0 | 7.514 | 1047.9 | 0 | 0.000 |
| 4NDPA | 50.0 | 8.946 | 1698.8 | 49.1 | 0.003 |
| 2NDPA | 50.0 | 10.142 | 3039.5 | 84.6 | 0.003 |
| DPA | 200.0 | 11.585 | 6044.7 | 789.2 | 0.052 |
| N-NitrosoDPA | 75.0 | 12.4 | 1395.6 | 0 | 0.000 |

0.430

| Avg. % Stabilizer for Lot | **0.430** |
|---|---|

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| **Analyst** Takisha Dickerson | Avg. Tot. Stabilizers **0.43** % |
|---|---|
| Analyst Signature | Stable YES \| Unstable |
| Lab. Supervisor Signature | Comments **CATEGORY: A** |
| | Actions to be Taken |

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND84C070331** | **D533 / M6 propellant** |
| Date of analysis: | **Date:21 SEP 2010** |

| Other Information | Sample Data | | Solvent |
|---|---|---|---|
| M6 Propellant | #1 | 0.5000 g 100 ml | ACN |

| | Standards (ERG-006) | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 2.168 | 128.5 | 113.7 | 0.088 |
| 2,4-DNDPA | 50.0 | 5.033 | 432 | 217.6 | 0.050 |
| 2,2' DNDPA | 50.0 | 7.206 | 1480.6 | 820.7 | 0.000 |
| 2,4' DNDPA | 50.0 | 10.409 | 485.4 | 222.7 | 0.046 |
| 4NDPA | 50.0 | 12.024 | 1113.3 | 522 | 0.047 |
| 2NDPA | 50.0 | 13.489 | 784 | 396.3 | 0.051 |
| DPA | 200.0 | 14.97 | 2121.4 | 1130.5 | 0.213 |
| N-NitrosoDPA | 75.0 | 16.167 | 463.9 | 299.3 | 0.000 |

| | 0.495 |
|---|---|
| Avg. % Stabilizer for Lot | **0.495** |

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | |
|---|---|
| **Analyst** Mike Kile | Avg. Tot. Stabilizers **0.50** % |
| Analyst Signature | Stable YES / Unstable |
| Lab. Supervisor Signature | Comments **CATEGORY: A** |
| | Actions to be Taken |

Form #158

Original Print Date:07/19/2010

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND83F070274** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 27 JULY 2011** |

| Other Information | Sample Data | | Solvent |
|---|---|---|---|
| M6 Propellant | #1 | 0.50 g 100 ml | ACN |

| Standards (ERG-006) | | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 0.694 | 112.8 | 622.1 | 0.552 |
| 2,4-DNDPA | 50.0 | 3.477 | 942.8 | 0 | 0.000 |
| 2,2' DNDPA | 50.0 | 5.339 | 77.4 | 22209 | 0.000 |
| 2,4' DNDPA | 50.0 | 7.842 | 1020.3 | 0 | 0.000 |
| 4NDPA | 50.0 | 9.392 | 1634.2 | 48.5 | 0.003 |
| 2NDPA | 50.0 | 10.693 | 2956.2 | 98.3 | 0.003 |
| DPA | 200.0 | 12.201 | 5630.5 | 451.4 | 0.032 |
| N-NitrosoDPA | 75.0 | 13.103 | 1385.2 | 0 | 0.000 |

| | |
|---|---|
| | 0.590 |
| Avg. % Stabilizer for Lot | **0.590** |

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | |
|---|---|
| **Analyst** Takisha Dickerson | Avg. Tot. Stabilizers **0.59** % |
| Analyst Signature | Stable YES / Unstable |
| Lab. Supervisor Signature | Comments **CATEGORY: A** |
| | Actions to be Taken |

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND82A070101** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 28 June 2012** |

Other Information
M6 Propellant

| Sample Data | | | Solvent |
|---|---|---|---|
| #1 | 0.50 g | 100 ml | ACN |

| Standards (ERG-006) | | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 0.874 | 19.1 | 129.9 | 0.680 |
| 2,4-DNDPA | 50.0 | 3.347 | 961.1 | 0 | 0.000 |
| 2,2' DNDPA | 50.0 | 5.046 | 4032.7 | 23810 | 0.000 |
| 2,4' DNDPA | 50.0 | 6.347 | 22 | 0 | 0.000 |
| 4NDPA | 50.0 | 7.273 | 1080.1 | 0 | 0.000 |
| 2NDPA | 50.0 | 8.74 | 1782.9 | 45.1 | 0.003 |
| DPA | 200.0 | 9.886 | 3122.3 | 81.2 | 0.010 |
| N-NitrosoDPA | 75.0 | 11.353 | 6047.1 | 776.8 | 0.000 |

| | | |
|---|---|---|
| | | 0.693 |
| Avg. % Stabilizer for Lot | | **0.693** |

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | |
|---|---|
| **Analyst** Takisha Dickerson | Avg. Tot. Stabilizers **0.69** % |
| Analyst Signature | Stable YES \| Unstable |
| Lab. Supervisor Signature | Comments<br>**CATEGORY:** **A** |
| | Actions to be Taken |

Form #150

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND82E070114** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 22 NOV 2011** |

| Other Information | Sample Data | | Solvent |
|---|---|---|---|
| M6 Propellant | #1 | 0.50 g 100 ml | ACN |

| Standards (ERG-006) | | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 0.753 | 205.4 | 623.3 | 0.303 |
| 2,4-DNDPA | 50.0 | 3.383 | 927.4 | 0 | 0.000 |
| 2,2' DNDPA | 50.0 | 5.127 | 481.8 | 21922 | 0.000 |
| 2,4' DNDPA | 50.0 | 7.38 | 1001.4 | 0 | 0.000 |
| 4NDPA | 50.0 | 8.893 | 1609.3 | 58.6 | 0.004 |
| 2NDPA | 50.0 | 10.053 | 2886.9 | 118 | 0.004 |
| DPA | 200.0 | 11.586 | 5621.7 | 791.2 | 0.056 |
| N-NitrosoDPA | 75.0 | 12.383 | 1361.9 | 0 | 0.000 |

0.367

| Avg. % Stabilizer for Lot | **0.367** |
|---|---|

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| **Analyst** TAKISHA DICKERSON | Avg. Tot. Stabilizers **0.37** % | |
|---|---|---|
| Analyst Signature | Stable YES | Unstable |
| Lab. Supervisor Signature | Comments **CATEGORY: A** | |
| | Actions to be Taken | |

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND82L070178** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 1 FEB 2011** |

Other Information
M6 Propellant

| Sample Data | | | Solvent |
|---|---|---|---|
| #1 | 0.5000 g | 100 ml | ACN |

| Standards (ERG-006) | | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 4.156 | 1116 | 1943.1 | 0.174 |
| 2,4-DNDPA | 50.0 | 9.388 | 1191.2 | 25869.9 | 2.172 |
| 2,2' DNDPA | 50.0 | 10.987 | 1694.7 | 97.6 | 0.000 |
| 2,4' DNDPA | 50.0 | 11.73 | 1272.3 | 145.3 | 0.011 |
| 4NDPA | 50.0 | 12.459 | 2443.3 | 0 | 0.000 |
| 2NDPA | 50.0 | 13.939 | 5852.1 | 388.6 | 0.007 |
| DPA | 200.0 | 15.022 | 1753.1 | 361.4 | 0.082 |
| N-NitrosoDPA | 75.0 | 18.932 | 2535.1 | 365.7 | 0.000 |

2.446

| Avg. % Stabilizer for Lot | **2.446** |
|---|---|

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | |
|---|---|
| **Analyst** Mike Kile | Avg. Tot. Stabilizers **2.45** % |
| Analyst Signature | Stable YES \| Unstable |
| | Comments |
| Lab. Supervisor Signature | CATEGORY: A |
| | Actions to be Taken |

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND81E070022** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 23 AUG 2010** |

| Other Information | Sample Data | | Solvent |
|---|---|---|---|
| M6 Propellant | #1 | 0.5000 g 100 ml | ACN |

| Standards (ERG-006) | | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | | 0 | | |
| 2,4-DNDPA | 50.0 | 4.884 | 715.1 | 0 | 0.000 |
| 2,2' DNDPA | 50.0 | 9.663 | 794.8 | 17278.9 | 2.174 |
| 2,4' DNDPA | 50.0 | 11.213 | 1155.8 | 0 | 0.000 |
| 4NDPA | 50.0 | 11.899 | 750.7 | 0 | 0.000 |
| 2NDPA | 50.0 | 12.536 | 1565 | 0 | 0.000 |
| DPA | 200.0 | 13.934 | 4151.3 | 0 | 0.000 |
| N-NitrosoDPA | 75.0 | 14.875 | 1080.5 | 451.1 | 0.063 |

| | | |
|---|---|---|
| | | 2.237 |
| Avg. % Stabilizer for Lot | | **2.237** |

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | |
|---|---|
| **Analyst** Kisha Dickerson | Avg. Tot. Stabilizers **2.24** % |
| Analyst Signature | Stable YES / Unstable |
| | Comments **CATEGORY: A** |
| Lab. Supervisor Signature | |
| | Actions to be Taken |

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND81D070020** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 10 Feb 2012** |

| Other Information | Sample Data | | Solvent |
|---|---|---|---|
| M6 Propellant | #1 | 0.50 g 100 ml | ACN |

| | Standards (ERG-006) | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 0.868 | 53.7 | 398.1 | 0.741 |
| 2,4-DNDPA | 50.0 | 3.292 | 916.2 | 0 | 0.000 |
| 2,2' DNDPA | 50.0 | 4.936 | 839.4 | 22071 | 0.000 |
| 2,4' DNDPA | 50.0 | 6.943 | 1003.3 | 0 | 0.000 |
| 4NDPA | 50.0 | 8.309 | 1616.5 | 50 | 0.003 |
| 2NDPA | 50.0 | 9.362 | 2912 | 113.3 | 0.004 |
| DPA | 200.0 | 10.749 | 5497.2 | 666 | 0.048 |
| N-NitrosoDPA | 75.0 | 11.362 | 1264.1 | 355.2 | 0.000 |

| | | |
|---|---|---|
| | | 0.797 |
| | Avg. % Stabilizer for Lot | **0.797** |

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | |
|---|---|
| **Analyst** Mike Kile | Avg. Tot. Stabilizers **0.80** % |
| Analyst Signature | Stable YES \| Unstable |
| | Comments |
| Lab. Supervisor Signature | **CATEGORY:** **A** |
| | Actions to be Taken |

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND81D070019** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 29 MAY 2012** |

| Other Information | Sample Data | | | Solvent |
|---|---|---|---|---|
| M6 Propellant | #1 | 0.50 g | 100 ml | ACN |

| Standards (ERG-006) | | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 0.86 | 235.9 | 525.7 | 0.223 |
| 2,4-DNDPA | 50.0 | 3.398 | 913.2 | 0 | 0.000 |
| 2,2' DNDPA | 50.0 | 5.133 | 1007.2 | 37577 | 0.000 |
| 2,4' DNDPA | 50.0 | 7.409 | 1002.4 | 0 | 0.000 |
| 4NDPA | 50.0 | 8.917 | 1612.8 | 186.9 | 0.012 |
| 2NDPA | 50.0 | 10.112 | 2882.2 | 282.1 | 0.010 |
| DPA | 200.0 | 11.607 | 5642.3 | 917.9 | 0.065 |
| N-NitrosoDPA | 75.0 | 12.414 | 1351.4 | | 0.000 |

| | | |
|---|---|---|
| | | 0.309 |
| Avg. % Stabilizer for Lot | | **0.309** |

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | | | |
|---|---|---|---|
| **Analyst** | Takisha Dickerson | Avg. Tot. Stabilizers | **0.31** % |
| Analyst Signature | | Stable YES | Unstable |
| Lab. Supervisor Signature | | Comments **CATEGORY:** **A** | |
| | | Actions to be Taken | |

CONTAINS HAZARDOUS MATERIALS

# STRAIGHT BILL OF LADING Load 4 NOT NEGOTIABLE

Trailer R12483

RECEIVED, subject to the classification and tariffs in effect on the date of the issue of this Original Bill of Lading.
The property described below, in apparent good order, except as noted (contents and condition of contents of packages unknown) consigned, end destined as indicated below, which said carrier (the word carrier being understood throughout this contract meaning any person or corporation in possession of the property under the contract) agrees to curry to its usual place of delivery of said destination. It on its route, otherwise to deliver to another carrier on the route to said destination. It is mutually agreed, as to each of all or any of said property over all or any portion of said route to destination, and as to each party at any time interested in all or any of said property, that every service lobe performed hereunder shall be subject to all the terms and conditions of the Uniform Domestic Straight Bill of Lading Set forth (t) in Uniform Freight Classification in effect on the date hereof, It this is a rail or rail-water shipment, or (2) in the applicable motor carrier classification or tariff it this is a motor carrier shipment.

Shipper hereby certifies that he is familiar with all the terms and conditions of the said bill of lading, set forth in the classification or tariff which governs the transportation of this shipment, and the sold terms and conditions are hereby agreed to by the shipper and accept for himself and his assigns.

Shipper: Explo Systems, Inc.
1600 Java Road
Minden, LA 71055

Shipper's No. 2857

Shipping Date 3/13/13

At

Purchase Order No.

By RRUK

Freight Charges: Collect _____ Prepaid XXX

Location No. 2420

(Mail or Street Address of Consignee — For purposes of notification only)

Consigned to Austin Powder Co

Fed Lic. 5-AR-103-20-5E-00139

Exp. Date 5/1/15

Destination 7-Lc-10 Blandyrd

State

State Lic.

Exp. Date

County East Camden, AR

Customer No.

Route

Charge Account of 1-870-5 [illegible]

Customer P.O. No.

Rel. No.

| SHIPPED No. of PKGS | SHIPPED No. of UNITS | PROPER SHIPPING NAME AND HAZARD CLASS | RETURNED No. of PKGS | RETURNED No. of UNITS | EMERGENCY RESPONSE PROCEDURE GUIDE NO. | EXEMPTION DOT-E | HM | Placards Applied to Railcar or Motor Vehicle |
|---|---|---|---|---|---|---|---|---|
| [illegible] | [illegible] | UN0161, Powder, Smokeless, 1.3C, PG II | | | #112 | [illegible] | [illegible] | EXPLOSIVES 1.3 |
| | | | | | | | | |
| | | | | | | | | |
| | | [illegible] | | | | | | Truck No. 6172 |
| | | [illegible] 3/14/13 | | | | | | Trailer No. 18483 |
| | | | | | | | | Mileage |
| | | | | | | | | Total [illegible] Packages |
| | | | | | | | | Gross Weight # 39000 |
| | | Seal # | | | | | | Net Explosive Weight |
| | | 7083985/7083986 | | | | | | 35,280 |

ENTERED 3/14/13 [illegible]

RECEIVED 17AT13 MAR 14 2013 AUSTIN POWDER COMPANY EAST CAMDEN PLANT

This is to certify that the above-named materials are properly classified, described, packaged, marked, and labeled and are in proper condition for transportation, according to the applicable regulations of the Department of Transportation.

Signature [signature]

Invoice No. _____

FOR CHEMICAL EMERGENCY, SPILL, LEAK, FIRE, EXPOSURE OR ACCIDENT CALL CHEMTREC — DAY OR NIGHT
IN THE USA CALL 800-424-9300 IN CANADA (ERP #2-0040) 800-561-3636 ELSEWHERE CALL (703) 527-3887 CC N644589

Permanent Address of Shipper:
**Explo Systems, Inc.**
1600 Java Road
Minden, Louisiana 71055
(318) 382-8700

Per _____

DOT Hazardous Material Handling Number _____
Local Federal Explosives License No. 5-LA-119-20-1A-00057
(Shipper)

I have been offered placards identifying the shipment as Specified in 49CFR Subpart F of Part 172. I have received the above goods in apparent good order and condition.

Received By [signature] Date 3-13-13
☐ CONSIGNEE ☐ CARRIER

By _____ Date _____
AUTHORIZED RECEIVER

CONTAINS HAZARDOUS MATERIALS

Agent must detach and retain this Shipping Order

019629

EXP_001263

AUSTIN POWDER PACKING LIST

SHIPMENT DATE 3/13/13

B/L# 2857 TRL 18483

M-6

IND84G-070326 7 PTS
IND81D-070020 3 PTS
IND82L-070178 8 PTS
IND86M-070673 5 PTS
IND84C-070331 6 PTS
IND81E-070022 8 PTS
IND88E-070963 1 PT
IND81D-070019 1 PT
IND82E-070114 1 PT
IND81B-070013 1 PT
IND82A-070101 1 PT

42 PTS WITH 6 FB @140 LBS PER DRUM

TOTAL 35,280 LBS

LIONEL KOONS

EXPLO SYSTEMS INC

# MOTOR VEHICLE INSPECTION (TRANSPORTING HAZARDOUS MATERIALS)

*(Read Instructions before completing this form.)*

This form applies to all vehicles which must be marked or placarded in accordance with Title 49 CFR.

1. BILL OF LADING/TRANSPORTATION CONTROL NUMBER: 9857

| SECTION 1 - DOCUMENTATION | ORIGIN a. | DESTINATION b. |
|---|---|---|
| 2. CARRIER/GOVERNMENT ORGANIZATION | IRIVK | |
| 3. DATE/TIME OF INSPECTION | 3/13/13 | |
| 4. LOCATION OF INSPECTION | EXDIO SYSTEMS INC | |
| 5. OPERATOR(S) NAME(S) | BRIGHAC, BRIAN | |
| 6. OPERATOR(S) LICENSE NUMBER(S) | S86328 NC | |
| 7. MEDICAL EXAMINER'S CERTIFICATE* | 10/17/14 | |

8. *(X if satisfactory at origin)*

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| a. MILITARY HAZMAT ENDORSEMENT | | d. ERG OR EQUIVALENT COMMERCIAL: | | YES | | NO | |
| b. VALID LEASE* | | e. DRIVER'S VEHICLE INSPECTION REPORT* | | | | | |
| c. ROUTE PLAN | | f. COPY OF 49 CFR PART 397 | | | | | |

9. CVSA DECAL DISPLAYED ON COMMERCIAL EQUIPMENT*

| | YES | NO |
|---|---|---|
| a. TRUCK/TRACTOR | | |
| b. TRAILER | | |

## SECTION II - MECHANICAL INSPECTION

*All items shall be checked on empty equipment prior to loading. Items with an asterisk shall be checked on all incoming loaded equipment.*

10. TYPE OF VEHICLE(S): TRACTOR / TRAILER / DROM

11. VEHICLE NUMBER(S): TRAC #6172 / TRL # 18483

| 12. PART INSPECTED *(X as applicable)* | ORIGIN (1) SAT | ORIGIN (1) UNSAT | DESTINATION (2) SAT | DESTINATION (2) UNSAT | | ORIGIN (1) SAT | ORIGIN (1) UNSAT | DESTINATION (2) SAT | DESTINATION (2) UNSAT | COMMENTS (3) |
|---|---|---|---|---|---|---|---|---|---|---|
| a. SPARE ELECTRICAL FUSES | | | | | k. EXHAUST SYSTEM | | | | | |
| b. HORN OPERATIVE | | | | | l. BRAKE SYSTEM* | | | | | |
| c. STEERING SYSTEM | | | | | m. SUSPENSION | | | | | |
| d. WINDSHIELD/WIPERS | | | | | n. COUPLING DEVICES | | | | | |
| e. MIRRORS | | | | | o. CARGO SPACE | | | | | |
| f. WARNING EQUIPMENT | | | | | p. LANDING GEAR* | | | | | |
| g. FIRE EXTINGUISHER* | | | | | q. TIRES, WHEELS, RIMS | | | | | |
| h. ELECTRICAL WIRING | | | | | r. TAILGATE/DOORS* | | | | | |
| i. LIGHTS AND REFLECTORS | | | | | s. TARPAULIN* | | | | | |
| j. FUEL SYSTEM* | | | | | t. OTHER *(Specify)* | | | | | |

13. INSPECTION RESULTS *(X one)* ACCEPTED / REJECTED

*(If rejected give reason under "Remarks". Equipment will be approved if deficiencies are corrected prior to loading.)*

14. SATELLITE MOTOR SURVEILLANCE SYSTEM: *(X one)* ACCEPTED | REJECTED

15. REMARKS

16. INSPECTOR SIGNATURE *(Origin)*

17. INSPECTOR SIGNATURE *(Destination)*

## SECTION III - POST LOADING INSPECTION

This section applies to Commercial and Government/Military vehicles. All items will be checked prior to release of loaded equipment and shall be checked on all incoming loaded equipment.

| | ORIGIN (1) SAT | ORIGIN (1) UNSAT | DESTINATION (2) SAT | DESTINATION (2) UNSAT | COMMENTS (3) |
|---|---|---|---|---|---|
| 18. LOADED IAW APPLICABLE SEGREGATION/COMPATIBILITY TABLE OF 49 CFR | | | | | |
| 19. LOAD PROPERLY SECURED TO PREVENT MOVEMENT | | | | | |
| 20. SEALS APPLIED TO CLOSED VEHICLE; TARPAULIN APPLIED ON OPEN EQUIPMENT | | | | | |
| 21. PROPER PLACARDS APPLIED | | | | | |
| 22. SHIPPING PAPERS/DD FORM 836 FOR GOVERNMENT VEHICLE SHIPMENTS | N/A | | | | |
| 23. COPY OF DD FORM 626 FOR DRIVER | | | | | |
| 24. SHIPPED UNDER DOT SPECIAL PERMIT 868 | N/A | | | | |

25. INSPECTOR SIGNATURE *(Origin)*

26. DRIVER(S) SIGNATURE *(Origin)* T. Brian Brighac

27. INSPECTOR SIGNATURE *(Destination)*

28. DRIVER(S) SIGNATURE *(Destination)*

**Explo Systems, Inc.**
**1600 Java Road**
**Minden, LA 71055**

# MATERIAL SAFETY DATA SHEET

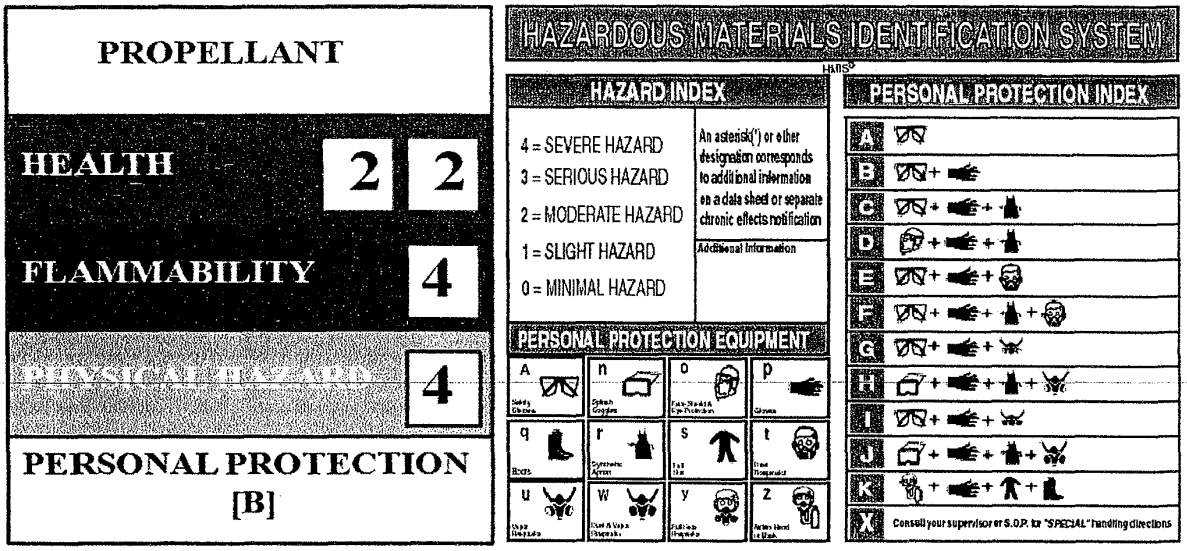
## PROPELLANT (Wetted)

## SECTION I - PRODUCT IDENTIFICATION

PRODUCT NAME: Propellant, Explosive, Solid, Wetted
Technical Information Phone No.: 318 382 8700
For Chemical Emergency (Spill, Fire, Exposure or Accident) call CHEMTREC day or night. Within the US and Canada: +1 800-424-9300. Outside the US and Canada: +1 703-527-3887 (collect calls accepted).

| **Ingredient** | **CAS No.** | **Wt. %** | **OSHA PEL**<br>**ACGIH TLV**<br>**EPA RQ (if defined)**<br>**DOT RQ (if defined)** |
|---|---|---|---|
| Dibutyl Phthalate | 84-74-2 | 3.00 | OSHA PEL 5 mg/m$^3$<br>ACGIH TLV 5 mg/m$^3$<br>EPA RQ 10 lbs<br>DOT RQ 10 lbs |
| Diphenylamine | 122-39-4 | 1.00 | OSHA PEL 10 mg/m$^3$<br>ACGIH TLV 10 mg/m$^3$<br>EPA RQ (none defined)<br>DOT RQ (none defined) |
| Potassium Sulfate | 7778-80-5 | 2.00 | OSHA PEL none published<br>ACGIH TLV none published<br>EPA RQ (none defined)<br>DOT RQ (none defined) |
| Nitrocellulose (flammable solid) | -- | 87.00 | OSHA PEL none published<br>ACGIH TLV none published<br>EPA RQ (none defined)<br>DOT RQ (none defined) |
| Dinitrotoluene | 25321-14-6 | 10.00 | OSHA PEL 10 mg/m$^3$<br>ACGIH TLV 10 mg/m$^3$<br>EPA RQ 10 lbs<br>DOT RQ 10 lbs |

## SECTION II - HAZARDS IDENTIFICATION




Routes of Entry: Inhalation; Skin; Ingestion
Carcinogenicity: None
First Aid Measures: EYES - Immediately flush with copious amount of water (low pressure) for 15 minutes, remove contact lenses; call physician. SKIN - Wash with soap and running water. INGESTION - Contact physician immediately. INHALATION - Remove to fresh air. Treat irritation symptomatically; call physician.
Firefighting Measures: Self-oxidizing, deluge with water. Will not be able to extinguish unless large quantity of water is used in very short time. Use NIOSH/MSHA approved SCBA and full protective equipment; evacuate area.
Unusual Fire/Explosion Hazard: Easily ignited, highly combustible; protect from fire and sparks and extreme heat.
Autoignition: 383°F (195°C)
Hazardous Combustion Products: Oxides of Carbon
Accidental Release Measures: SPILL - Clean immediately with soft (horsehair) brush and conductive rubber or plastic shovel. Use brass or other non-sparking tools and utensils. DO NOT hammer or otherwise cause impact forces to spilled material (explosion or autoignition could occur with impact force being applied).

## SECTION III - HANDLING AND STORAGE

Precautions: Avoid prolonged temperature above 125°F (50°C). Normal storage conditions should be 75°F (21°C) and 50% Humidity. Storage must conform to local, state and federal regulations, specifically: 29 CFR OSHA 1910.109; 27 CFR BATFE 55 subpart K.
Other Special Precautions: Flammable Solid…Keep away from heat, sparks, open flame…Keep containers closed…use with adequate ventilation.
Ventilation: Local and general ventilation necessary to keep air concentration below TLV's.
Personal Protective Equipment: Safety Glasses, Cotton or Leather Gloves, Fire Resistant Coveralls.

## SECTION IV - PHYSICAL AND CHEMICAL PROPERTIES

Specific Gravity: 1.496
Evaporation Rate: <1 (Butylacetate = 1)
Solubility in Water: negligible
Appearance and Odor: Hard Cylinder Perforated, Smooth, Greenish Yellow. Odorless.
Materials to Avoid: Oxides of Nitrogen and Carbon.

Conditions to Avoid: Open Flame, Sparks, Heat, Direct Sunlight.
Hazardous Decomposition Products: Oxides of Carbon

## SECTION V – TRANSPORTATION INFORMATION

DOT Proper Shipping Name: Smokeless Powder (wetted)
Hazard Class: 1.3C
UN No. UN0161
Packing Group: II

## SECTION VI - DISPOSAL CONSIDERATIONS

Disposal must be in accordance with federal, state and local regulations. Burn in open burning ground in accordance with regulatory requirements. It may also be burned in an incinerator approved for explosives.

## DISCLAIMER

The information contained in this MSDS (Material Safety Data Sheet) is based upon available constituent data for the components of **Propellant** and is believed to be correct. However, as this information has been obtained from various sources, including the manufacturers of its components and independent laboratories, it is provided herein without warranty or representation that it is complete, accurate and can be relied upon. Explo Systems, Inc. has not attempted to conceal in any manner the deleterious aspects of this product, and makes no warranty as such. Explo Systems, Inc. cannot anticipate nor control the many situations in which this product or this information may be used; there is no guarantee that the health and safety precautions suggested herein will be proper under all conditions. It is the sole responsibility of each user of the product to determine and comply with the requirements of all applicable laws and regulations regarding its use. This information is given solely for the purposes of safety to persons and property. Any other use of this information is expressly prohibited.

## AUTHOR

This MSDS was prepared by: Ferris Callihan, PE - Director Support Technology - Explo Systems, Inc. - 1600 Java Road - Minden, LA 71055 - Tel 318 382 8700 - E-mail: fcallihan@explosystems.com

Load 4
2857

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND88E070963** | **D533 / M6 propellant** |
| Date of analysis: | **Date:25 AUG 2010** |

| Other Information | Sample Data | | Solvent |
|---|---|---|---|
| M6 Propellant | #1 | 0.5000 g 100 ml | ACN |

| Standards (ERG-006) | | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 2.177 | 146.5 | 1369.8 | 0.935 |
| 2,4-DNDPA | 50.0 | 5.001 | 961.7 | 0 | 0.000 |
| 2,2' DNDPA | 50.0 | 7.038 | 2567.5 | 12491.2 | 0.000 |
| 2,4' DNDPA | 50.0 | 9.931 | 938.5 | 0 | 0.000 |
| 4NDPA | 50.0 | 11.434 | 1325.8 | 0 | 0.000 |
| 2NDPA | 50.0 | 12.813 | 1809.7 | 0 | 0.000 |
| DPA | 200.0 | 14.19 | 4886.9 | 610.3 | 0.050 |
| N-NitrosoDPA | 75.0 | 15.18 | 1296.7 | 0 | 0.000 |

| | | |
|---|---|---|
| | | 0.985 |
| Avg. % Stabilizer for Lot | | **0.985** |

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | | |
|---|---|---|
| **Analyst** Kisha Dickerson | Avg. Tot. Stabilizers | **0.98** % |
| Analyst Signature | Stable YES | Unstable |
| Lab. Supervisor Signature | Comments **CATEGORY:** **A** | |
| | Actions to be Taken | |

Form #158 Original Print Date:07/19/2010

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND86M070673** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 7 FEB 2012** |

| Other Information | Sample Data | | Solvent |
|---|---|---|---|
| M6 Propellant | #1 | 0.50 g 100 ml | ACN |

| Standards (ERG-006) | | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 0.863 | 50.1 | 452.6 | 0.903 |
| 2,4-DNDPA | 50.0 | 3.336 | 893.6 | 0 | 0.000 |
| 2,2' DNDPA | 50.0 | 5.03 | 726.8 | 22299 | 0.000 |
| 2,4' DNDPA | 50.0 | 7.182 | 1225.5 | 0 | 0.000 |
| 4NDPA | 50.0 | 8.642 | 1532.1 | 67.5 | 0.004 |
| 2NDPA | 50.0 | 9.759 | 2784.7 | 120.3 | 0.004 |
| DPA | 200.0 | 11.235 | 5480.9 | 727.3 | 0.053 |
| N-NitrosoDPA | 75.0 | 11.979 | 1363.1 | 0 | 0.000 |

| | | |
|---|---|---|
| | | 0.965 |
| Avg. % Stabilizer for Lot | | **0.965** |

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | | |
|---|---|---|
| **Analyst** TAKISHA DICKERSON | Avg. Tot. Stabilizers | **0.97** % |
| Analyst Signature | Stable YES | Unstable |
| | Comments | |
| Lab. Supervisor Signature | **CATEGORY:** | **A** |
| | Actions to be Taken | |

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND84C070331** | **D533 / M6 propellant** |
| Date of analysis: | **Date:21 SEP 2010** |

| Other Information | Sample Data | | Solvent |
|---|---|---|---|
| M6 Propellant | #1 | 0.5000 g 100 ml | ACN |

| Standards (ERG-006) | | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 2.168 | 128.5 | 113.7 | 0.088 |
| 2,4-DNDPA | 50.0 | 5.033 | 432 | 217.6 | 0.050 |
| 2,2' DNDPA | 50.0 | 7.206 | 1480.6 | 820.7 | 0.000 |
| 2,4' DNDPA | 50.0 | 10.409 | 485.4 | 222.7 | 0.046 |
| 4NDPA | 50.0 | 12.024 | 1113.3 | 522 | 0.047 |
| 2NDPA | 50.0 | 13.489 | 784 | 396.3 | 0.051 |
| DPA | 200.0 | 14.97 | 2121.4 | 1130.5 | 0.213 |
| N-NitrosoDPA | 75.0 | 16.167 | 463.9 | 299.3 | 0.000 |

| | |
|---|---|
| | 0.495 |
| Avg. % Stabilizer for Lot | **0.495** |

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | |
|---|---|
| **Analyst** Mike Kile | Avg. Tot. Stabilizers **0.50** % |
| Analyst Signature | Stable YES / Unstable |
| Lab. Supervisor Signature | Comments **CATEGORY: A** |
| | Actions to be Taken |

Form #158

Original Print Date:07/19/2010

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND84G070326** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 18 JULY 2012** |

| Other Information | Sample Data | | Solvent |
|---|---|---|---|
| M6 Propellant | #1 | 0.50 g 100 ml | ACN |

| Standards (ERG-006) | | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 0.863 | 133.9 | 498.4 | 0.372 |
| 2,4-DNDPA | 50.0 | 3.365 | 949.7 | 0 | 0.000 |
| 2,2' DNDPA | 50.0 | 5.091 | 2605.4 | 24044 | 0.000 |
| 2,4' DNDPA | 50.0 | 7.514 | 1047.9 | 0 | 0.000 |
| 4NDPA | 50.0 | 8.946 | 1698.8 | 49.1 | 0.003 |
| 2NDPA | 50.0 | 10.142 | 3039.5 | 84.6 | 0.003 |
| DPA | 200.0 | 11.585 | 6044.7 | 789.2 | 0.052 |
| N-NitrosoDPA | 75.0 | 12.4 | 1395.6 | 0 | 0.000 |

| | 0.430 |
|---|---|
| Avg. % Stabilizer for Lot | **0.430** |

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | |
|---|---|
| **Analyst** Takisha Dickerson | Avg. Tot. Stabilizers **0.43** % |
| Analyst Signature | Stable YES \| Unstable |
| Lab. Supervisor Signature | Comments **CATEGORY: A** |
| | Actions to be Taken |

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND82A070101** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 28 June 2012** |

| Other Information | Sample Data | | Solvent |
|---|---|---|---|
| M6 Propellant | #1 | 0.50 g 100 ml | ACN |

| Standards (ERG-006) | | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 0.874 | 19.1 | 129.9 | 0.680 |
| 2,4-DNDPA | 50.0 | 3.347 | 961.1 | 0 | 0.000 |
| 2,2' DNDPA | 50.0 | 5.046 | 4032.7 | 23810 | 0.000 |
| 2,4' DNDPA | 50.0 | 6.347 | 22 | 0 | 0.000 |
| 4NDPA | 50.0 | 7.273 | 1080.1 | 0 | 0.000 |
| 2NDPA | 50.0 | 8.74 | 1782.9 | 45.1 | 0.003 |
| DPA | 200.0 | 9.886 | 3122.3 | 81.2 | 0.010 |
| N-NitrosoDPA | 75.0 | 11.353 | 6047.1 | 776.8 | 0.000 |

| | | |
|---|---|---|
| | | 0.693 |
| | Avg. % Stabilizer for Lot | **0.693** |

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | |
|---|---|
| **Analyst** Takisha Dickerson | Avg. Tot. Stabilizers **0.69** % |
| Analyst Signature | Stable YES / Unstable |
| Lab. Supervisor Signature | Comments **CATEGORY: A** |
| | Actions to be Taken |

Form #158

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND82E070114** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 22 NOV 2011** |

| Other Information | Sample Data | | Solvent |
|---|---|---|---|
| M6 Propellant | #1 | 0.50 g 100 ml | ACN |

| | Standards (ERG-006) | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 0.753 | 205.4 | 623.3 | 0.303 |
| 2,4-DNDPA | 50.0 | 3.383 | 927.4 | 0 | 0.000 |
| 2,2' DNDPA | 50.0 | 5.127 | 481.8 | 21922 | 0.000 |
| 2,4' DNDPA | 50.0 | 7.38 | 1001.4 | 0 | 0.000 |
| 4NDPA | 50.0 | 8.893 | 1609.3 | 58.6 | 0.004 |
| 2NDPA | 50.0 | 10.053 | 2886.9 | 118 | 0.004 |
| DPA | 200.0 | 11.586 | 5621.7 | 791.2 | 0.056 |
| N-NitrosoDPA | 75.0 | 12.383 | 1361.9 | 0 | 0.000 |

| | |
|---|---|
| | 0.367 |
| Avg. % Stabilizer for Lot | **0.367** |

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | |
|---|---|
| **Analyst** TAKISHA DICKERSON | Avg. Tot. Stabilizers **0.37** % |
| Analyst Signature | Stable YES / Unstable |
| Lab. Supervisor Signature | Comments **CATEGORY: A** |
| | Actions to be Taken |

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND82L070178** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 1 FEB 2011** |

| Other Information | Sample Data | | Solvent |
|---|---|---|---|
| M6 Propellant | #1 | 0.5000 g | 100 ml ACN |

| Standards (ERG-006) | | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 4.156 | 1116 | 1943.1 | 0.174 |
| 2,4-DNDPA | 50.0 | 9.388 | 1191.2 | 25869.9 | 2.172 |
| 2,2' DNDPA | 50.0 | 10.987 | 1694.7 | 97.6 | 0.000 |
| 2,4' DNDPA | 50.0 | 11.73 | 1272.3 | 145.3 | 0.011 |
| 4NDPA | 50.0 | 12.459 | 2443.3 | 0 | 0.000 |
| 2NDPA | 50.0 | 13.939 | 5852.1 | 388.6 | 0.007 |
| DPA | 200.0 | 15.022 | 1753.1 | 361.4 | 0.082 |
| N-NitrosoDPA | 75.0 | 18.932 | 2535.1 | 365.7 | 0.000 |

| | | |
|---|---|---|
| | | 2.446 |
| Avg. % Stabilizer for Lot | | **2.446** |

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | |
|---|---|
| **Analyst** Mike Kile | Avg. Tot. Stabilizers **2.45** % |
| Analyst Signature | Stable YES / Unstable |
| | Comments |
| Lab. Supervisor Signature | CATEGORY: A |
| | Actions to be Taken |

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND81BY70013** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 29 AUGUST 2011** |

| Other Information | Sample Data | | Solvent |
|---|---|---|---|
| M6 Propellant | #1 | 0.50 g 100 ml | ACN |

| Standards (ERG-006) | | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 0.645 | 25.8 | 276.6 | 1.072 |
| 2,4-DNDPA | 50.0 | 3.455 | 935.1 | 0 | 0.000 |
| 2,2' DNDPA | 50.0 | 5.27 | 617.1 | 21259 | 0.000 |
| 2,4' DNDPA | 50.0 | 7.689 | 1017.5 | 0 | 0.000 |
| 4NDPA | 50.0 | 9.239 | 1621.4 | 113 | 0.007 |
| 2NDPA | 50.0 | 10.527 | 2921.7 | 196.9 | 0.007 |
| DPA | 200.0 | 12.049 | 5600.8 | 332.6 | 0.024 |
| N-NitrosoDPA | 75.0 | 12.932 | 1374.7 | 0 | 0.000 |

1.110

| Avg. % Stabilizer for Lot | **1.110** |
|---|---|

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| **Analyst** KISHA DICKERSON | Avg. Tot. Stabilizers **1.11** % |
|---|---|
| Analyst Signature | Stable YES / Unstable |
| Lab. Supervisor Signature | Comments **CATEGORY: A** |
| | Actions to be Taken |

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND81D070019** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 29 MAY 2012** |

| Other Information | Sample Data | | Solvent |
|---|---|---|---|
| M6 Propellant | #1 | 0.50 g 100 ml | ACN |

| Standards (ERG-006) | | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 0.86 | 235.9 | 525.7 | 0.223 |
| 2,4-DNDPA | 50.0 | 3.398 | 913.2 | 0 | 0.000 |
| 2,2' DNDPA | 50.0 | 5.133 | 1007.2 | 37577 | 0.000 |
| 2,4' DNDPA | 50.0 | 7.409 | 1002.4 | 0 | 0.000 |
| 4NDPA | 50.0 | 8.917 | 1612.8 | 186.9 | 0.012 |
| 2NDPA | 50.0 | 10.112 | 2882.2 | 282.1 | 0.010 |
| DPA | 200.0 | 11.607 | 5642.3 | 917.9 | 0.065 |
| N-NitrosoDPA | 75.0 | 12.414 | 1351.4 | | 0.000 |

| | | |
|---|---|---|
| | | 0.309 |
| | Avg. % Stabilizer for Lot | **0.309** |

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | |
|---|---|
| **Analyst** Takisha Dickerson | Avg. Tot. Stabilizers **0.31** % |
| Analyst Signature | Stable YES / Unstable |
| Lab. Supervisor Signature | Comments **CATEGORY: A** |
| | Actions to be Taken |

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND81E070022** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 23 AUG 2010** |

| Other Information | Sample Data | | Solvent |
|---|---|---|---|
| M6 Propellant | #1 | 0.5000 g 100 ml | ACN |

| | Standards (ERG-006) | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | | 0 | | |
| 2,4-DNDPA | 50.0 | 4.884 | 715.1 | 0 | 0.000 |
| 2,2' DNDPA | 50.0 | 9.663 | 794.8 | 17278.9 | 2.174 |
| 2,4' DNDPA | 50.0 | 11.213 | 1155.8 | 0 | 0.000 |
| 4NDPA | 50.0 | 11.899 | 750.7 | 0 | 0.000 |
| 2NDPA | 50.0 | 12.536 | 1565 | 0 | 0.000 |
| DPA | 200.0 | 13.934 | 4151.3 | 0 | 0.000 |
| N-NitrosoDPA | 75.0 | 14.875 | 1080.5 | 451.1 | 0.063 |
| | | | | | 2.237 |
| | | Avg. % Stabilizer for Lot | | | **2.237** |

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | |
|---|---|
| **Analyst** Kisha Dickerson | Avg. Tot. Stabilizers **2.24** % |
| Analyst Signature | Stable YES \| Unstable |
| | Comments **CATEGORY: A** |
| Lab. Supervisor Signature | |
| | Actions to be Taken |

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND81D070020** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 10 Feb 2012** |

| Other Information | Sample Data | | | Solvent |
|---|---|---|---|---|
| M6 Propellant | #1 | 0.50 g | 100 ml | ACN |

| Standards (ERG-006) | | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 0.868 | 53.7 | 398.1 | 0.741 |
| 2,4-DNDPA | 50.0 | 3.292 | 916.2 | 0 | 0.000 |
| 2,2' DNDPA | 50.0 | 4.936 | 839.4 | 22071 | 0.000 |
| 2,4' DNDPA | 50.0 | 6.943 | 1003.3 | 0 | 0.000 |
| 4NDPA | 50.0 | 8.309 | 1616.5 | 50 | 0.003 |
| 2NDPA | 50.0 | 9.362 | 2912 | 113.3 | 0.004 |
| DPA | 200.0 | 10.749 | 5497.2 | 666 | 0.048 |
| N-NitrosoDPA | 75.0 | 11.362 | 1264.1 | 355.2 | 0.000 |

| | | |
|---|---|---|
| | | 0.797 |
| Avg. % Stabilizer for Lot | | **0.797** |

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | | |
|---|---|---|
| **Analyst** Mike Kile | Avg. Tot. Stabilizers | **0.80** % |
| Analyst Signature | Stable YES | Unstable |
| | Comments | |
| Lab. Supervisor Signature | **CATEGORY:** | **A** |
| | Actions to be Taken | |

CONTAINS HAZARDOUS MATERIALS

# STRAIGHT BILL OF LADING

**NOT NEGOTIABLE** Load 5

RECEIVED, subject to the classification and tariffs in effect on the date of the issue of this Original Bill of Lading.
The property described below, in apparent good order, except as noted (contents and condition of contents of packages unknown) consigned, end destined as indicated below, which said carrier (the word carrier being understood throughout this contract meaning any person or corporation in possession of the property under the contract) agrees to curry to its usual place of delivery of said destination. It on its route, otherwise to deliver to another carrier on the route to said destination. It is mutually agreed, as to each of all or any of said property over all or any portion of said route to destination, and as to each party at any time interested in all or any of said property, that every service lobe performed hereunder shall be subject to all the terms and conditions of the Uniform Domestic Straight Bill of Lading Set forth (t) in Uniform Freight Classification in effect on the date hereof, It this is a rail or rail-water shipment, or (2) in the applicable motor carrier classification or tariff it this is a motor carrier shipment.
Shipper hereby certifies that he is familiar with all the terms and conditions of the said bill of lading, set forth in the classification or tariff which governs the transportation of this shipment, and the sold terms and conditions are hereby agreed to by the shipper and accept for himself and his assigns.

Shipper: Explo Systems, Inc.
1600 Java Road
Minden, LA 71055

Shipper's No. 2856

Shipping Date

At

Purchase Order No.

By RRWK

Freight Charges: Collect _____ Prepaid XXX

Location No. 2416/2420

(Mail or Street Address of Consignee — For purposes of notification only)

Consigned to AUSTIN POWDER CO

Fed Lic. 5-AR-103-20-5E-00139

Exp. Date 5/1/15

Destination 7-LE-10 BLANDY RD

State

State Lic.

Exp. Date

County EAST CAMDEN AR

Customer No.

Route

Charge Account of 1-870-574-0580

Customer P.O. No.

Rel. No.

| SHIPPED No. of PKGS | SHIPPED No. of UNITS | PROPER SHIPPING NAME AND HAZARD CLASS | RETURNED No. of PKGS | RETURNED No. of UNITS | EMERGENCY RESPONSE PROCEDURE GUIDE NO. | EXEMPTION ~~DOT-E~~ | HM | Placards Applied to Railcar or Motor Vehicle |
|---|---|---|---|---|---|---|---|---|
| 252/1G | 42PT | UN0161, Powder, Smokeless, 1.3C, PG II | | | #112 | 2010040609 | X | EXPLOSIVES 1.3 |
| | | | | | | | | |
| | | Monica Kelle | | | | | | |
| | | Monica Kelle 3/14/13 | | | | | | Truck No. 7306 |
| | | | | | | | | Trailer No. 18/0031 |
| | | | | | | | | Mileage |
| | | | | | | | | Total 252 1G PD @ 140 LBS EA Packages |
| | | | | | | | | Gross Weight # 39,000 |
| | | Seal # | | | | | | Net Explosive Weight |
| | | 7083983/7083984 | | | | | | 35,280 |

RECEIVED
MAT 25
MAR 14 2013
AUSTIN POWDER COMPANY
EAST CAMDEN PLANT

This is to certify that the above-named materials are properly classified, described, packaged, marked, and labeled and are in proper condition for transportation, according to the applicable regulations of the Department of Transportation.

Signature [signature]

Invoice No. _____

FOR CHEMICAL EMERGENCY, SPILL, LEAK, FIRE, EXPOSURE OR ACCIDENT CALL CHEMTREC — DAY OR NIGHT
IN THE USA CALL 800-424-9300 IN CANADA (ERP #2-0040) 800-561-3636 ELSEWHERE CALL (703) 527-3887 CLN644589

Permanent Address of Shipper:
**Explo Systems, Inc.**
1600 Java Road
Minden, Louisiana 71055
(318) 382-8700

Per _____

DOT Hazardous Material Handling Number _____
Local Federal Explosives License No. 5-LA-119-20-1A-00057
(Shipper)

I have been offered placards identifying the shipment as Specified in 49CFR Subpart F of Part 172. I have received the above goods in apparent good order and condition.

Received By [signature] Date 3-13-13
☐ CONSIGNEE ☐ CARRIER

By _____ Date _____
AUTHORIZED RECEIVER

019647

EXP_001281

AUSTIN POWDER PACKING LIST

SHIPMENT DATE

B/L# 2855 TRL 1810031

M-6

IND82D-070113 4 PTS
IND86M-070673 14 PTS
IND82K-070178 2 PT
IND82K-070173 1 PT
IND81B-070013 2 PT
IND84C-070331 6 PTS
IND85K-070598 3 PTS
IND83F-070274 3 PTS
IND84G-070326 4 PTS
IND82A-070101 1 PT
IND81E-070022 1 PT
IND81D-070020 1 PT

42 PTS WITH 6 FB @140 LBS PER DRUM

TOTAL 35,280 LBS

LIONEL KOONS

EXPLO SYSTEMS INC

# MOTOR VEHICLE INSPECTION (TRANSPORTING HAZARDOUS MATERIALS)

*(Read Instructions before completing this form.)*

This form applies to all vehicles which must be marked or placarded in accordance with Title 49 CFR.

1. BILL OF LADING/TRANSPORTATION CONTROL NUMBER: 2852

| SECTION 1 - DOCUMENTATION | ORIGIN a. | DESTINATION b. |
|---|---|---|
| 2. CARRIER/GOVERNMENT ORGANIZATION | TRUK | |
| 3. DATE/TIME OF INSPECTION | 3/13/13 | |
| 4. LOCATION OF INSPECTION | EXDIO SYSTEMS INC | |
| 5. OPERATOR(S) NAME(S) | PEDRO, THOMAS | |
| 6. OPERATOR(S) LICENSE NUMBER(S) | P320-625-44-006-0 PA | |
| 7. MEDICAL EXAMINER'S CERTIFICATE* | 2/25/15 | |

8. *(X if satisfactory at origin)*

| | | | | | |
|---|---|---|---|---|---|
| a. MILITARY HAZMAT ENDORSEMENT | | d. ERG OR EQUIVALENT COMMERCIAL: | ✓ YES | NO | |
| b. VALID LEASE* | ✓ | e. DRIVER'S VEHICLE INSPECTION REPORT* | | | ✓ |
| c. ROUTE PLAN | ✓ | f. COPY OF 49 CFR PART 397 | | | ✓ |

9. CVSA DECAL DISPLAYED ON COMMERCIAL EQUIPMENT*

| | YES | NO |
|---|---|---|
| a. TRUCK/TRACTOR | ✓ | |
| b. TRAILER | ✓ | |

## SECTION II - MECHANICAL INSPECTION

*All items shall be checked on empty equipment prior to loading. Items with an asterisk shall be checked on all incoming loaded equipment.*

10. TYPE OF VEHICLE(S): TRACTOR / TRAILER / DROM

11. VEHICLE NUMBER(S): TRAC # 7206 / TRL # 1610031

| 12. PART INSPECTED (X as applicable) | ORIGIN (1) SAT | ORIGIN (1) UNSAT | DESTINATION (2) SAT | DESTINATION (2) UNSAT | | ORIGIN (1) SAT | ORIGIN (1) UNSAT | DESTINATION (2) SAT | DESTINATION (2) UNSAT | COMMENTS (3) |
|---|---|---|---|---|---|---|---|---|---|---|
| a. SPARE ELECTRICAL FUSES | | | | | k. EXHAUST SYSTEM | | | | | |
| b. HORN OPERATIVE | | | | | l. BRAKE SYSTEM* | | | | | |
| c. STEERING SYSTEM | | | | | m. SUSPENSION | | | | | |
| d. WINDSHIELD/WIPERS | | | | | n. COUPLING DEVICES | | | | | |
| e. MIRRORS | | | | | o. CARGO SPACE | | | | | |
| f. WARNING EQUIPMENT | | | | | p. LANDING GEAR* | | | | | |
| g. FIRE EXTINGUISHER* | | | | | q. TIRES, WHEELS, RIMS | | | | | |
| h. ELECTRICAL WIRING | | | | | r. TAILGATE/DOORS* | | | | | |
| i. LIGHTS AND REFLECTORS | | | | | s. TARPAULIN* | N/A | | | | |
| j. FUEL SYSTEM* | | | | | t. OTHER (Specify) | | | | | |

13. INSPECTION RESULTS (X one) ACCEPTED ✓ REJECTED

*(If rejected give reason under "Remarks". Equipment will be approved if deficiencies are corrected prior to loading.)*

14. SATELLITE MOTOR SURVEILLANCE SYSTEM: (X one) ACCEPTED N/A REJECTED

15. REMARKS

16. INSPECTOR SIGNATURE *(Origin)*

17. INSPECTOR SIGNATURE *(Destination)*

## SECTION III - POST LOADING INSPECTION

This section applies to Commercial and Government/Military vehicles. All items will be checked prior to release of loaded equipment and shall be checked on all incoming loaded equipment.

| | ORIGIN (1) SAT | ORIGIN (1) UNSAT | DESTINATION (2) SAT | DESTINATION (2) UNSAT | COMMENTS (3) |
|---|---|---|---|---|---|
| 18. LOADED IAW APPLICABLE SEGREGATION/COMPATIBILITY TABLE OF 49 CFR | | | | | |
| 19. LOAD PROPERLY SECURED TO PREVENT MOVEMENT | | | | | |
| 20. SEALS APPLIED TO CLOSED VEHICLE; TARPAULIN APPLIED ON OPEN EQUIPMENT | | | | | |
| 21. PROPER PLACARDS APPLIED | | | | | |
| 22. SHIPPING PAPERS/DD FORM 836 FOR GOVERNMENT VEHICLE SHIPMENTS | N/A | | | | |
| 23. COPY OF DD FORM 626 FOR DRIVER | | | | | |
| 24. SHIPPED UNDER DOT SPECIAL PERMIT 868 | N/A | | | | |

25. INSPECTOR SIGNATURE *(Origin)*

26. DRIVER(S) SIGNATURE *(Origin)*

27. INSPECTOR SIGNATURE *(Destination)*

28. DRIVER(S) SIGNATURE *(Destination)*

**Explo Systems, Inc.**
**1600 Java Road**
**Minden, LA 71055**

# MATERIAL SAFETY DATA SHEET

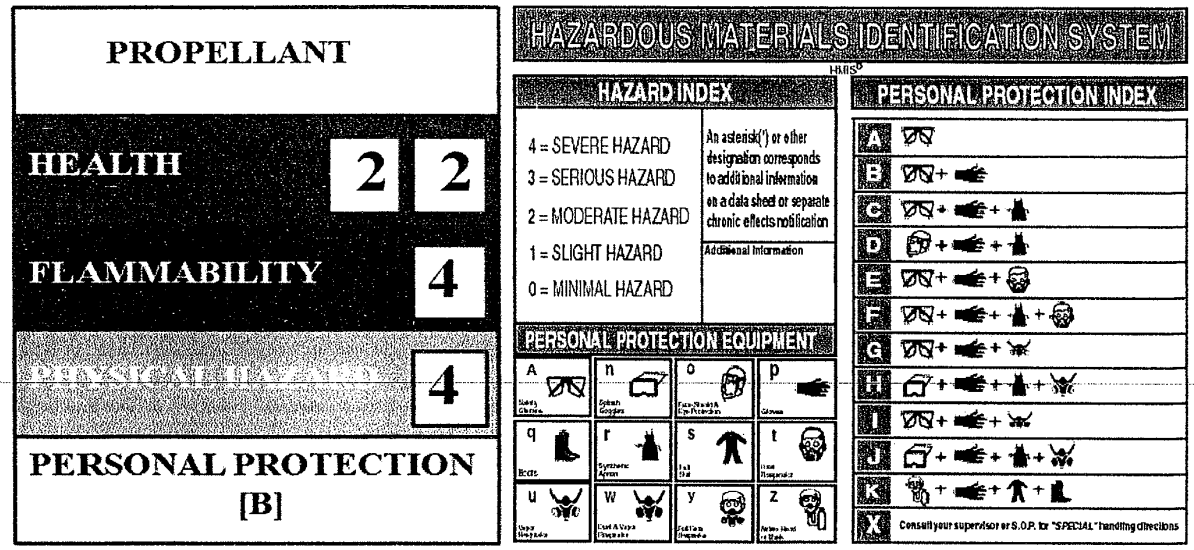
## PROPELLANT (Wetted)

## SECTION I - PRODUCT IDENTIFICATION

PRODUCT NAME: Propellant, Explosive, Solid, Wetted
Technical Information Phone No.: 318 382 8700
For Chemical Emergency (Spill, Fire, Exposure or Accident) call CHEMTREC day or night. Within the US and Canada: +1 800-424-9300. Outside the US and Canada: +1 703-527-3887 (collect calls accepted).

| **Ingredient** | **CAS No.** | **Wt. %** | **OSHA PEL**<br>**ACGIH TLV**<br>**EPA RQ (if defined)**<br>**DOT RQ (if defined)** |
|---|---|---|---|
| Dibutyl Phthalate | 84-74-2 | 3.00 | OSHA PEL 5 mg/m$^3$<br>ACGIH TLV 5 mg/m$^3$<br>EPA RQ 10 lbs<br>DOT RQ 10 lbs |
| Diphenylamine | 122-39-4 | 1.00 | OSHA PEL 10 mg/m$^3$<br>ACGIH TLV 10 mg/m$^3$<br>EPA RQ (none defined)<br>DOT RQ (none defined) |
| Potassium Sulfate | 7778-80-5 | 2.00 | OSHA PEL none published<br>ACGIH TLV none published<br>EPA RQ (none defined)<br>DOT RQ (none defined) |
| Nitrocellulose (flammable solid) | -- | 87.00 | OSHA PEL none published<br>ACGIH TLV none published<br>EPA RQ (none defined)<br>DOT RQ (none defined) |
| Dinitrotoluene | 25321-14-6 | 10.00 | OSHA PEL 10 mg/m$^3$<br>ACGIH TLV 10 mg/m$^3$<br>EPA RQ 10 lbs<br>DOT RQ 10 lbs |

## SECTION II - HAZARDS IDENTIFICATION




Routes of Entry: Inhalation; Skin; Ingestion
Carcinogenicity: None
First Aid Measures: EYES - Immediately flush with copious amount of water (low pressure) for 15 minutes, remove contact lenses; call physician. SKIN - Wash with soap and running water. INGESTION - Contact physician immediately. INHALATION - Remove to fresh air. Treat irritation symptomatically; call physician.
Firefighting Measures: Self-oxidizing, deluge with water. Will not be able to extinguish unless large quantity of water is used in very short time. Use NIOSH/MSHA approved SCBA and full protective equipment; evacuate area.
Unusual Fire/Explosion Hazard: Easily ignited, highly combustible; protect from fire and sparks and extreme heat.
Autoignition: 383°F (195°C)
Hazardous Combustion Products: Oxides of Carbon
Accidental Release Measures: SPILL - Clean immediately with soft (horsehair) brush and conductive rubber or plastic shovel. Use brass or other non-sparking tools and utensils. DO NOT hammer or otherwise cause impact forces to spilled material (explosion or autoignition could occur with impact force being applied).

## SECTION III - HANDLING AND STORAGE

Precautions: Avoid prolonged temperature above 125°F (50°C). Normal storage conditions should be 75°F (21°C) and 50% Humidity. Storage must conform to local, state and federal regulations, specifically: 29 CFR OSHA 1910.109; 27 CFR BATFE 55 subpart K.
Other Special Precautions: Flammable Solid…Keep away from heat, sparks, open flame…Keep containers closed…use with adequate ventilation.
Ventilation: Local and general ventilation necessary to keep air concentration below TLV's.
Personal Protective Equipment: Safety Glasses, Cotton or Leather Gloves, Fire Resistant Coveralls.

## SECTION IV - PHYSICAL AND CHEMICAL PROPERTIES

Specific Gravity: 1.496
Evaporation Rate: <1 (Butylacetate = 1)
Solubility in Water: negligible
Appearance and Odor: Hard Cylinder Perforated, Smooth, Greenish Yellow. Odorless.
Materials to Avoid: Oxides of Nitrogen and Carbon.

Conditions to Avoid: Open Flame, Sparks, Heat, Direct Sunlight.
Hazardous Decomposition Products: Oxides of Carbon

## SECTION V – TRANSPORTATION INFORMATION

DOT Proper Shipping Name: Smokeless Powder (wetted)
Hazard Class: 1.3C
UN No. UN0161
Packing Group: II

## SECTION VI - DISPOSAL CONSIDERATIONS

Disposal must be in accordance with federal, state and local regulations. Burn in open burning ground in accordance with regulatory requirements. It may also be burned in an incinerator approved for explosives.

## DISCLAIMER

The information contained in this MSDS (Material Safety Data Sheet) is based upon available constituent data for the components of **Propellant** and is believed to be correct. However, as this information has been obtained from various sources, including the manufacturers of its components and independent laboratories, it is provided herein without warranty or representation that it is complete, accurate and can be relied upon. Explo Systems, Inc. has not attempted to conceal in any manner the deleterious aspects of this product, and makes no warranty as such. Explo Systems, Inc. cannot anticipate nor control the many situations in which this product or this information may be used; there is no guarantee that the health and safety precautions suggested herein will be proper under all conditions. It is the sole responsibility of each user of the product to determine and comply with the requirements of all applicable laws and regulations regarding its use. This information is given solely for the purposes of safety to persons and property. Any other use of this information is expressly prohibited.

## AUTHOR

This MSDS was prepared by: Ferris Callihan, PE - Director Support Technology - Explo Systems, Inc. - 1600 Java Road - Minden, LA 71055 - Tel 318 382 8700 - E-mail: fcallihan@explosystems.com

Loads
2856

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND86M070673** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 7 FEB 2012** |

| Other Information | Sample Data | | Solvent |
|---|---|---|---|
| M6 Propellant | #1 | 0.50 g 100 ml | ACN |

| Standards (ERG-006) | | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 0.863 | 50.1 | 452.6 | 0.903 |
| 2,4-DNDPA | 50.0 | 3.336 | 893.6 | 0 | 0.000 |
| 2,2' DNDPA | 50.0 | 5.03 | 726.8 | 22299 | 0.000 |
| 2,4' DNDPA | 50.0 | 7.182 | 1225.5 | 0 | 0.000 |
| 4NDPA | 50.0 | 8.642 | 1532.1 | 67.5 | 0.004 |
| 2NDPA | 50.0 | 9.759 | 2784.7 | 120.3 | 0.004 |
| DPA | 200.0 | 11.235 | 5480.9 | 727.3 | 0.053 |
| N-NitrosoDPA | 75.0 | 11.979 | 1363.1 | 0 | 0.000 |

| | |
|---|---|
| | 0.965 |
| Avg. % Stabilizer for Lot | **0.965** |

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | |
|---|---|
| **Analyst** TAKISHA DICKERSON | Avg. Tot. Stabilizers **0.97** % |
| Analyst Signature | Stable YES / Unstable |
| | Comments **CATEGORY: A** |
| Lab. Supervisor Signature | |
| | Actions to be Taken |

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND85K070598** | **D533 / M6 propellant** |
| Date of analysis: | **Date:25 AUG 2010** |

| Other Information | Sample Data | | Solvent |
|---|---|---|---|
| M6 Propellant | #1 | 0.5000 g 100 ml | ACN |

| Standards (ERG-006) | | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 2.177 | 146.5 | 1423.9 | 0.972 |
| 2,4-DNDPA | 50.0 | 5.001 | 961.7 | 0 | 0.000 |
| 2,2' DNDPA | 50.0 | 7.038 | 2567.5 | 14670.5 | 0.000 |
| 2,4' DNDPA | 50.0 | 9.931 | 938.5 | 0 | 0.000 |
| 4NDPA | 50.0 | 11.434 | 1325.8 | 0 | 0.000 |
| 2NDPA | 50.0 | 12.813 | 1809.7 | 0 | 0.000 |
| DPA | 200.0 | 14.19 | 4886.9 | 403.2 | 0.033 |
| N-NitrosoDPA | 75.0 | 15.18 | 1296.7 | 0 | 0.000 |

1.005

| Avg. % Stabilizer for Lot | **1.005** |
|---|---|

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| **Analyst** Kisha Dickerson | Avg. Tot. Stabilizers **1.00** % | |
|---|---|---|
| Analyst Signature | Stable YES | Unstable |
| Lab. Supervisor Signature | Comments **CATEGORY: A** | |
| | Actions to be Taken | |

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND84C070331** | **D533 / M6 propellant** |
| Date of analysis: | **Date:21 SEP 2010** |

| Other Information | Sample Data | | Solvent |
|---|---|---|---|
| M6 Propellant | #1 | 0.5000 g 100 ml | ACN |

| Standards (ERG-006) | | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 2.168 | 128.5 | 113.7 | 0.088 |
| 2,4-DNDPA | 50.0 | 5.033 | 432 | 217.6 | 0.050 |
| 2,2' DNDPA | 50.0 | 7.206 | 1480.6 | 820.7 | 0.000 |
| 2,4' DNDPA | 50.0 | 10.409 | 485.4 | 222.7 | 0.046 |
| 4NDPA | 50.0 | 12.024 | 1113.3 | 522 | 0.047 |
| 2NDPA | 50.0 | 13.489 | 784 | 396.3 | 0.051 |
| DPA | 200.0 | 14.97 | 2121.4 | 1130.5 | 0.213 |
| N-NitrosoDPA | 75.0 | 16.167 | 463.9 | 299.3 | 0.000 |

| | |
|---|---|
| | 0.495 |
| Avg. % Stabilizer for Lot | **0.495** |

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | |
|---|---|
| **Analyst** Mike Kile | Avg. Tot. Stabilizers **0.50** % |
| Analyst Signature | Stable YES / Unstable |
| | Comments **CATEGORY: A** |
| Lab. Supervisor Signature | |
| | Actions to be Taken |

Form #158

Original Print Date:07/19/2010

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND84G070326** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 18 JULY 2012** |

| Other Information | Sample Data | | Solvent |
|---|---|---|---|
| M6 Propellant | #1 | 0.50 g 100 ml | ACN |

| | Standards (ERG-006) | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 0.863 | 133.9 | 498.4 | 0.372 |
| 2,4-DNDPA | 50.0 | 3.365 | 949.7 | 0 | 0.000 |
| 2,2' DNDPA | 50.0 | 5.091 | 2605.4 | 24044 | 0.000 |
| 2,4' DNDPA | 50.0 | 7.514 | 1047.9 | 0 | 0.000 |
| 4NDPA | 50.0 | 8.946 | 1698.8 | 49.1 | 0.003 |
| 2NDPA | 50.0 | 10.142 | 3039.5 | 84.6 | 0.003 |
| DPA | 200.0 | 11.585 | 6044.7 | 789.2 | 0.052 |
| N-NitrosoDPA | 75.0 | 12.4 | 1395.6 | 0 | 0.000 |

| | |
|---|---|
| | 0.430 |
| Avg. % Stabilizer for Lot | **0.430** |

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | |
|---|---|
| **Analyst** Takisha Dickerson | Avg. Tot. Stabilizers **0.43** % |
| Analyst Signature | Stable YES / Unstable |
| Lab. Supervisor Signature | Comments **CATEGORY: A** |
| | Actions to be Taken |

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND83F070274** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 27 JULY 2011** |

| Other Information | Sample Data | | Solvent |
|---|---|---|---|
| M6 Propellant | #1 | 0.50 g 100 ml | ACN |

| Standards (ERG-006) | | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 0.694 | 112.8 | 622.1 | 0.552 |
| 2,4-DNDPA | 50.0 | 3.477 | 942.8 | 0 | 0.000 |
| 2,2' DNDPA | 50.0 | 5.339 | 77.4 | 22209 | 0.000 |
| 2,4' DNDPA | 50.0 | 7.842 | 1020.3 | 0 | 0.000 |
| 4NDPA | 50.0 | 9.392 | 1634.2 | 48.5 | 0.003 |
| 2NDPA | 50.0 | 10.693 | 2956.2 | 98.3 | 0.003 |
| DPA | 200.0 | 12.201 | 5630.5 | 451.4 | 0.032 |
| N-NitrosoDPA | 75.0 | 13.103 | 1385.2 | 0 | 0.000 |

| | |
|---|---|
| | 0.590 |
| Avg. % Stabilizer for Lot | **0.590** |

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | |
|---|---|
| **Analyst** Takisha Dickerson | Avg. Tot. Stabilizers **0.59** % |
| Analyst Signature | Stable YES / Unstable |
| Lab. Supervisor Signature | Comments **CATEGORY: A** |
| | Actions to be Taken |

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND82K070173** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 21 Apr 2011** |

| Other Information | Sample Data | | Solvent |
|---|---|---|---|
| M6 Propellant | #1 | 0.5000 g 100 ml | ACN |

| Standards (ERG-006) | | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 4.152 | 1065.2 | 3146.2 | 0.295 |
| 2,4-DNDPA | 50.0 | 9.483 | 1128.5 | 28956.1 | 2.566 |
| 2,2' DNDPA | 50.0 | 11.075 | 1789.9 | 196.4 | 0.000 |
| 2,4' DNDPA | 50.0 | 11.744 | 1596.2 | 254 | 0.016 |
| 4NDPA | 50.0 | 12.553 | 2329 | 0 | 0.000 |
| 2NDPA | 50.0 | 14.006 | 5766.8 | 251.9 | 0.004 |
| DPA | 200.0 | 15.107 | 1617.9 | 612.3 | 0.151 |
| N-NitrosoDPA | 75.0 | 18.991 | 2304.9 | 398.1 | 0.000 |

| | |
|---|---|
| | 3.033 |
| Avg. % Stabilizer for Lot | **3.033** |

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | |
|---|---|
| **Analyst** Kisha Dickerson | Avg. Tot. Stabilizers **3.03** % |
| Analyst Signature | Stable YES / Unstable |
| | Comments **CATEGORY: A** |
| Lab. Supervisor Signature | |
| | Actions to be Taken |

Form #158

Original Print Date:07/19/2010

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND82D070113** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 6 JAN 2012** |

| Other Information | Sample Data | | Solvent |
|---|---|---|---|
| M6 Propellant | #1 | 0.50 g 100 ml | ACN |

| Standards (ERG-006) | | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 0.65 | 119.1 | 328.4 | 0.276 |
| 2,4-DNDPA | 50.0 | 3.304 | 1019.8 | 16 | 0.002 |
| 2,2' DNDPA | 50.0 | 4.943 | 1734.6 | 21955 | 0.000 |
| 2,4' DNDPA | 50.0 | 7.018 | 1103.9 | 0 | 0.000 |
| 4NDPA | 50.0 | 8.439 | 1782.5 | 66.8 | 0.004 |
| 2NDPA | 50.0 | 9.513 | 3182.1 | 143.1 | 0.004 |
| DPA | 200.0 | 10.956 | 6219.8 | 790.9 | 0.051 |
| N-NitrosoDPA | 75.0 | 11.669 | 1532.4 | 0 | 0.000 |
| | | | | | 0.336 |
| | | | Avg. % Stabilizer for Lot | | **0.336** |

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | |
|---|---|
| **Analyst** TAKISHA DICKERSON | Avg. Tot. Stabilizers **0.34** % |
| Analyst Signature | Stable YES / Unstable |
| | Comments **CATEGORY: A** |
| Lab. Supervisor Signature | |
| | Actions to be Taken |

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND82A070101** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 28 June 2012** |

| Other Information | Sample Data | | Solvent |
|---|---|---|---|
| M6 Propellant | #1 | 0.50 g 100 ml | ACN |

| Standards (ERG-006) | | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 0.874 | 19.1 | 129.9 | 0.680 |
| 2,4-DNDPA | 50.0 | 3.347 | 961.1 | 0 | 0.000 |
| 2,2' DNDPA | 50.0 | 5.046 | 4032.7 | 23810 | 0.000 |
| 2,4' DNDPA | 50.0 | 6.347 | 22 | 0 | 0.000 |
| 4NDPA | 50.0 | 7.273 | 1080.1 | 0 | 0.000 |
| 2NDPA | 50.0 | 8.74 | 1782.9 | 45.1 | 0.003 |
| DPA | 200.0 | 9.886 | 3122.3 | 81.2 | 0.010 |
| N-NitrosoDPA | 75.0 | 11.353 | 6047.1 | 776.8 | 0.000 |
| | | | | | 0.693 |
| | | Avg. % Stabilizer for Lot | | | **0.693** |

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | |
|---|---|
| **Analyst** Takisha Dickerson | Avg. Tot. Stabilizers **0.69** % |
| Analyst Signature | Stable YES / Unstable |
| | Comments **CATEGORY: A** |
| Lab. Supervisor Signature | |
| | Actions to be Taken |

Form #158

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND81E070022** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 23 AUG 2010** |

| Other Information | Sample Data | | Solvent |
|---|---|---|---|
| M6 Propellant | #1 | 0.5000 g 100 ml | ACN |

| Standards (ERG-006) | | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | | 0 | | |
| 2,4-DNDPA | 50.0 | 4.884 | 715.1 | 0 | 0.000 |
| 2,2' DNDPA | 50.0 | 9.663 | 794.8 | 17278.9 | 2.174 |
| 2,4' DNDPA | 50.0 | 11.213 | 1155.8 | 0 | 0.000 |
| 4NDPA | 50.0 | 11.899 | 750.7 | 0 | 0.000 |
| 2NDPA | 50.0 | 12.536 | 1565 | 0 | 0.000 |
| DPA | 200.0 | 13.934 | 4151.3 | 0 | 0.000 |
| N-NitrosoDPA | 75.0 | 14.875 | 1080.5 | 451.1 | 0.063 |

| | | |
|---|---|---|
| | | 2.237 |
| Avg. % Stabilizer for Lot | | **2.237** |

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | | | |
|---|---|---|---|
| **Analyst** Kisha Dickerson | | Avg. Tot. Stabilizers | **2.24** % |
| Analyst Signature | | Stable YES | Unstable |
| | | Comments | |
| Lab. Supervisor Signature | | **CATEGORY:** | **A** |
| | | Actions to be Taken | |

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND81D070020** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 10 Feb 2012** |

| Other Information | Sample Data | | Solvent |
|---|---|---|---|
| M6 Propellant | #1 | 0.50 g 100 ml | ACN |

| Standards (ERG-006) | | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 0.868 | 53.7 | 398.1 | 0.741 |
| 2,4-DNDPA | 50.0 | 3.292 | 916.2 | 0 | 0.000 |
| 2,2' DNDPA | 50.0 | 4.936 | 839.4 | 22071 | 0.000 |
| 2,4' DNDPA | 50.0 | 6.943 | 1003.3 | 0 | 0.000 |
| 4NDPA | 50.0 | 8.309 | 1616.5 | 50 | 0.003 |
| 2NDPA | 50.0 | 9.362 | 2912 | 113.3 | 0.004 |
| DPA | 200.0 | 10.749 | 5497.2 | 666 | 0.048 |
| N-NitrosoDPA | 75.0 | 11.362 | 1264.1 | 355.2 | 0.000 |

| | | |
|---|---|---|
| | | 0.797 |
| Avg. % Stabilizer for Lot | | **0.797** |

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | |
|---|---|
| **Analyst** Mike Kile | Avg. Tot. Stabilizers **0.80** % |
| Analyst Signature | Stable YES / Unstable |
| Lab. Supervisor Signature | Comments<br>**CATEGORY: A** |
| | Actions to be Taken |

# STRAIGHT BILL OF LADING

**NOT NEGOTIABLE** Load le

RECEIVED, subject to the classification and tariffs in effect on the date of the issue of this Original Bill of Lading.
The property described below, in apparent good order, except as noted (contents and condition of contents of packages unknown) consigned, end destined as indicated below, which said carrier (the word carrier being understood throughout this contract meaning any person or corporation in possession of the property under the contract) agrees to curry to its usual place of delivery of said destination. It on its route, otherwise to deliver to another carrier on the route to said destination. It is mutually agreed, as to each of all or any of said property over all or any portion of said route to destination, and as to each party at any time interested in all or any of said property, that every service lobe performed hereunder shall be subject to all the terms and conditions of the Uniform Domestic Straight Bill of Lading Set forth (t) in Uniform Freight Classification in effect on the date hereof. It this is a rail or rail-water shipment, or (2) in the applicable motor carrier classification or tariff it this is a motor carrier shipment.

Shipper hereby certifies that he is familiar with all the terms and conditions of the said bill of lading, set forth in the classification or tariff which governs the transportation of this shipment, and the sold terms and conditions are hereby agreed to by the shipper and accept for himself and his assigns.

Shipper: Explo Systems, Inc.
1600 Java Road
Minden, LA 71055

Shipper's No. 2861

Shipping Date 3/14/13

At

Purchase Order No.

By RRUK

Freight Charges: Collect _____ Prepaid XXX

Location No. 1607

(Mail or Street Address of Consignee — For purposes of notification only)

Consigned to AUSTIN POWDER CO

Fed Lic. 5-AR-103-20-5E-00139 Exp. Date 5/1/15

Destination 7-LE-10 13/MILE RD

State

State Lic.

Exp. Date

County EAST FELICIANA PR

Customer No.

Route

Charge Account of 1-670-574-0580 Ex 302

Customer P.O. No.

Rel. No.

| SHIPPED No. of PKGS | SHIPPED No. of UNITS | PROPER SHIPPING NAME AND HAZARD CLASS | RETURNED No. of PKGS | RETURNED No. of UNITS | EMERGENCY RESPONSE PROCEDURE GUIDE NO. | EXEMPTION ~~DOT~~ E | H M | Placards Applied to Railcar or Motor Vehicle |
|---|---|---|---|---|---|---|---|---|
| 252/16 | 42PT | UN0161, Powder, Smokeless, 1.3C, PG II | | | #112 | 2100406603 | X | EXPLOSIVES 1.3 |
| | | Monica Kelly 03/15/13 | | | | | | |
| | | | | | | | | Truck No 6436 |
| | | | | | 17A125 | | | Trailer No 6840023 |
| | | | | | | | | Mileage |
| | | 2ND LOAD in 10A214542 | | | | | | Total 252 16 FD @ 140LBS EA Packages |
| | | | | | | | | Gross Weight # 39,000 |
| | | Seal # 7083993/7083994 | | | | | | Net Explosive Weight 35,280 |

ENTERED 3/15/13 mle

This is to certify that the above-named materials are properly classified, described, packaged, marked, and labeled and are in proper condition for transportation, according to the applicable regulations of the Department of Transportation.

Signature _____

Invoice No. _____

FOR CHEMICAL EMERGENCY, SPILL, LEAK, FIRE, EXPOSURE OR ACCIDENT CALL CHEMTREC — DAY OR NIGHT
IN THE USA CALL 800-424-9300 IN CANADA (ERP #2-0040) 800-561-3636 ELSEWHERE CALL (703) 527-3887 CCN644589

Permanent Address of Shipper:
**Explo Systems, Inc.**
1600 Java Road
Minden, Louisiana 71055
(318) 382-8700

Per _____

DOT Hazardous Material Handling Number _____
Local Federal Explosives License No. 5-LA-119-20-1A-00057
(Shipper)

I have been offered placards identifying the shipment as Specified in 49CFR Subpart F of Part 172. I have received the above goods in apparent good order and condition.

Received By _____ Date 3-14-13
☐ CONSIGNEE ☐ CARRIER

By _____ Date _____
AUTHORIZED RECEIVER

**CONTAINS HAZARDOUS MATERIALS**

019663

EXP_001297

AUSTIN POWDER PACKING LIST

SHIPMENT DATE 3-14-13

B/L# 2861 TRL 6840020

M-6

IND84M-070460 4 PTS
IND82E-070114 2 PTS
IND86F-070620 2 PTS
IND88H-070966 1 PT
IND87A-070677 3 PTS
IND81D-070020 1 PT
IND82H-070166 3 PTS
IND88A-070891 1 PT
IND84E-070434 4 PTS
IND83C-Y70236 1 PT
IND91H-071485 2 PTS
IND85E-070521 4 PTS
IND85K-070597 3 PTS
IND80M-070009 1 PT
IND85J-070596 1 PT
IND82E-070115 3 PTS
IND81G-070061 3 PTS
IND87F-Y70043 1 PT
IND88D-070716 1 PT
IND85E-070522 1 PT

42 PTS WITH 6 FB @140 LBS PER DRUM

TOTAL 35,280 LBS

LIONEL KOONS

EXPLO SYSTEMS INC

# MOTOR VEHICLE INSPECTION (TRANSPORTING HAZARDOUS MATERIALS)

*(Read Instructions before completing this form.)*

This form applies to all vehicles which must be marked or placarded in accordance with Title 49 CFR.

1. BILL OF LADING/TRANSPORTATION CONTROL NUMBER: 2861

| SECTION 1 - DOCUMENTATION | ORIGIN a. | DESTINATION b. |
|---|---|---|
| 2. CARRIER/GOVERNMENT ORGANIZATION | RMC | |
| 3. DATE/TIME OF INSPECTION | 3/14/13 | |
| 4. LOCATION OF INSPECTION | EXDIO SYSTEMS INC | |
| 5. OPERATOR(S) NAME(S) | BARNETT, HEMMER | |
| 6. OPERATOR(S) LICENSE NUMBER(S) | R20234300 9 MO | |
| 7. MEDICAL EXAMINER'S CERTIFICATE* | 1-3-15 | |

| 8. (X if satisfactory at origin) | | | | | | 9. CVSA DECAL DISPLAYED ON COMMERCIAL EQUIPMENT* | YES | NO |
|---|---|---|---|---|---|---|---|---|
| a. MILITARY HAZMAT ENDORSEMENT | ✓ | d. ERG OR EQUIVALENT COMMERCIAL: | ✓ YES | | NO | a. TRUCK/TRACTOR | ✓ | |
| b. VALID LEASE* | ✓ | e. DRIVER'S VEHICLE INSPECTION REPORT* | | | ✓ | b. TRAILER | ✓ | |
| c. ROUTE PLAN | ✓ | f. COPY OF 49 CFR PART 397 | | | | | | |

## SECTION II - MECHANICAL INSPECTION

*All items shall be checked on empty equipment prior to loading. Items with an asterisk shall be checked on all incoming loaded equipment.*

10. TYPE OF VEHICLE(S): TRACTOR / TRAILER / DROM

11. VEHICLE NUMBER(S): TRAC #6436 / TRL #6840025

| 12. PART INSPECTED (X as applicable) | ORIGIN (1) SAT | ORIGIN (1) UNSAT | DESTINATION (2) SAT | DESTINATION (2) UNSAT | | ORIGIN (1) SAT | ORIGIN (1) UNSAT | DESTINATION (2) SAT | DESTINATION (2) UNSAT | COMMENTS (3) |
|---|---|---|---|---|---|---|---|---|---|---|
| a. SPARE ELECTRICAL FUSES | | | | | k. EXHAUST SYSTEM | | | | | |
| b. HORN OPERATIVE | | | | | l. BRAKE SYSTEM* | | | | | |
| c. STEERING SYSTEM | | | | | m. SUSPENSION | | | | | |
| d. WINDSHIELD/WIPERS | | | | | n. COUPLING DEVICES | | | | | |
| e. MIRRORS | | | | | o. CARGO SPACE | | | | | |
| f. WARNING EQUIPMENT | | | | | p. LANDING GEAR* | | | | | |
| g. FIRE EXTINGUISHER* | | | | | q. TIRES, WHEELS, RIMS | | | | | |
| h. ELECTRICAL WIRING | | | | | r. TAILGATE/DOORS* | | | | | |
| i. LIGHTS AND REFLECTORS | | | | | s. TARPAULIN* | N/A | | | | |
| j. FUEL SYSTEM* | | | | | t. OTHER (Specify) | | | | | |

13. INSPECTION RESULTS (X one) ACCEPTED ✓ REJECTED

*(If rejected give reason under "Remarks". Equipment will be approved if deficiencies are corrected prior to loading.)*

14. SATELLITE MOTOR SURVEILLANCE SYSTEM: (X one) ACCEPTED N/A REJECTED

15. REMARKS

16. INSPECTOR SIGNATURE *(Origin)*

17. INSPECTOR SIGNATURE *(Destination)*

## SECTION III - POST LOADING INSPECTION

This section applies to Commercial and Government/Military vehicles. All items will be checked prior to release of loaded equipment and shall be checked on all incoming loaded equipment.

| | ORIGIN (1) SAT | ORIGIN (1) UNSAT | DESTINATION (2) SAT | DESTINATION (2) UNSAT | COMMENTS (3) |
|---|---|---|---|---|---|
| 18. LOADED IAW APPLICABLE SEGREGATION/COMPATIBILITY TABLE OF 49 CFR | | | | | |
| 19. LOAD PROPERLY SECURED TO PREVENT MOVEMENT | | | | | |
| 20. SEALS APPLIED TO CLOSED VEHICLE; TARPAULIN APPLIED ON OPEN EQUIPMENT | | | | | |
| 21. PROPER PLACARDS APPLIED | | | | | |
| 22. SHIPPING PAPERS/DD FORM 836 FOR GOVERNMENT VEHICLE SHIPMENTS | N/A | | | | |
| 23. COPY OF DD FORM 626 FOR DRIVER | | | | | |
| 24. SHIPPED UNDER DOT SPECIAL PERMIT 868 | N/A | | | | |

25. INSPECTOR SIGNATURE *(Origin)*

26. DRIVER(S) SIGNATURE *(Origin)* Barnett

27. INSPECTOR SIGNATURE *(Destination)*

28. DRIVER(S) SIGNATURE *(Destination)*



019665

EXP_001299

Explo Systems, Inc.
1600 Java Road
Minden, LA 71055

# MATERIAL SAFETY DATA SHEET

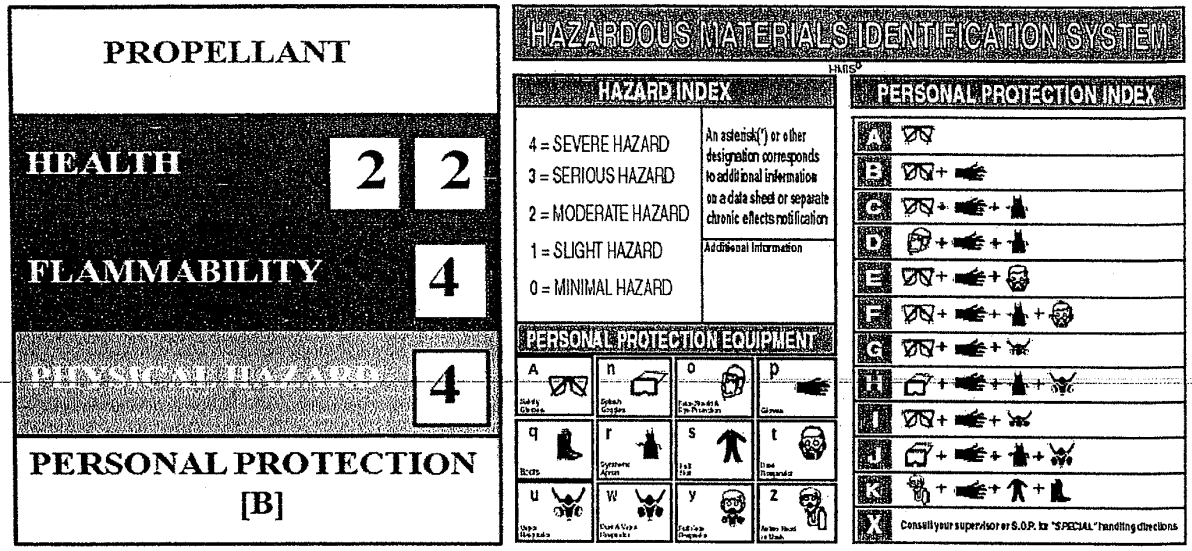
## PROPELLANT (Wetted)

## SECTION I - PRODUCT IDENTIFICATION

PRODUCT NAME: Propellant, Explosive, Solid, Wetted
Technical Information Phone No.: 318.382.8700
For Chemical Emergency (Spill, Fire, Exposure or Accident) call CHEMTREC day or night. Within the US and Canada: +1 800-424-9300. Outside the US and Canada: +1 703-527-3887 (collect calls accepted).

| Ingredient | CAS No. | Wt. % | OSHA PEL<br>ACGIH TLV<br>EPA RQ (if defined)<br>DOT RQ (if defined) |
|---|---|---|---|
| Dibutyl Phthalate | 84-74-2 | 3.00 | OSHA PEL 5 mg/m$^3$<br>ACGIH TLV 5 mg/m$^3$<br>EPA RQ 10 lbs<br>DOT RQ 10 lbs |
| Diphenylamine | 122-39-4 | 1.00 | OSHA PEL 10 mg/m$^3$<br>ACGIH TLV 10 mg/m$^3$<br>EPA RQ (none defined)<br>DOT RQ (none defined) |
| Potassium Sulfate | 7778-80-5 | 2.00 | OSHA PEL none published<br>ACGIH TLV none published<br>EPA RQ (none defined)<br>DOT RQ (none defined) |
| Nitrocellulose (flammable solid) | -- | 87.00 | OSHA PEL none published<br>ACGIH TLV none published<br>EPA RQ (none defined)<br>DOT RQ (none defined) |
| Dinitrotoluene | 25321-14-6 | 10.00 | OSHA PEL 10 mg/m$^3$<br>ACGIH TLV 10 mg/m$^3$<br>EPA RQ 10 lbs<br>DOT RQ 10 lbs |

## SECTION II - HAZARDS IDENTIFICATION




Routes of Entry: Inhalation; Skin; Ingestion
Carcinogenicity: None
First Aid Measures: EYES - Immediately flush with copious amount of water (low pressure) for 15 minutes, remove contact lenses; call physician. SKIN - Wash with soap and running water. INGESTION - Contact physician immediately. INHALATION - Remove to fresh air. Treat irritation symptomatically; call physician.
Firefighting Measures: Self-oxidizing, deluge with water. Will not be able to extinguish unless large quantity of water is used in very short time. Use NIOSH/MSHA approved SCBA and full protective equipment; evacuate area.
Unusual Fire/Explosion Hazard: Easily ignited, highly combustible; protect from fire and sparks and extreme heat.
Autoignition: 383°F (195°C)
Hazardous Combustion Products: Oxides of Carbon
Accidental Release Measures: SPILL - Clean immediately with soft (horsehair) brush and conductive rubber or plastic shovel. Use brass or other non-sparking tools and utensils. DO NOT hammer or otherwise cause impact forces to spilled material (explosion or autoignition could occur with impact force being applied).

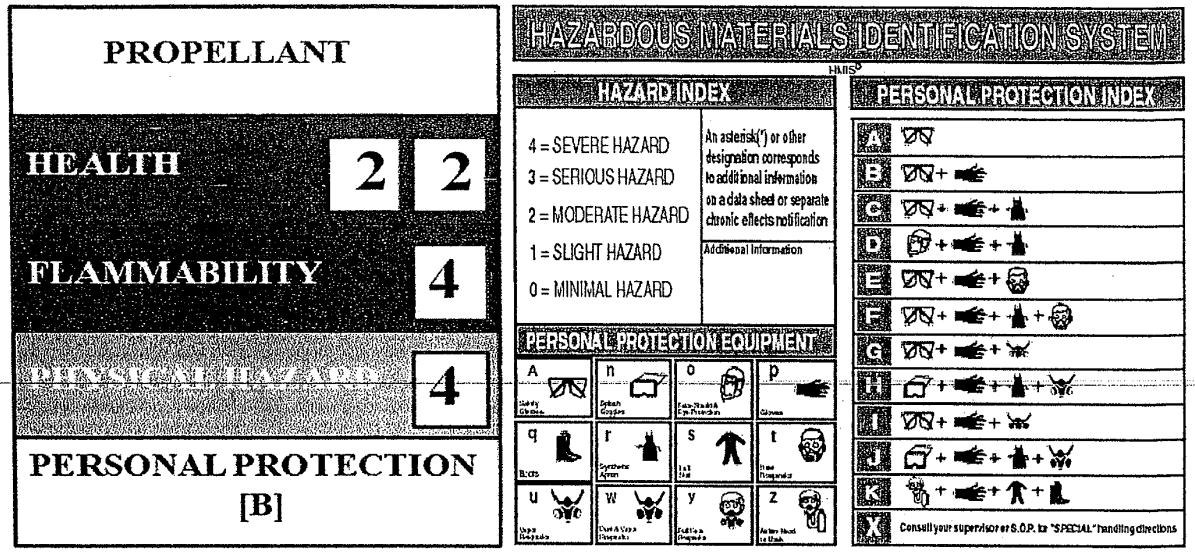
## SECTION III - HANDLING AND STORAGE

Precautions: Avoid prolonged temperature above 125°F (50°C). Normal storage conditions should be 75°F (21°C) and 50% Humidity. Storage must conform to local, state and federal regulations, specifically: 29 CFR OSHA 1910.109; 27 CFR BATFE 55 subpart K.
Other Special Precautions: Flammable Solid…Keep away from heat, sparks, open flame…Keep containers closed…use with adequate ventilation.
Ventilation: Local and general ventilation necessary to keep air concentration below TLV's.
Personal Protective Equipment: Safety Glasses, Cotton or Leather Gloves, Fire Resistant Coveralls.

## SECTION IV - PHYSICAL AND CHEMICAL PROPERTIES

Specific Gravity: 1.496
Evaporation Rate: <1 (Butylacetate = 1)
Solubility in Water: negligible
Appearance and Odor: Hard Cylinder Perforated, Smooth, Greenish Yellow. Odorless.
Materials to Avoid: Oxides of Nitrogen and Carbon.

## SECTION II - HAZARDS IDENTIFICATION




Routes of Entry: Inhalation; Skin; Ingestion
Carcinogenicity: None
First Aid Measures: EYES - Immediately flush with copious amount of water (low pressure) for 15 minutes, remove contact lenses; call physician. SKIN - Wash with soap and running water. INGESTION - Contact physician immediately. INHALATION - Remove to fresh air. Treat irritation symptomatically; call physician.
Firefighting Measures: Self-oxidizing, deluge with water. Will not be able to extinguish unless large quantity of water is used in very short time. Use NIOSH/MSHA approved SCBA and full protective equipment; evacuate area.
Unusual Fire/Explosion Hazard: Easily ignited, highly combustible; protect from fire and sparks and extreme heat.
Autoignition: 383°F (195°C)
Hazardous Combustion Products: Oxides of Carbon
Accidental Release Measures: SPILL - Clean immediately with soft (horsehair) brush and conductive rubber or plastic shovel. Use brass or other non-sparking tools and utensils. DO NOT hammer or otherwise cause impact forces to spilled material (explosion or autoignition could occur with impact force being applied).

## SECTION III - HANDLING AND STORAGE

Precautions: Avoid prolonged temperature above 125°F (50°C). Normal storage conditions should be 75°F (21°C) and 50% Humidity. Storage must conform to local, state and federal regulations, specifically: 29 CFR OSHA 1910.109; 27 CFR BATFE 55 subpart K.
Other Special Precautions: Flammable Solid…Keep away from heat, sparks, open flame…Keep containers closed…use with adequate ventilation.
Ventilation: Local and general ventilation necessary to keep air concentration below TLV's.
Personal Protective Equipment: Safety Glasses, Cotton or Leather Gloves, Fire Resistant Coveralls.

## SECTION IV - PHYSICAL AND CHEMICAL PROPERTIES

Specific Gravity: 1.496
Evaporation Rate: <1 (Butylacetate = 1)
Solubility in Water: negligible
Appearance and Odor: Hard Cylinder Perforated, Smooth, Greenish Yellow. Odorless.
Materials to Avoid: Oxides of Nitrogen and Carbon.

Conditions to Avoid: Open Flame, Sparks, Heat, Direct Sunlight.
Hazardous Decomposition Products: Oxides of Carbon

## SECTION V – TRANSPORTATION INFORMATION

DOT Proper Shipping Name: Smokeless Powder (wetted)
Hazard Class: 1.3C
UN No. UN0161
Packing Group: II

## SECTION VI - DISPOSAL CONSIDERATIONS

Disposal must be in accordance with federal, state and local regulations. Burn in open burning ground in accordance with regulatory requirements. It may also be burned in an incinerator approved for explosives.

## DISCLAIMER

The information contained in this MSDS (Material Safety Data Sheet) is based upon available constituent data for the components of **Propellant** and is believed to be correct. However, as this information has been obtained from various sources, including the manufacturers of its components and independent laboratories, it is provided herein without warranty or representation that it is complete, accurate and can be relied upon. Explo Systems, Inc. has not attempted to conceal in any manner the deleterious aspects of this product, and makes no warranty as such. Explo Systems, Inc. cannot anticipate nor control the many situations in which this product or this information may be used; there is no guarantee that the health and safety precautions suggested herein will be proper under all conditions. It is the sole responsibility of each user of the product to determine and comply with the requirements of all applicable laws and regulations regarding its use. This information is given solely for the purposes of safety to persons and property. Any other use of this information is expressly prohibited.

## AUTHOR

This MSDS was prepared by: Ferris Callihan, PE - Director Support Technology - Explo Systems, Inc. - 1600 Java Road - Minden, LA 71055 - Tel 318 382 8700 - E-mail: fcallihan@explosystems.com

U.S. Department
of Transportation

Pipeline and Hazardous
Materials Safety Administration

East Building, PHH – 32
1200 New Jersey Avenue, Southeast
Washington, D.C. 20590

The US Department of Transportation
Competent Authority for the United States

## CLASSIFICATION OF EXPLOSIVES
## FIRST REVISION

Based upon a request by Explo Systems Inc., 1600 Java Road, Minden, LA 71055, United States the following items are classed in accordance with Section 173.56, Title 49, Code of Federal Regulations (49 CFR). A copy of your application, all supporting documentation and a copy of this approval must be retained and made available to DOT upon request.

**U.N. PROPER SHIPPING NAME AND NUMBER:**
Powder, smokeless, UN0161

**U.N. CLASSIFICATION CODE**: 1.3C

| REFERENCE NUMBER | PRODUCT DESIGNATION/PART NUMBER |
|---|---|
| EX2010040603 | Reclaimed M6 Propellant |

**NOTES:** This classification is only valid when the smokeless powder has been tested and found to have sufficient residual stabilizers present per US Army Safety Bulletin: "Inspection of Supplies and Equipment, Ammunition Surveillance Procedures" (SB 742-1). The following packaging methods are assigned:
Packaging Method A: Inner Packaging - Not necessary. Outer Packaging – UN 1G fiberdrum, each containing not more than one hundred and forty (140) pounds of smokeless propellant.
Packaging Method B: Inner Packaging: Flexible static-resistant reinforced plastic cloth and strapping lifting bag, each containing not more than eight hundred and eighty (880) pounds of smokeless propellant. Outer Packaging - UN 4G heavy-wall fiberboard box with a volumetric capacity of 119 gallons or less. (see 49 CFR Section 171.8 Definition for "Non-bulk packaging")

**DATED:** 05/05/2011

Harpreet S Virgh

For Dr. Magdy El-Sibaie
Associate Administrator for Hazardous Materials Safety

Tracking No: 2011040848

Load 6

2861

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND91H071485** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 23 JULY 2012** |

| Other Information | Sample Data | | Solvent |
|---|---|---|---|
| M6 Propellant | #1 | 0.50 g 100 ml | ACN |

| Standards (ERG-006) | | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 0.847 | 108.1 | 464.3 | 0.430 |
| 2,4-DNDPA | 50.0 | 3.366 | 967.8 | 0 | 0.000 |
| 2,2' DNDPA | 50.0 | 5.09 | 4480 | 20931 | 0.000 |
| 2,4' DNDPA | 50.0 | 7.496 | 1085.1 | 0 | 0.000 |
| 4NDPA | 50.0 | 8.926 | 1772.8 | 169.1 | 0.010 |
| 2NDPA | 50.0 | 9.898 | 1314.8 | 134.6 | 0.010 |
| DPA | 200.0 | 11.552 | 6236.1 | 208.7 | 0.013 |
| N-NitrosoDPA | 75.0 | 12.356 | 1452.1 | 0 | 0.000 |

0.463

| Avg. % Stabilizer for Lot | **0.463** |
|---|---|

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| **Analyst** Takisha Dickerson | Avg. Tot. Stabilizers **0.46** % |
|---|---|
| Analyst Signature TDickerson | Stable YES \| Unstable |
| Lab. Supervisor Signature | Comments **CATEGORY: A** |
| | Actions to be Taken |

Form #158

019673

EXP_001307

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND88A070891** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 10 NOV 2011** |

| Other Information | Sample Data | | | Solvent |
|---|---|---|---|---|
| M6 Propellant | #1 | 0.50 g | 100 ml | ACN |

| Standards (ERG-006) | | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 0.754 | 194.4 | 1458.4 | 0.750 |
| 2,4-DNDPA | 50.0 | 3.382 | 1272.7 | 25.7 | 0.002 |
| 2,2' DNDPA | 50.0 | 5.139 | 1982.5 | 27828 | 0.000 |
| 2,4' DNDPA | 50.0 | 7.414 | 1387.8 | 0 | 0.000 |
| 4NDPA | 50.0 | 8.918 | 2254.3 | 114.7 | 0.005 |
| 2NDPA | 50.0 | 10.088 | 4040.6 | 189.5 | 0.005 |
| DPA | 200.0 | 11.608 | 7993.7 | 1179.9 | 0.059 |
| N-NitrosoDPA | 75.0 | 12.407 | 1919.6 | 0 | 0.000 |

| | |
|---|---|
| | 0.821 |
| Avg. % Stabilizer for Lot | **0.821** |

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | |
|---|---|
| **Analyst** TAKISHA DICKERSON | Avg. Tot. Stabilizers **0.82** % |
| Analyst Signature | Stable YES / Unstable |
| | Comments **CATEGORY: A** |
| Lab. Supervisor Signature | |
| | Actions to be Taken |

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND88H070966** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 29 JULY 2011** |

| Other Information | Sample Data | | | Solvent |
|---|---|---|---|---|
| M6 Propellant | #1 | 0.50 g | 100 ml | ACN |

| Standards (ERG-006) | | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 0.642 | 125.1 | 600.3 | 0.480 |
| 2,4-DNDPA | 50.0 | 3.455 | 992.3 | 0 | 0.000 |
| 2,2' DNDPA | 50.0 | 5.274 | 125.3 | 27328 | 0.000 |
| 2,4' DNDPA | 50.0 | 7.702 | 1067.4 | 0 | 0.000 |
| 4NDPA | 50.0 | 9.26 | 1688.8 | 88.8 | 0.005 |
| 2NDPA | 50.0 | 10.547 | 3070.1 | 85.2 | 0.003 |
| DPA | 200.0 | 12.08 | 5796.8 | 694.6 | 0.048 |
| N-NitrosoDPA | 75.0 | 12.966 | 1456.1 | 0 | 0.000 |

| | | |
|---|---|---|
| | | 0.536 |
| | Avg. % Stabilizer for Lot | **0.536** |

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | | | |
|---|---|---|---|
| **Analyst** Kisha Dickerson | | Avg. Tot. Stabilizers | **0.54** % |
| Analyst Signature | | Stable YES | Unstable |
| | | Comments | |
| Lab. Supervisor Signature | | **CATEGORY:** | **A** |
| | | Actions to be Taken | |

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND87A070677** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 23 AUG 2010** |

| Other Information | Sample Data | | Solvent |
|---|---|---|---|
| M6 Propellant | #1 | 0.5000 g 100 ml | ACN |

| Standards (ERG-006) | | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | | 0 | | |
| 2,4-DNDPA | 50.0 | 4.884 | 715.1 | 0 | 0.000 |
| 2,2' DNDPA | 50.0 | 9.663 | 794.8 | 4280.5 | 0.539 |
| 2,4' DNDPA | 50.0 | 11.213 | 1155.8 | 0 | 0.000 |
| 4NDPA | 50.0 | 11.899 | 750.7 | 0 | 0.000 |
| 2NDPA | 50.0 | 12.536 | 1565 | 0 | 0.000 |
| DPA | 200.0 | 13.934 | 4151.3 | 0 | 0.000 |
| N-NitrosoDPA | 75.0 | 14.875 | 1080.5 | 171.4 | 0.024 |
| | | | | | 0.563 |
| | | | Avg. % Stabilizer for Lot | | **0.563** |

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | |
|---|---|
| **Analyst** Kisha Dickerson | Avg. Tot. Stabilizers **0.56** % |
| Analyst Signature | Stable YES \| Unstable |
| | Comments |
| Lab. Supervisor Signature | **CATEGORY: A** |
| | Actions to be Taken |

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND84E070434** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 19 SEPT 2011** |

| Other Information | Sample Data | | | Solvent |
|---|---|---|---|---|
| M6 Propellant | #1 | 0.50 g | 100 ml | ACN |

| Standards (ERG-006) | | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 0.866 | 65.3 | 372.3 | 0.570 |
| 2,4-DNDPA | 50.0 | 3.45 | 959.2 | 13.2 | 0.001 |
| 2,2' DNDPA | 50.0 | 5.27 | 2749.5 | 22015 | 0.000 |
| 2,4' DNDPA | 50.0 | 7.695 | 1051.4 | 0 | 0.000 |
| 4NDPA | 50.0 | 9.247 | 1702.8 | 73.3 | 0.004 |
| 2NDPA | 50.0 | 10.528 | 3035.1 | 131.5 | 0.004 |
| DPA | 200.0 | 12.044 | 5992.2 | 876.8 | 0.059 |
| N-NitrosoDPA | 75.0 | 12.922 | 1413.2 | 0 | 0.000 |

| | |
|---|---|
| | 0.639 |
| Avg. % Stabilizer for Lot | **0.639** |

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | |
|---|---|
| **Analyst** MIKE KILE | Avg. Tot. Stabilizers **0.64** % |
| Analyst Signature | Stable YES / Unstable |
| Lab. Supervisor Signature | Comments **CATEGORY: A** |
| | Actions to be Taken |

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND82E070115** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 2 SEPTEMBER 2** |

| Other Information | Sample Data | | Solvent |
|---|---|---|---|
| M6 Propellant | #1 | 0.50 g 100 ml | ACN |

| Standards (ERG-006) | | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 0.631 | 119.7 | 513.1 | 0.429 |
| 2,4-DNDPA | 50.0 | 3.438 | 959.4 | 17.4 | 0.002 |
| 2,2' DNDPA | 50.0 | 5.235 | 1727.8 | 25268 | 0.000 |
| 2,4' DNDPA | 50.0 | 7.619 | 1043.1 | 0 | 0.000 |
| 4NDPA | 50.0 | 9.163 | 1669.9 | 77.7 | 0.005 |
| 2NDPA | 50.0 | 10.427 | 3002.4 | 153.6 | 0.005 |
| DPA | 200.0 | 11.959 | 5688.4 | 920.8 | 0.065 |
| N-NitrosoDPA | 75.0 | 12.823 | 1409.6 | 0 | 0.000 |

| | |
|---|---|
| | 0.505 |
| Avg. % Stabilizer for Lot | **0.505** |

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | |
|---|---|
| **Analyst** KISHA DICKERSON | Avg. Tot. Stabilizers **0.50** % |
| Analyst Signature | Stable YES / Unstable |
| Lab. Supervisor Signature | Comments **CATEGORY: A** |
| | Actions to be Taken |

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND82E070114** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 22 NOV 2011** |

| Other Information | Sample Data | | Solvent |
|---|---|---|---|
| M6 Propellant | #1 | 0.50 g 100 ml | ACN |

| Standards (ERG-006) | | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 0.753 | 205.4 | 623.3 | 0.303 |
| 2,4-DNDPA | 50.0 | 3.383 | 927.4 | 0 | 0.000 |
| 2,2' DNDPA | 50.0 | 5.127 | 481.8 | 21922 | 0.000 |
| 2,4' DNDPA | 50.0 | 7.38 | 1001.4 | 0 | 0.000 |
| 4NDPA | 50.0 | 8.893 | 1609.3 | 58.6 | 0.004 |
| 2NDPA | 50.0 | 10.053 | 2886.9 | 118 | 0.004 |
| DPA | 200.0 | 11.586 | 5621.7 | 791.2 | 0.056 |
| N-NitrosoDPA | 75.0 | 12.383 | 1361.9 | 0 | 0.000 |

| | |
|---|---|
| | 0.367 |
| Avg. % Stabilizer for Lot | **0.367** |

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | | |
|---|---|---|
| **Analyst** TAKISHA DICKERSON | Avg. Tot. Stabilizers | **0.37** % |
| Analyst Signature | Stable YES | Unstable |
| | Comments | |
| Lab. Supervisor Signature | **CATEGORY:** | **A** |
| | Actions to be Taken | |

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND81G070061** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 12 JULY 2011** |

| Other Information | Sample Data | | Solvent |
|---|---|---|---|
| M6 Propellant | #1 | 0.50 g 100 ml | ACN |

| Standards (ERG-006) | | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 0.71 | 111 | 358.1 | 0.323 |
| 2,4-DNDPA | 50.0 | 3.475 | 1001 | 79.1 | 0.008 |
| 2,2' DNDPA | 50.0 | 5.325 | 95 | 18335 | 0.000 |
| 2,4' DNDPA | 50.0 | 7.791 | 1061.3 | 83.2 | 0.008 |
| 4NDPA | 50.0 | 9.345 | 1700.8 | 167.7 | 0.010 |
| 2NDPA | 50.0 | 10.629 | 3041.2 | 330.5 | 0.011 |
| DPA | 200.0 | 12.152 | 5943.4 | 913.3 | 0.061 |
| N-NitrosoDPA | 75.0 | 13.034 | 1443.1 | 111.8 | 0.000 |

| | | |
|---|---|---|
| | | 0.421 |
| Avg. % Stabilizer for Lot | | **0.421** |

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | | |
|---|---|---|
| **Analyst** Mike Kile | Avg. Tot. Stabilizers | **0.42** % |
| Analyst Signature | Stable YES | Unstable |
| | Comments | |
| Lab. Supervisor Signature | **CATEGORY:** | **A** |
| | Actions to be Taken | |

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND81D070020** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 10 Feb 2012** |

| Other Information | Sample Data | | Solvent |
|---|---|---|---|
| M6 Propellant | #1 | 0.50 g 100 ml | ACN |

| | Standards (ERG-006) | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 0.868 | 53.7 | 398.1 | 0.741 |
| 2,4-DNDPA | 50.0 | 3.292 | 916.2 | 0 | 0.000 |
| 2,2' DNDPA | 50.0 | 4.936 | 839.4 | 22071 | 0.000 |
| 2,4' DNDPA | 50.0 | 6.943 | 1003.3 | 0 | 0.000 |
| 4NDPA | 50.0 | 8.309 | 1616.5 | 50 | 0.003 |
| 2NDPA | 50.0 | 9.362 | 2912 | 113.3 | 0.004 |
| DPA | 200.0 | 10.749 | 5497.2 | 666 | 0.048 |
| N-NitrosoDPA | 75.0 | 11.362 | 1264.1 | 355.2 | 0.000 |

| | | |
|---|---|---|
| | | 0.797 |
| Avg. % Stabilizer for Lot | | **0.797** |

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | |
|---|---|
| **Analyst** Mike Kile | Avg. Tot. Stabilizers **0.80** % |
| Analyst Signature | Stable YES \| Unstable |
| | Comments |
| Lab. Supervisor Signature | **CATEGORY: A** |
| | Actions to be Taken |

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND80M070009** | **D533 / M6 propellant** |
| Date of analysis: | **Date:20 SEP 2010** |

| Other Information | Sample Data | | Solvent |
|---|---|---|---|
| M6 Propellant | #1 | 0.5000 g 100 ml | ACN |

| Standards (ERG-006) | | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 2.113 | 241.3 | 1503.9 | 0.623 |
| 2,4-DNDPA | 50.0 | 4.997 | 1505.8 | 0 | 0.000 |
| 2,2' DNDPA | 50.0 | 7.178 | 3394.6 | 16988.6 | 0.000 |
| 2,4' DNDPA | 50.0 | 10.355 | 947.6 | 0 | 0.000 |
| 4NDPA | 50.0 | 11.977 | 1346.1 | 0 | 0.000 |
| 2NDPA | 50.0 | 13.451 | 1788.2 | 0 | 0.000 |
| DPA | 200.0 | 14.881 | 5045.5 | 586 | 0.046 |
| N-NitrosoDPA | 75.0 | 16.02 | 1339.6 | 0 | 0.000 |
| | | | | | 0.670 |
| | | | Avg. % Stabilizer for Lot | | **0.670** |

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | |
|---|---|
| **Analyst** Kisha Dickerson | Avg. Tot. Stabilizers **0.67** % |
| Analyst Signature | Stable YES / Unstable |
| Lab. Supervisor Signature | Comments **CATEGORY: A** |
| | Actions to be Taken |

CONTAINS HAZARDOUS MA...

# STRAIGHT BILL OF LADING

**NOT NEGOTIABLE** Load 7

RECEIVED, subject to the classification and tariffs in effect on the date of the issue of this Original Bill of Lading.
The property described below, in apparent good order, except as noted (contents and condition of contents of packages unknown) consigned, end destined as indicated below, which said carrier (the word carrier being understood throughout this contract meaning any person or corporation in possession of the property under the contract) agrees to curry to its usual place of delivery of said destination. It on its route, otherwise to deliver to another carrier on the route to said destination. It is mutually agreed, as to each of all or any of said property over all or any portion of said route to destination, and as to each party at any time interested in all or any of said property, that every service lobe performed hereunder shall be subject to all the terms and conditions of the Uniform Domestic Straight Bill of Lading Set forth (t) in Uniform Freight Classification in effect on the date hereof, It this is a rail or rail-water shipment, or (2) in the applicable motor carrier classification or tariff it this is a motor carrier shipment.

Shipper hereby certifies that he is familiar with all the terms and conditions of the said bill of lading, set forth in the classification or tariff which governs the transportation of this shipment, and the sold terms and conditions are hereby agreed to by the shipper and accept for himself and his assigns.

Shipper: Explo Systems, Inc.
1600 Java Road
Minden, LA 71055

Shipper's No. 2859

Shipping Date 3/14/13

At

Purchase Order No.

By RRUK / AATC

Freight Charges: Collect _____ Prepaid XXX

Location No. 1607

(Mail or Street Address of Consignee — For purposes of notification only)

Consigned to Austin Powder Co

Fed Lic. 5-AR-103-20-5E-00139

Exp. Date 5/1/15

Destination 7-LL-10 Blanchard Rd

State

State Lic.

Exp. Date

County East Camden AR

Customer No.

Route

Charge Account of 1-870 574-0580 Ex 302

Customer P.O. No.

Rel. No.

| SHIPPED No. of PKGS | SHIPPED No. of UNITS | PROPER SHIPPING NAME AND HAZARD CLASS | RETURNED No. of PKGS | RETURNED No. of UNITS | EMERGENCY RESPONSE PROCEDURE GUIDE NO. | EXEMPTION ~~DOT-E~~ | HM | Placards Applied to Railcar or Motor Vehicle |
|---|---|---|---|---|---|---|---|---|
| 252/16 | 42 | UN0161, Powder, Smokeless, 1.3C, PG II | | | #112 | 20.40040603 | X | EXPLOSIVES 1.3 |
| | | Monica Kelly | | | | | | |
| | | Monica Kelly | | | | | | Truck No. 7306 |
| | | | | | | | | Trailer No. 980210 |
| | | | | | | | | Mileage |
| | | | | | | | | Total 252 PG PD @ 140 US EA |
| | | | | | | | | Packages |
| | | | | | | | | Gross |
| | | | | | | | | Weight # 39.000 |
| | | Seal # | | | | | | Net Explosive Weight |
| | | 7083989 / 7083990 | | | | | | 35,280 |

RECEIVED
17A725
MAR 18 2013
AUSTIN POWDER COMPANY
EAST CAMDEN PLANT

ENTERED
03/18/13

This is to certify that the above-named materials are properly classified, described, packaged, marked, and labeled and are in proper condition for transportation, according to the applicable regulations of the Department of Transportation.

Signature [signature]

Invoice No. _____

FOR CHEMICAL EMERGENCY, SPILL, LEAK, FIRE, EXPOSURE OR ACCIDENT CALL CHEMTREC — DAY OR NIGHT
IN THE USA CALL 800-424-9300 IN CANADA (ERP #2-0040) 800-561-3636 ELSEWHERE CALL (703) 527-3887 CCN644589

Permanent Address of Shipper:
**Explo Systems, Inc.**
1600 Java Road
Minden, Louisiana 71055
(318) 382-8700

Per _____

DOT Hazardous Material Handling Number _____
Local Federal Explosives License No. 5-LA-119-20-1A-00057
(Shipper)

I have been offered placards identifying the shipment as Specified in 49CFR Subpart F of Part 172. I have received the above goods in apparent good order and condition.

Received By [signature] Date 3-14-13
☐ CONSIGNEE ☐ CARRIER

By _____ Date _____
AUTHORIZED RECEIVER

019683

EXP_001317

AUSTIN POWDER PACKING LIST

SHIPMENT DATE 3-14-13

B/L# 2859 TRL 980210

M-6

IND85C-070512 2 PTS
IND85F-070587 2 PTS
IND86F-070062 1 PT
IND82E-070115 2 PTS
IND82E-070474 2 PTS
IND82E-070114 1 PT
IND88D-070716 6 PTS
IND86E-070641 1 PT
IND82E-070434 2 PTS
IND88H-070966 3 PTS
IND88A-070891 1 PT
IND85B-070509 1 PT
IND84K-Y70449 1 PT
IND84E-070430 1 PT
IND82G-070163 2 PTS
IND84A-070324 1 PT
IND86L-070641 1 PT
IND83P-070274 1 PT
IND85J-070596 1 PT
IND82J-070170 1 PT
IND86F-070620 1 PT
IND87D-070113 1 PT
IND81H-070063 2 PTS
IND88L-Y70320 1 PT
IND84K-070448 1 PT
IND88D-070076 1 PT
IND85E-070522 2 PTS
42 PTS WITH 6 FB @140 LBS PER DRUM

TOTAL 35,280 LBS

LIONEL KOONS

EXPLO SYSTEMS INC

# MOTOR VEHICLE INSPECTION (TRANSPORTING HAZARDOUS MATERIALS)

*(Read Instructions before completing this form.)*

This form applies to all vehicles which must be marked or placarded in accordance with Title 49 CFR.

1. BILL OF LADING/TRANSPORTATION CONTROL NUMBER: 2859

| SECTION 1 - DOCUMENTATION | ORIGIN a. | DESTINATION b. |
|---|---|---|
| 2. CARRIER/GOVERNMENT ORGANIZATION | AATCO / RRWK | |
| 3. DATE/TIME OF INSPECTION | 3/14/14 | |
| 4. LOCATION OF INSPECTION | EXPLO SYSTEMS INC | |
| 5. OPERATOR(S) NAME(S) | PEDICO, THOMAS | |
| 6. OPERATOR(S) LICENSE NUMBER(S) | P320-825-49-006-0 F/L | |
| 7. MEDICAL EXAMINER'S CERTIFICATE* | 2/25/15 | |

8. *(X if satisfactory at origin)*

| | | | | | |
|---|---|---|---|---|---|
| a. MILITARY HAZMAT ENDORSEMENT | ✓ | d. ERG OR EQUIVALENT COMMERCIAL: | ✓ YES | NO | |
| b. VALID LEASE* | ✓ | e. DRIVER'S VEHICLE INSPECTION REPORT* | | | ✓ |
| c. ROUTE PLAN | ✓ | f. COPY OF 49 CFR PART 397 | | | ✓ |

9. CVSA DECAL DISPLAYED ON COMMERCIAL EQUIPMENT*

| | YES | NO |
|---|---|---|
| a. TRUCK/TRACTOR | ✓ | |
| b. TRAILER | | |

## SECTION II - MECHANICAL INSPECTION

*All items shall be checked on empty equipment prior to loading. Items with an asterisk shall be checked on all incoming loaded equipment.*

10. TYPE OF VEHICLE(S): TRACTOR / TRAILER / DROM

11. VEHICLE NUMBER(S): TRAC #7306 / TRL #

| 12. PART INSPECTED *(X as applicable)* | ORIGIN (1) SAT | ORIGIN (1) UNSAT | DESTINATION (2) SAT | DESTINATION (2) UNSAT | | ORIGIN (1) SAT | ORIGIN (1) UNSAT | DESTINATION (2) SAT | DESTINATION (2) UNSAT | COMMENTS (3) |
|---|---|---|---|---|---|---|---|---|---|---|
| a. SPARE ELECTRICAL FUSES | | | | | k. EXHAUST SYSTEM | | | | | |
| b. HORN OPERATIVE | | | | | l. BRAKE SYSTEM* | | | | | |
| c. STEERING SYSTEM | | | | | m. SUSPENSION | | | | | |
| d. WINDSHIELD/WIPERS | | | | | n. COUPLING DEVICES | | | | | |
| e. MIRRORS | | | | | o. CARGO SPACE | | | | | |
| f. WARNING EQUIPMENT | | | | | p. LANDING GEAR* | | | | | |
| g. FIRE EXTINGUISHER* | | | | | q. TIRES, WHEELS, RIMS | | | | | |
| h. ELECTRICAL WIRING | | | | | r. TAILGATE/DOORS* | | | | | |
| i. LIGHTS AND REFLECTORS | | | | | s. TARPAULIN* | | | | | |
| j. FUEL SYSTEM* | | | | | t. OTHER *(Specify)* | | | | | |

13. INSPECTION RESULTS *(X one)* ACCEPTED ✓ REJECTED

*(If rejected give reason under "Remarks". Equipment will be approved if deficiencies are corrected prior to loading.)*

14. SATELLITE MOTOR SURVEILLANCE SYSTEM: *(X one)* ACCEPTED N/A REJECTED

15. REMARKS

16. INSPECTOR SIGNATURE *(Origin)*

17. INSPECTOR SIGNATURE *(Destination)*

## SECTION III - POST LOADING INSPECTION

This section applies to Commercial and Government/Military vehicles. All items will be checked prior to release of loaded equipment and shall be checked on all incoming loaded equipment.

| | ORIGIN (1) SAT | ORIGIN (1) UNSAT | DESTINATION (2) SAT | DESTINATION (2) UNSAT | COMMENTS (3) |
|---|---|---|---|---|---|
| 18. LOADED IAW APPLICABLE SEGREGATION/COMPATIBILITY TABLE OF 49 CFR | | | | | |
| 19. LOAD PROPERLY SECURED TO PREVENT MOVEMENT | | | | | |
| 20. SEALS APPLIED TO CLOSED VEHICLE; TARPAULIN APPLIED ON OPEN EQUIPMENT | | | | | |
| 21. PROPER PLACARDS APPLIED | | | | | |
| 22. SHIPPING PAPERS/DD FORM 836 FOR GOVERNMENT VEHICLE SHIPMENTS | N/A | | | | |
| 23. COPY OF DD FORM 626 FOR DRIVER | | | | | |
| 24. SHIPPED UNDER DOT SPECIAL PERMIT 868 | N/A | | | | |

25. INSPECTOR SIGNATURE *(Origin)*

26. DRIVER(S) SIGNATURE *(Origin)*

27. INSPECTOR SIGNATURE *(Destination)*

28. DRIVER(S) SIGNATURE *(Destination)*

**Explo Systems, Inc.**
**1600 Java Road**
**Minden, LA 71055**

# MATERIAL SAFETY DATA SHEET

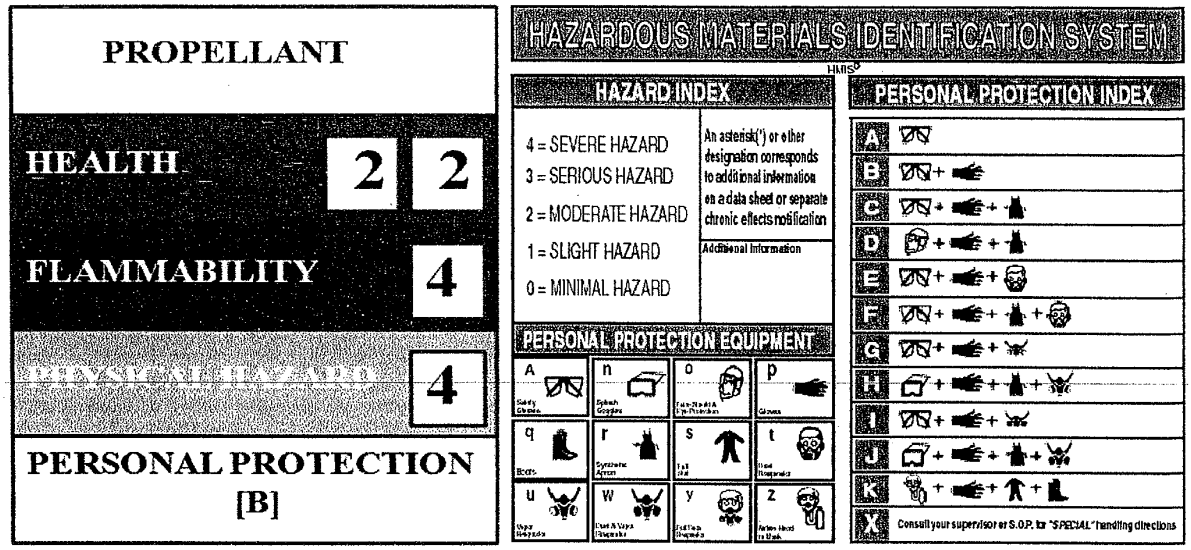
## PROPELLANT (Wetted)

## SECTION I - PRODUCT IDENTIFICATION

PRODUCT NAME: Propellant, Explosive, Solid, Wetted
Technical Information Phone No.: 318 382 8700
For Chemical Emergency (Spill, Fire, Exposure or Accident) call CHEMTREC day or night. Within the US and Canada: +1 800-424-9300. Outside the US and Canada: +1 703-527-3887 (collect calls accepted).

| Ingredient | CAS No. | Wt. % | OSHA PEL<br>ACGIH TLV<br>EPA RQ (if defined)<br>DOT RQ (if defined) |
|---|---|---|---|
| Dibutyl Phthalate | 84-74-2 | 3.00 | OSHA PEL 5 mg/m$^3$<br>ACGIH TLV 5 mg/m$^3$<br>EPA RQ 10 lbs<br>DOT RQ 10 lbs |
| Diphenylamine | 122-39-4 | 1.00 | OSHA PEL 10 mg/m$^3$<br>ACGIH TLV 10 mg/m$^3$<br>EPA RQ (none defined)<br>DOT RQ (none defined) |
| Potassium Sulfate | 7778-80-5 | 2.00 | OSHA PEL none published<br>ACGIH TLV none published<br>EPA RQ (none defined)<br>DOT RQ (none defined) |
| Nitrocellulose (flammable solid) | -- | 87.00 | OSHA PEL none published<br>ACGIH TLV none published<br>EPA RQ (none defined)<br>DOT RQ (none defined) |
| Dinitrotoluene | 25321-14-6 | 10.00 | OSHA PEL 10 mg/m$^3$<br>ACGIH TLV 10 mg/m$^3$<br>EPA RQ 10 lbs<br>DOT RQ 10 lbs |

## SECTION II - HAZARDS IDENTIFICATION




Routes of Entry: Inhalation; Skin; Ingestion
Carcinogenicity: None
First Aid Measures: EYES - Immediately flush with copious amount of water (low pressure) for 15 minutes, remove contact lenses; call physician. SKIN - Wash with soap and running water. INGESTION - Contact physician immediately. INHALATION - Remove to fresh air. Treat irritation symptomatically; call physician.
Firefighting Measures: Self-oxidizing, deluge with water. Will not be able to extinguish unless large quantity of water is used in very short time. Use NIOSH/MSHA approved SCBA and full protective equipment; evacuate area.
Unusual Fire/Explosion Hazard: Easily ignited, highly combustible; protect from fire and sparks and extreme heat.
Autoignition: 383°F (195°C)
Hazardous Combustion Products: Oxides of Carbon
Accidental Release Measures: SPILL - Clean immediately with soft (horsehair) brush and conductive rubber or plastic shovel. Use brass or other non-sparking tools and utensils. DO NOT hammer or otherwise cause impact forces to spilled material (explosion or autoignition could occur with impact force being applied).

## SECTION III - HANDLING AND STORAGE

Precautions: Avoid prolonged temperature above 125°F (50°C). Normal storage conditions should be 75°F (21°C) and 50% Humidity. Storage must conform to local, state and federal regulations, specifically: 29 CFR OSHA 1910.109; 27 CFR BATFE 55 subpart K.
Other Special Precautions: Flammable Solid…Keep away from heat, sparks, open flame…Keep containers closed…use with adequate ventilation.
Ventilation: Local and general ventilation necessary to keep air concentration below TLV's.
Personal Protective Equipment: Safety Glasses, Cotton or Leather Gloves, Fire Resistant Coveralls.

## SECTION IV - PHYSICAL AND CHEMICAL PROPERTIES

Specific Gravity: 1.496
Evaporation Rate: <1 (Butylacetate = 1)
Solubility in Water: negligible
Appearance and Odor: Hard Cylinder Perforated, Smooth, Greenish Yellow. Odorless.
Materials to Avoid: Oxides of Nitrogen and Carbon.

Conditions to Avoid: Open Flame, Sparks, Heat, Direct Sunlight.
Hazardous Decomposition Products: Oxides of Carbon

## SECTION V – TRANSPORTATION INFORMATION

DOT Proper Shipping Name: Smokeless Powder (wetted)
Hazard Class: 1.3C
UN No. UN0161
Packing Group: II

## SECTION VI - DISPOSAL CONSIDERATIONS

Disposal must be in accordance with federal, state and local regulations. Burn in open burning ground in accordance with regulatory requirements. It may also be burned in an incinerator approved for explosives.

## DISCLAIMER

The information contained in this MSDS (Material Safety Data Sheet) is based upon available constituent data for the components of **Propellant** and is believed to be correct. However, as this information has been obtained from various sources, including the manufacturers of its components and independent laboratories, it is provided herein without warranty or representation that it is complete, accurate and can be relied upon. Explo Systems, Inc. has not attempted to conceal in any manner the deleterious aspects of this product, and makes no warranty as such. Explo Systems, Inc. cannot anticipate nor control the many situations in which this product or this information may be used; there is no guarantee that the health and safety precautions suggested herein will be proper under all conditions. It is the sole responsibility of each user of the product to determine and comply with the requirements of all applicable laws and regulations regarding its use. This information is given solely for the purposes of safety to persons and property. Any other use of this information is expressly prohibited.

## AUTHOR

This MSDS was prepared by: Ferris Callihan, PE - Director Support Technology - Explo Systems, Inc. - 1600 Java Road - Minden, LA 71055 - Tel 318 382 8700 - E-mail: fcallihan@explosystems.com

Load 7

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND88A070891** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 10 NOV 2011** |

| Other Information | Sample Data | | Solvent |
|---|---|---|---|
| M6 Propellant | #1 | 0.50 g 100 ml | ACN |

| Standards (ERG-006) | | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 0.754 | 194.4 | 1458.4 | 0.750 |
| 2,4-DNDPA | 50.0 | 3.382 | 1272.7 | 25.7 | 0.002 |
| 2,2' DNDPA | 50.0 | 5.139 | 1982.5 | 27828 | 0.000 |
| 2,4' DNDPA | 50.0 | 7.414 | 1387.8 | 0 | 0.000 |
| 4NDPA | 50.0 | 8.918 | 2254.3 | 114.7 | 0.005 |
| 2NDPA | 50.0 | 10.088 | 4040.6 | 189.5 | 0.005 |
| DPA | 200.0 | 11.608 | 7993.7 | 1179.9 | 0.059 |
| N-NitrosoDPA | 75.0 | 12.407 | 1919.6 | 0 | 0.000 |

0.821

| Avg. % Stabilizer for Lot | **0.821** |
|---|---|

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| **Analyst** TAKISHA DICKERSON | Avg. Tot. Stabilizers **0.82** % |
|---|---|
| Analyst Signature | Stable YES / Unstable |
| Lab. Supervisor Signature | Comments **CATEGORY: A** |
| | Actions to be Taken |

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND88H070966** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 29 JULY 2011** |

| Other Information | Sample Data | | Solvent |
|---|---|---|---|
| M6 Propellant | #1 | 0.50 g 100 ml | ACN |

| Standards (ERG-006) | | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 0.642 | 125.1 | 600.3 | 0.480 |
| 2,4-DNDPA | 50.0 | 3.455 | 992.3 | 0 | 0.000 |
| 2,2' DNDPA | 50.0 | 5.274 | 125.3 | 27328 | 0.000 |
| 2,4' DNDPA | 50.0 | 7.702 | 1067.4 | 0 | 0.000 |
| 4NDPA | 50.0 | 9.26 | 1688.8 | 88.8 | 0.005 |
| 2NDPA | 50.0 | 10.547 | 3070.1 | 85.2 | 0.003 |
| DPA | 200.0 | 12.08 | 5796.8 | 694.6 | 0.048 |
| N-NitrosoDPA | 75.0 | 12.966 | 1456.1 | 0 | 0.000 |

| | | |
|---|---|---|
| | | 0.536 |
| | Avg. % Stabilizer for Lot | **0.536** |

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | | |
|---|---|---|
| **Analyst** Kisha Dickerson | Avg. Tot. Stabilizers | **0.54** % |
| Analyst Signature | Stable YES | Unstable |
| | Comments | |
| Lab. Supervisor Signature | **CATEGORY:** | **A** |
| | Actions to be Taken | |

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND85C070512** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 10 AUGUST 2012** |

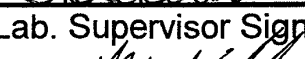
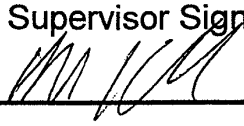
| Other Information | Sample Data | | | Solvent |
|---|---|---|---|---|
| M6 Propellant | #1 | 0.50 g | 100 ml | ACN |

| Standards (ERG-006) | | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 0.882 | 8.8 | 112.9 | 1.283 |
| 2,4-DNDPA | 50.0 | 3.343 | 910.9 | 0 | 0.000 |
| 2,2' DNDPA | 50.0 | 5.034 | 3858.6 | 22576 | 0.000 |
| 2,4' DNDPA | 50.0 | 7.363 | 1013.2 | 0 | 0.000 |
| 4NDPA | 50.0 | 8.784 | 1647.3 | 59.7 | 0.004 |
| 2NDPA | 50.0 | 9.95 | 2919.6 | 95.5 | 0.003 |
| DPA | 200.0 | 11.386 | 5857.1 | 714.1 | 0.049 |
| N-NitrosoDPA | 75.0 | 12.173 | 1371.4 | 0 | 0.000 |

1.339

| Avg. % Stabilizer for Lot | **1.339** |
|---|---|

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| **Analyst** Takisha Dickerson | Avg. Tot. Stabilizers **1.34** % |
|---|---|
| Analyst Signature  | Stable YES / Unstable |
| Lab. Supervisor Signature  | Comments **CATEGORY: A** |
| | Actions to be Taken |

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND85F070587** | **D533 / M6 propellant** |
| Date of analysis: | **Date:25 AUG 2010** |

Other Information
M6 Propellant

| Sample Data | | | Solvent |
|---|---|---|---|
| #1 | 0.5000 g | 100 ml | ACN |

| Standards (ERG-006) | | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 2.177 | 146.5 | 1821.4 | 1.243 |
| 2,4-DNDPA | 50.0 | 5.001 | 961.7 | 0 | 0.000 |
| 2,2' DNDPA | 50.0 | 7.038 | 2567.5 | 14427.7 | 0.000 |
| 2,4' DNDPA | 50.0 | 9.931 | 938.5 | 0 | 0.000 |
| 4NDPA | 50.0 | 11.434 | 1325.8 | 0 | 0.000 |
| 2NDPA | 50.0 | 12.813 | 1809.7 | 0 | 0.000 |
| DPA | 200.0 | 14.19 | 4886.9 | 225 | 0.018 |
| N-NitrosoDPA | 75.0 | 15.18 | 1296.7 | 0 | 0.000 |

1.262

Avg. % Stabilizer for Lot **1.262**

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

**Analyst** Kisha Dickerson

Avg. Tot. Stabilizers **1.26** %

Analyst Signature

Stable YES | Unstable

Comments
**CATEGORY: A**

Lab. Supervisor Signature

Actions to be Taken

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND84K070448** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 1 Mar 2012** |

| Other Information | Sample Data | | Solvent |
|---|---|---|---|
| M6 Propellant | #1 | 0.50 g 100 ml | ACN |

| Standards (ERG-006) | | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 0.872 | 13.8 | 97.7 | 0.708 |
| 2,4-DNDPA | 50.0 | 3.42 | 982.9 | 0 | 0.000 |
| 2,2' DNDPA | 50.0 | 5.182 | 2038.4 | 23346 | 0.000 |
| 2,4' DNDPA | 50.0 | 7.465 | 1060.4 | 0 | 0.000 |
| 4NDPA | 50.0 | 8.991 | 1708.9 | 47.8 | 0.003 |
| 2NDPA | 50.0 | 10.17 | 3062.7 | 91.8 | 0.003 |
| DPA | 200.0 | 11.707 | 6061.6 | 816.4 | 0.054 |
| N-NitrosoDPA | 75.0 | 12.518 | 1461.9 | 0 | 0.000 |

| | | |
|---|---|---|
| | | 0.768 |
| | Avg. % Stabilizer for Lot | **0.768** |

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | | |
|---|---|---|
| **Analyst** Takisha Dickerson | Avg. Tot. Stabilizers | **0.77** % |
| Analyst Signature | Stable YES | Unstable |
| | Comments | |
| Lab. Supervisor Signature | **CATEGORY:** | **A** |
| | Actions to be Taken | |

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND82E070114** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 22 NOV 2011** |

| Other Information | Sample Data | | | Solvent |
|---|---|---|---|---|
| M6 Propellant | #1 | 0.50 g | 100 ml | ACN |

| | Standards (ERG-006) | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 0.753 | 205.4 | 623.3 | 0.303 |
| 2,4-DNDPA | 50.0 | 3.383 | 927.4 | 0 | 0.000 |
| 2,2' DNDPA | 50.0 | 5.127 | 481.8 | 21922 | 0.000 |
| 2,4' DNDPA | 50.0 | 7.38 | 1001.4 | 0 | 0.000 |
| 4NDPA | 50.0 | 8.893 | 1609.3 | 58.6 | 0.004 |
| 2NDPA | 50.0 | 10.053 | 2886.9 | 118 | 0.004 |
| DPA | 200.0 | 11.586 | 5621.7 | 791.2 | 0.056 |
| N-NitrosoDPA | 75.0 | 12.383 | 1361.9 | 0 | 0.000 |

| | | |
|---|---|---|
| | | 0.367 |
| | Avg. % Stabilizer for Lot | **0.367** |

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | |
|---|---|
| **Analyst** TAKISHA DICKERSON | Avg. Tot. Stabilizers **0.37** % |
| Analyst Signature | Stable YES \| Unstable |
| Lab. Supervisor Signature | Comments **CATEGORY: A** |
| | Actions to be Taken |

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND82E070115** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 2 SEPTEMBER 2** |

| Other Information | Sample Data | | Solvent |
|---|---|---|---|
| M6 Propellant | #1 | 0.50 g 100 ml | ACN |

| Standards (ERG-006) | | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 0.631 | 119.7 | 513.1 | 0.429 |
| 2,4-DNDPA | 50.0 | 3.438 | 959.4 | 17.4 | 0.002 |
| 2,2' DNDPA | 50.0 | 5.235 | 1727.8 | 25268 | 0.000 |
| 2,4' DNDPA | 50.0 | 7.619 | 1043.1 | 0 | 0.000 |
| 4NDPA | 50.0 | 9.163 | 1669.9 | 77.7 | 0.005 |
| 2NDPA | 50.0 | 10.427 | 3002.4 | 153.6 | 0.005 |
| DPA | 200.0 | 11.959 | 5688.4 | 920.8 | 0.065 |
| N-NitrosoDPA | 75.0 | 12.823 | 1409.6 | 0 | 0.000 |

| | |
|---|---|
| | 0.505 |
| Avg. % Stabilizer for Lot | **0.505** |

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | |
|---|---|
| **Analyst** KISHA DICKERSON | Avg. Tot. Stabilizers **0.50** % |
| Analyst Signature | Stable YES / Unstable |
| Lab. Supervisor Signature | Comments **CATEGORY: A** |
| | Actions to be Taken |

CONTAINS HAZARDOUS MATERIALS

# STRAIGHT BILL OF LADING

**NOT NEGOTIABLE** Load 8

RECEIVED, subject to the classification and tariffs in effect on the date of the issue of this Original Bill of Lading.
The property described below, in apparent good order, except as noted (contents and condition of contents of packages unknown) consigned, and destined as indicated below, which said carrier (the word carrier being understood throughout this contract meaning any person or corporation in possession of the property under the contract) agrees to curry to its usual place of delivery of said destination. It on its route, otherwise to deliver to another carrier on the route to said destination. It is mutually agreed, as to each of all or any of said property over all or any portion of said route to destination, and as to each party at any time interested in all or any of said property, that every service lobe performed hereunder shall be subject to all the terms and conditions of the Uniform Domestic Straight Bill of Lading Set forth (t) in Uniform Freight Classification in effect on the date hereof, It this is a rail or rail-water shipment, or (2) in the applicable motor carrier classification or tariff it this is a motor carrier shipment.

Shipper hereby certifies that he is familiar with all the terms and conditions of the said bill of lading, set forth in the classification or tariff which governs the transportation of this shipment, and the sold terms and conditions are hereby agreed to by the shipper and accept for himself and his assigns.

Shipper: Explo Systems, Inc.
1600 Java Road
Minden, LA 71055

Shipper's No. 2866

Shipping Date 3/17/13

At

Purchase Order No.

By RRuK Freight Charges: Collect _____ Prepaid XXX Location No. 2423

(Mail or Street Address of Consignee — For purposes of notification only)

Consigned to AUSTIN POWDER CO
Destination 7-LE-10 BLANDY RD
County EAST CAMDEN AR

Fed Lic. 5-AR-103-20-5E-00139 Exp. Date 5/1/15
State
State Lic. Exp. Date
Customer No.

Route

Charge Account of 1870-574-0580 EX 302 Customer P.O. No. Rel. No.

| SHIPPED No. of PKGS | SHIPPED No. of UNITS | PROPER SHIPPING NAME AND HAZARD CLASS | RETURNED No. of PKGS | RETURNED No. of UNITS | EMERGENCY RESPONSE PROCEDURE GUIDE NO. | EXEMPTION ~~DOT-E~~ | H M | Placards Applied to Railcar or Motor Vehicle |
|---|---|---|---|---|---|---|---|---|
| 252/16 | 42PT | UN0161, Powder, Smokeless, 1.3C, PG II | | | #112 | 20100402.03 | X | EXPLOSIVES 1.3 |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | Truck No. 6436 |
| | | | | | | | | Trailer No. 7810062 |
| | | 2ND LOAD W/O# 214544 | | | | | | Mileage |
| | | | | | | | | Total 252/16 PK @ 140 LBS EA Packages |
| | | | | | | | | Gross Weight # 39,000 |
| | | Seal # 7083803 / 7083804 | | | | | | Net Explosive Weight 35,280 |

RECEIVED MAR 18 2013 17AT25 AUSTIN POWDER COMPANY EAST CAMDEN PLANT

3/14/13

This is to certify that the above-named materials are properly classified, described, packaged, marked, and labeled and are in proper condition for transportation, according to the applicable regulations of the Department of Transportation.

Signature _____ Invoice No. _____

FOR CHEMICAL EMERGENCY, SPILL, LEAK, FIRE, EXPOSURE OR ACCIDENT CALL CHEMTREC — DAY OR NIGHT
IN THE USA CALL 800-424-9300 IN CANADA (ERP #2-0040) 800-561-3636 ELSEWHERE CALL (703) 527-3887 CCN644589

Permanent Address of Shipper:
**Explo Systems, Inc.**
1600 Java Road
Minden, Louisiana 71055
(318) 382-8700

Per _____

DOT Hazardous Material Handling Number _____
Local Federal Explosives License No. 5-LA-119-20-1A-00057
(Shipper)

I have been offered placards identifying the shipment as Specified in 49CFR Subpart F of Part 172. I have received the above goods in apparent good order and condition.

Received By Martha Barnett Date 3-17-13
☐ CONSIGNEE ☐ CARRIER

By _____ Date _____
AUTHORIZED RECEIVER

CONTAINS HAZARDOUS MATERIALS

Agent must detach and retain this Shipping Order

CONTAINS HAZARDOUS MATERIALS

019697

EXP_001331

AUSTIN POWDER PACKING LIST

SHIPMENT DATE 3-17-13

B/L# 2866 TRL 7810062

M-6

IND83F-070274 8 PTS
IND84B-070327 10 PTS
IND84K-070448 2 PTS
IND84C-070331 2 PTS
IND82A-070101 3 PTS
IND80M-070011 1 PT
IND83F-070278 2 PTS
IND82H-070169 8 PTS
IND83C-070235 1 PT
IND86E-070616 3 PTS
IND83G-070281 1 PT
IND82F-070162 1 PT
42 PTS WITH 6 FB @140 LBS PER DRUM

TOTAL 35,280 LBS

LIONEL KOONS

EXPLO SYSTEMS INC

# MOTOR VEHICLE INSPECTION (TRANSPORTING HAZARDOUS MATERIALS)

*(Read Instructions before completing this form.)*

This form applies to all vehicles which must be marked or placarded in accordance with Title 49 CFR.

1. BILL OF LADING/TRANSPORTATION CONTROL NUMBER: 2866

| SECTION 1 - DOCUMENTATION | ORIGIN a. | DESTINATION b. |
|---|---|---|
| 2. CARRIER/GOVERNMENT ORGANIZATION | RRVC | |
| 3. DATE/TIME OF INSPECTION | 3/17/13 | |
| 4. LOCATION OF INSPECTION | EXPLO SYSTEMS INC | |
| 5. OPERATOR(S) NAME(S) | BARNETT, MCMAHON | |
| 6. OPERATOR(S) LICENSE NUMBER(S) | R30354300[illegible] 1100 | |
| 7. MEDICAL EXAMINER'S CERTIFICATE* | 1-3-15 | |

| 8. *(X if satisfactory at origin)* | | | | | | 9. CVSA DECAL DISPLAYED ON COMMERCIAL EQUIPMENT* | YES | NO |
|---|---|---|---|---|---|---|---|---|
| a. MILITARY HAZMAT ENDORSEMENT | ✓ | d. ERG OR EQUIVALENT COMMERCIAL: | ✓ | YES | NO | a. TRUCK/TRACTOR | ✓ | |
| b. VALID LEASE* | ✓ | e. DRIVER'S VEHICLE INSPECTION REPORT* | | | | b. TRAILER | | |
| c. ROUTE PLAN | ✓ | f. COPY OF 49 CFR PART 397 | | | | | | |

## SECTION II - MECHANICAL INSPECTION

*All items shall be checked on empty equipment prior to loading. Items with an asterisk shall be checked on all incoming loaded equipment.*

10. TYPE OF VEHICLE(S): TRACTOR / TRAILER / DROM

11. VEHICLE NUMBER(S): TRAC #6496 / TRL #7810262

| 12. PART INSPECTED *(X as applicable)* | ORIGIN (1) SAT | ORIGIN (1) UNSAT | DESTINATION (2) SAT | DESTINATION (2) UNSAT | | ORIGIN (1) SAT | ORIGIN (1) UNSAT | DESTINATION (2) SAT | DESTINATION (2) UNSAT | COMMENTS (3) |
|---|---|---|---|---|---|---|---|---|---|---|
| a. SPARE ELECTRICAL FUSES | | | | | k. EXHAUST SYSTEM | | | | | |
| b. HORN OPERATIVE | | | | | l. BRAKE SYSTEM* | | | | | |
| c. STEERING SYSTEM | | | | | m. SUSPENSION | | | | | |
| d. WINDSHIELD/WIPERS | | | | | n. COUPLING DEVICES | | | | | |
| e. MIRRORS | | | | | o. CARGO SPACE | | | | | |
| f. WARNING EQUIPMENT | | | | | p. LANDING GEAR* | | | | | |
| g. FIRE EXTINGUISHER* | | | | | q. TIRES, WHEELS, RIMS | | | | | |
| h. ELECTRICAL WIRING | | | | | r. TAILGATE/DOORS* | | | | | |
| i. LIGHTS AND REFLECTORS | | | | | s. TARPAULIN* | | | | | |
| j. FUEL SYSTEM* | | | | | t. OTHER *(Specify)* | | | | | |

13. INSPECTION RESULTS *(X one)* ACCEPTED ✓ REJECTED

*(If rejected give reason under "Remarks". Equipment will be approved if deficiencies are corrected prior to loading.)*

14. SATELLITE MOTOR SURVEILLANCE SYSTEM: *(X one)* ACCEPTED N/A REJECTED

15. REMARKS

16. INSPECTOR SIGNATURE *(Origin)* [signature]

17. INSPECTOR SIGNATURE *(Destination)*

## SECTION III - POST LOADING INSPECTION

This section applies to Commercial and Government/Military vehicles. All items will be checked prior to release of loaded equipment and shall be checked on all incoming loaded equipment.

| | ORIGIN (1) SAT | ORIGIN (1) UNSAT | DESTINATION (2) SAT | DESTINATION (2) UNSAT | COMMENTS (3) |
|---|---|---|---|---|---|
| 18. LOADED IAW APPLICABLE SEGREGATION/COMPATIBILITY TABLE OF 49 CFR | | | | | |
| 19. LOAD PROPERLY SECURED TO PREVENT MOVEMENT | | | | | |
| 20. SEALS APPLIED TO CLOSED VEHICLE; TARPAULIN APPLIED ON OPEN EQUIPMENT | | | | | |
| 21. PROPER PLACARDS APPLIED | | | | | |
| 22. SHIPPING PAPERS/DD FORM 836 FOR GOVERNMENT VEHICLE SHIPMENTS | N/A | | | | |
| 23. COPY OF DD FORM 626 FOR DRIVER | | | | | |
| 24. SHIPPED UNDER DOT SPECIAL PERMIT 868 | N/A | | | | |

25. INSPECTOR SIGNATURE *(Origin)* [signature]

26. DRIVER(S) SIGNATURE *(Origin)* [signature]

27. INSPECTOR SIGNATURE *(Destination)*

28. DRIVER(S) SIGNATURE *(Destination)*



019699

EXP_001333

Explo Systems, Inc.
1600 Java Road
Minden, LA 71055

# MATERIAL SAFETY DATA SHEET

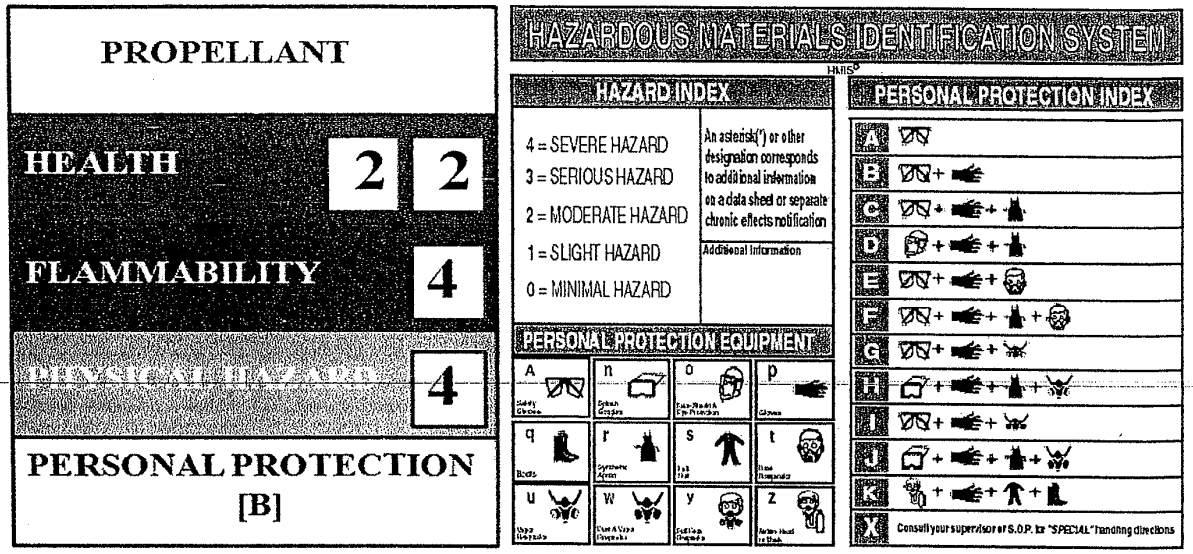
## PROPELLANT (Wetted)

## SECTION I - PRODUCT IDENTIFICATION

PRODUCT NAME: Propellant, Explosive, Solid, Wetted
Technical Information Phone No.: 318 382 8700
For Chemical Emergency (Spill, Fire, Exposure or Accident) call CHEMTREC day or night. Within the US and Canada: +1 800-424-9300. Outside the US and Canada: +1 703-527-3887 (collect calls accepted).

| Ingredient | CAS No. | Wt. % | OSHA PEL<br>ACGIH TLV<br>EPA RQ (if defined)<br>DOT RQ (if defined) |
|---|---|---|---|
| Dibutyl Phthalate | 84-74-2 | 3.00 | OSHA PEL 5 mg/m$^3$<br>ACGIH TLV 5 mg/m$^3$<br>EPA RQ 10 lbs<br>DOT RQ 10 lbs |
| Diphenylamine | 122-39-4 | 1.00 | OSHA PEL 10 mg/m$^3$<br>ACGIH TLV 10 mg/m$^3$<br>EPA RQ (none defined)<br>DOT RQ (none defined) |
| Potassium Sulfate | 7778-80-5 | 2.00 | OSHA PEL none published<br>ACGIH TLV none published<br>EPA RQ (none defined)<br>DOT RQ (none defined) |
| Nitrocellulose (flammable solid) | -- | 87.00 | OSHA PEL none published<br>ACGIH TLV none published<br>EPA RQ (none defined)<br>DOT RQ (none defined) |
| Dinitrotoluene | 25321-14-6 | 10.00 | OSHA PEL 10 mg/m$^3$<br>ACGIH TLV 10 mg/m$^3$<br>EPA RQ 10 lbs<br>DOT RQ 10 lbs |

## SECTION II - HAZARDS IDENTIFICATION




Routes of Entry: Inhalation; Skin; Ingestion
Carcinogenicity: None
First Aid Measures: EYES - Immediately flush with copious amount of water (low pressure) for 15 minutes, remove contact lenses; call physician. SKIN - Wash with soap and running water. INGESTION - Contact physician immediately. INHALATION - Remove to fresh air. Treat irritation symptomatically; call physician.
Firefighting Measures: Self-oxidizing, deluge with water. Will not be able to extinguish unless large quantity of water is used in very short time. Use NIOSH/MSHA approved SCBA and full protective equipment; evacuate area.
Unusual Fire/Explosion Hazard: Easily ignited, highly combustible; protect from fire and sparks and extreme heat.
Autoignition: 383°F (195°C)
Hazardous Combustion Products: Oxides of Carbon
Accidental Release Measures: SPILL - Clean immediately with soft (horsehair) brush and conductive rubber or plastic shovel. Use brass or other non-sparking tools and utensils. DO NOT hammer or otherwise cause impact forces to spilled material (explosion or autoignition could occur with impact force being applied).

## SECTION III - HANDLING AND STORAGE

Precautions: Avoid prolonged temperature above 125°F (50°C). Normal storage conditions should be 75°F (21°C) and 50% Humidity. Storage must conform to local, state and federal regulations, specifically: 29 CFR OSHA 1910.109; 27 CFR BATFE 55 subpart K.
Other Special Precautions: Flammable Solid…Keep away from heat, sparks, open flame…Keep containers closed…use with adequate ventilation.
Ventilation: Local and general ventilation necessary to keep air concentration below TLV's.
Personal Protective Equipment: Safety Glasses, Cotton or Leather Gloves, Fire Resistant Coveralls.

## SECTION IV - PHYSICAL AND CHEMICAL PROPERTIES

Specific Gravity: 1.496
Evaporation Rate: <1 (Butylacetate = 1)
Solubility in Water: negligible
Appearance and Odor: Hard Cylinder Perforated, Smooth, Greenish Yellow. Odorless.
Materials to Avoid: Oxides of Nitrogen and Carbon.

Conditions to Avoid: Open Flame, Sparks, Heat, Direct Sunlight.
Hazardous Decomposition Products: Oxides of Carbon

## SECTION V – TRANSPORTATION INFORMATION

DOT Proper Shipping Name: Smokeless Powder (wetted)
Hazard Class: 1.3C
UN No. UN0161
Packing Group: II

## SECTION VI - DISPOSAL CONSIDERATIONS

Disposal must be in accordance with federal, state and local regulations. Burn in open burning ground in accordance with regulatory requirements. It may also be burned in an incinerator approved for explosives.

## DISCLAIMER

The information contained in this MSDS (Material Safety Data Sheet) is based upon available constituent data for the components of **Propellant** and is believed to be correct. However, as this information has been obtained from various sources, including the manufacturers of its components and independent laboratories, it is provided herein without warranty or representation that it is complete, accurate and can be relied upon. Explo Systems, Inc. has not attempted to conceal in any manner the deleterious aspects of this product, and makes no warranty as such. Explo Systems, Inc. cannot anticipate nor control the many situations in which this product or this information may be used; there is no guarantee that the health and safety precautions suggested herein will be proper under all conditions. It is the sole responsibility of each user of the product to determine and comply with the requirements of all applicable laws and regulations regarding its use. This information is given solely for the purposes of safety to persons and property. Any other use of this information is expressly prohibited.

## AUTHOR

This MSDS was prepared by: Ferris Callihan, PE - Director Support Technology - Explo Systems, Inc. - 1600 Java Road - Minden, LA 71055 - Tel 318 382 8700 - E-mail: fcallihan@explosystems.com

U.S. Department
of Transportation

Pipeline and Hazardous
Materials Safety Administration

East Building, PHH – 32
1200 New Jersey Avenue, Southeast
Washington, D.C. 20590

The US Department of Transportation
Competent Authority for the United States

## CLASSIFICATION OF EXPLOSIVES
## FIRST REVISION

Based upon a request by Explo Systems Inc., 1600 Java Road, Minden, LA 71055, United States the following items are classed in accordance with Section 173.56, Title 49, Code of Federal Regulations (49 CFR). A copy of your application, all supporting documentation and a copy of this approval must be retained and made available to DOT upon request.

**U.N. PROPER SHIPPING NAME AND NUMBER:**
Powder, smokeless, UN0161

**U.N. CLASSIFICATION CODE**: 1.3C

| REFERENCE NUMBER | PRODUCT DESIGNATION/PART NUMBER |
|---|---|
| EX2010040603 | Reclaimed M6 Propellant |

**NOTES:** This classification is only valid when the smokeless powder has been tested and found to have sufficient residual stabilizers present per US Army Safety Bulletin: "Inspection of Supplies and Equipment, Ammunition Surveillance Procedures" (SB 742-1). The following packaging methods are assigned:
Packaging Method A: Inner Packaging - Not necessary. Outer Packaging – UN 1G fiberdrum, each containing not more than one hundred and forty (140) pounds of smokeless propellant.
Packaging Method B: Inner Packaging: Flexible static-resistant reinforced plastic cloth and strapping lifting bag, each containing not more than eight hundred and eighty (880) pounds of smokeless propellant. Outer Packaging - UN 4G heavy-wall fiberboard box with a volumetric capacity of 119 gallons or less. (see 49 CFR Section 171.8 Definition for "Non-bulk packaging")

**DATED:** 05/05/2011

For Dr. Magdy El-Sibaie
Associate Administrator for Hazardous Materials Safety

Tracking No: 2011040848

Load 8
2866

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND86E070616** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 19 NOV 2010** |

| Other Information | Sample Data | | Solvent |
|---|---|---|---|
| M6 Propellant | #1 | 0.5000 g 100 ml | ACN |

| Standards (ERG-006) | | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 2.068 | 135.8 | 654.4 | 0.482 |
| 2,4-DNDPA | 50.0 | 5.182 | 717.3 | 0 | 0.000 |
| 2,2' DNDPA | 50.0 | 7.635 | 736.3 | 13022.2 | 0.000 |
| 2,4' DNDPA | 50.0 | 11.713 | 779 | 0 | 0.000 |
| 4NDPA | 50.0 | 13.454 | 462.4 | 0 | 0.000 |
| 2NDPA | 50.0 | 15.161 | 1164.1 | 0 | 0.000 |
| DPA | 200.0 | 16.583 | 4078.5 | 221.2 | 0.022 |
| N-NitrosoDPA | 75.0 | 18.033 | 1011.7 | 0 | 0.000 |

| | |
|---|---|
| | 0.504 |
| Avg. % Stabilizer for Lot | **0.504** |

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | |
|---|---|
| **Analyst** Kisha Dickerson | Avg. Tot. Stabilizers **0.50** % |
| Analyst Signature | Stable YES / Unstable |
| Lab. Supervisor Signature | Comments **CATEGORY: A** |
| | Actions to be Taken |

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND84B070327** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 4 Sep 2012** |

| Other Information | Sample Data | | Solvent |
|---|---|---|---|
| M6 Propellant | #1 | 0.50 g 100 ml | ACN |

| Standards (ERG-006) | | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 0.889 | 48.8 | 501.9 | 1.028 |
| 2,4-DNDPA | 50.0 | 3.418 | 914.3 | 0 | 0.000 |
| 2,2' DNDPA | 50.0 | 5.22 | 777.3 | 23336 | 0.000 |
| 2,4' DNDPA | 50.0 | 7.622 | 980.5 | 0 | 0.000 |
| 4NDPA | 50.0 | 9.134 | 1586.8 | 95.7 | 0.006 |
| 2NDPA | 50.0 | 10.417 | 2826.3 | 104 | 0.004 |
| DPA | 200.0 | 11.797 | 5671.5 | 673.4 | 0.047 |
| N-NitrosoDPA | 75.0 | 12.757 | 1337.5 | 0 | 0.000 |

| | | |
|---|---|---|
| | | 1.086 |
| Avg. % Stabilizer for Lot | | **1.086** |

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | | |
|---|---|---|
| **Analyst** Mike Kile | Avg. Tot. Stabilizers | **1.09** % |
| Analyst Signature | Stable YES | Unstable |
| | Comments | |
| Lab. Supervisor Signature | **CATEGORY:** | **A** |
| | Actions to be Taken | |

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND84C070331** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 09 OCT 2012** |

| Other Information | Sample Data | | Solvent |
|---|---|---|---|
| M6 Propellant | #1 | 0.50 g 100 ml | ACN |

| Standards (ERG-006) | | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 0.81 | 49.3 | 233.8 | 0.474 |
| 2,4-DNDPA | 50.0 | 3.281 | 851 | 16.7 | 0.002 |
| 2,2' DNDPA | 50.0 | 4.921 | 1138.9 | 26304 | 0.000 |
| 2,4' DNDPA | 50.0 | 7.019 | 921.5 | 0 | 0.000 |
| 4NDPA | 50.0 | 8.286 | 1486.9 | 137.7 | 0.009 |
| 2NDPA | 50.0 | 9.313 | 2654.8 | 174 | 0.007 |
| DPA | 200.0 | 10.745 | 5184.7 | 689.6 | 0.053 |
| N-NitrosoDPA | 75.0 | 11.458 | 1326 | 0 | 0.000 |

| | | |
|---|---|---|
| | | 0.545 |
| Avg. % Stabilizer for Lot | | **0.545** |

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | |
|---|---|
| **Analyst** MIKE KILE | Avg. Tot. Stabilizers **0.55** % |
| Analyst Signature | Stable YES \| Unstable |
| Lab. Supervisor Signature | Comments **CATEGORY: A** |
| | Actions to be Taken |

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND84K070448** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 1 Mar 2012** |

| Other Information | Sample Data | | Solvent |
|---|---|---|---|
| M6 Propellant | #1 | 0.50 g 100 ml | ACN |

| Standards (ERG-006) | | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 0.872 | 13.8 | 97.7 | 0.708 |
| 2,4-DNDPA | 50.0 | 3.42 | 982.9 | 0 | 0.000 |
| 2,2' DNDPA | 50.0 | 5.182 | 2038.4 | 23346 | 0.000 |
| 2,4' DNDPA | 50.0 | 7.465 | 1060.4 | 0 | 0.000 |
| 4NDPA | 50.0 | 8.991 | 1708.9 | 47.8 | 0.003 |
| 2NDPA | 50.0 | 10.17 | 3062.7 | 91.8 | 0.003 |
| DPA | 200.0 | 11.707 | 6061.6 | 816.4 | 0.054 |
| N-NitrosoDPA | 75.0 | 12.518 | 1461.9 | 0 | 0.000 |

| | | |
|---|---|---|
| | | 0.768 |
| Avg. % Stabilizer for Lot | | **0.768** |

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | | |
|---|---|---|
| **Analyst** Takisha Dickerson | Avg. Tot. Stabilizers | **0.77** % |
| Analyst Signature | Stable YES | Unstable |
| | Comments | |
| Lab. Supervisor Signature | **CATEGORY:** | **A** |
| | Actions to be Taken | |

Form #150

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND83C070235** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 27 JULY 2011** |

| Other Information | Sample Data | | Solvent |
|---|---|---|---|
| M6 Propellant | #1 | 0.50 g 100 ml | ACN |

| | Standards (ERG-006) | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 0.694 | 112.8 | 396 | 0.351 |
| 2,4-DNDPA | 50.0 | 3.477 | 942.8 | 35.1 | 0.004 |
| 2,2' DNDPA | 50.0 | 5.339 | 77.4 | 22444 | 0.000 |
| 2,4' DNDPA | 50.0 | 7.842 | 1020.3 | 32.9 | 0.003 |
| 4NDPA | 50.0 | 9.392 | 1634.2 | 231.7 | 0.014 |
| 2NDPA | 50.0 | 10.693 | 2956.2 | 221.1 | 0.007 |
| DPA | 200.0 | 12.201 | 5630.5 | 417 | 0.030 |
| N-NitrosoDPA | 75.0 | 13.103 | 1385.2 | 0 | 0.000 |

| | 0.409 |
|---|---|
| Avg. % Stabilizer for Lot | **0.409** |

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | |
|---|---|
| **Analyst** Mike Kile | Avg. Tot. Stabilizers **0.41** % |
| Analyst Signature | Stable YES / Unstable |
| Lab. Supervisor Signature | Comments **CATEGORY: A** |
| | Actions to be Taken |

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND83G070281** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 4 April 2012** |

| Other Information | Sample Data | | Solvent |
|---|---|---|---|
| M6 Propellant | #1 | 0.50 g 100 ml | ACN |

| Standards (ERG-006) | | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 0.881 | 40.9 | 93.7 | 0.229 |
| 2,4-DNDPA | 50.0 | 3.279 | 928 | 0 | 0.000 |
| 2,2' DNDPA | 50.0 | 4.66 | 26957 | 26191 | 0.000 |
| 2,4' DNDPA | 50.0 | 6.571 | 992.8 | 0 | 0.000 |
| 4NDPA | 50.0 | 7.798 | 1662.7 | 158.3 | 0.010 |
| 2NDPA | 50.0 | 8.806 | 2938.9 | 98.9 | 0.003 |
| DPA | 200.0 | 10.221 | 5774.5 | 1004.4 | 0.070 |
| N-NitrosoDPA | 75.0 | 10.895 | 1475.9 | 0 | 0.000 |
| | | | | | 0.312 |
| | | | Avg. % Stabilizer for Lot | | **0.312** |

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | |
|---|---|
| **Analyst** Takisha Dickerson | Avg. Tot. Stabilizers **0.31** % |
| Analyst Signature | Stable YES / Unstable |
| | Comments |
| Lab. Supervisor Signature | **CATEGORY: A** |
| | Actions to be Taken |

Form #158

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND83F070278** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 11 JULY 2012** |

| Other Information | Sample Data | | Solvent |
|---|---|---|---|
| M6 Propellant | #1 | 0.50 g 100 ml | ACN |

| Standards (ERG-006) | | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 0.803 | 32.3 | 256.2 | 0.793 |
| 2,4-DNDPA | 50.0 | 3.397 | 945.1 | 0 | 0.000 |
| 2,2' DNDPA | 50.0 | 5.155 | 1995.1 | 21574 | 0.000 |
| 2,4' DNDPA | 50.0 | 7.525 | 949.2 | 0 | 0.000 |
| 4NDPA | 50.0 | 9.04 | 1580.4 | 89.7 | 0.006 |
| 2NDPA | 50.0 | 10.278 | 2854 | 35.4 | 0.001 |
| DPA | 200.0 | 11.761 | 5473.7 | 589.5 | 0.043 |
| N-NitrosoDPA | 75.0 | 12.606 | 1672.4 | 0 | 0.000 |

| | | |
|---|---|---|
| | | 0.843 |
| Avg. % Stabilizer for Lot | | **0.843** |

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | | |
|---|---|---|
| **Analyst** Takisha Dickerson | Avg. Tot. Stabilizers | **0.84** % |
| Analyst Signature | Stable YES | Unstable |
| | Comments | |
| Lab. Supervisor Signature | **CATEGORY:** | **A** |
| | Actions to be Taken | |

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND83F070274** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 27 JULY 2011** |

| Other Information | Sample Data | | Solvent |
|---|---|---|---|
| M6 Propellant | #1 | 0.50 g 100 ml | ACN |

| Standards (ERG-006) | | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 0.694 | 112.8 | 622.1 | 0.552 |
| 2,4-DNDPA | 50.0 | 3.477 | 942.8 | 0 | 0.000 |
| 2,2' DNDPA | 50.0 | 5.339 | 77.4 | 22209 | 0.000 |
| 2,4' DNDPA | 50.0 | 7.842 | 1020.3 | 0 | 0.000 |
| 4NDPA | 50.0 | 9.392 | 1634.2 | 48.5 | 0.003 |
| 2NDPA | 50.0 | 10.693 | 2956.2 | 98.3 | 0.003 |
| DPA | 200.0 | 12.201 | 5630.5 | 451.4 | 0.032 |
| N-NitrosoDPA | 75.0 | 13.103 | 1385.2 | 0 | 0.000 |

| | | |
|---|---|---|
| | | 0.590 |
| Avg. % Stabilizer for Lot | | **0.590** |

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | | | |
|---|---|---|---|
| **Analyst** | Takisha Dickerson | Avg. Tot. Stabilizers | **0.59** % |
| Analyst Signature | | Stable YES | Unstable |
| Lab. Supervisor Signature | | Comments **CATEGORY:** | **A** |
| | | Actions to be Taken | |

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND82A070101** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 28 June 2012** |

| Other Information | Sample Data | | Solvent |
|---|---|---|---|
| M6 Propellant | #1 | 0.50 g 100 ml | ACN |

| | Standards (ERG-006) | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 0.874 | 19.1 | 129.9 | 0.680 |
| 2,4-DNDPA | 50.0 | 3.347 | 961.1 | 0 | 0.000 |
| 2,2' DNDPA | 50.0 | 5.046 | 4032.7 | 23810 | 0.000 |
| 2,4' DNDPA | 50.0 | 6.347 | 22 | 0 | 0.000 |
| 4NDPA | 50.0 | 7.273 | 1080.1 | 0 | 0.000 |
| 2NDPA | 50.0 | 8.74 | 1782.9 | 45.1 | 0.003 |
| DPA | 200.0 | 9.886 | 3122.3 | 81.2 | 0.010 |
| N-NitrosoDPA | 75.0 | 11.353 | 6047.1 | 776.8 | 0.000 |

| | | |
|---|---|---|
| | | 0.693 |
| | Avg. % Stabilizer for Lot | **0.693** |

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | | | |
|---|---|---|---|
| **Analyst** | Takisha Dickerson | Avg. Tot. Stabilizers | **0.69** % |
| Analyst Signature | | Stable YES | Unstable |
| | | Comments | |
| Lab. Supervisor Signature | | **CATEGORY:** | **A** |
| | | Actions to be Taken | |

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND80M070011** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 22 March 2012** |

| Other Information | Sample Data | | | Solvent |
|---|---|---|---|---|
| M6 Propellant | #1 | 0.50 g | 100 ml | ACN |

| Standards (ERG-006) | | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 0.897 | 14.6 | 40.4 | 0.277 |
| 2,4-DNDPA | 50.0 | 3.327 | 870.9 | 0 | 0.000 |
| 2,2' DNDPA | 50.0 | 5.054 | 688.7 | 29012 | 0.000 |
| 2,4' DNDPA | 50.0 | 7.295 | 945.9 | 0 | 0.000 |
| 4NDPA | 50.0 | 8.792 | 1528.5 | 144 | 0.009 |
| 2NDPA | 50.0 | 10.019 | 2755.3 | 103.4 | 0.004 |
| DPA | 200.0 | 11.357 | 5392.9 | 588.9 | 0.044 |
| N-NitrosoDPA | 75.0 | 12.286 | 1332.2 | 0 | 0.000 |

| | | |
|---|---|---|
| | | 0.334 |
| Avg. % Stabilizer for Lot | | **0.334** |

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | | | |
|---|---|---|---|
| **Analyst** | Takisha Dickerson | Avg. Tot. Stabilizers | **0.33** % |
| Analyst Signature | | Stable YES | Unstable |
| Lab. Supervisor Signature | | Comments **CATEGORY:** | **A** |
| | | Actions to be Taken | |

CONTAINS HAZARDOUS MATERIALS

# STRAIGHT BILL OF LADING

**NOT NEGOTIABLE** Load 9

RECEIVED, subject to the classification and tariffs in effect on the date of the issue of this Original Bill of Lading.
The property described below, in apparent good order, except as noted (contents and condition of contents of packages unknown) consigned, end destined as indicated below, which said carrier (the word carrier being understood throughout this contract meaning any person or corporation in possession of the property under the contract) agrees to curry to its usual place of delivery of said destination. It on its route, otherwise to deliver to another carrier on the route to said destination. It is mutually agreed, as to each of all or any of said property over all or any portion of said route to destination, and as to each party at any time interested in all or any of said property, that every service lobe performed hereunder shall be subject to all the terms and conditions of the Uniform Domestic Straight Bill of Lading Set forth (t) in Uniform Freight Classification in effect on the date hereof, It this is a rail or rail-water shipment, or (2) in the applicable motor carrier classification or tariff it this is a motor carrier shipment.

Shipper hereby certifies that he is familiar with all the terms and conditions of the said bill of lading, set forth in the classification or tariff which governs the transportation of this shipment, and the sold terms and conditions are hereby agreed to by the shipper and accept for himself and his assigns.

Shipper: Explo Systems, Inc.
1600 Java Road
Minden, LA 71055

Shipper's No. 2868

Shipping Date 3/18/13

At

Purchase Order No.

By R/R

Freight Charges: Collect _____ Prepaid XXX

Location No. 2431

(Mail or Street Address of Consignee — For purposes of notification only)

Consigned to Austin Powder Co
7 LL 10 Blandy Rd
East Camden, AR

Fed Lic. 5-AA-103-20-SC-00137

Exp. Date 5/1/15

Destination

State

State Lic.

Exp. Date

County

Customer No.

Route

Charge Account of 1-870-574 [illegible]

Customer P.O. No.

Rel. No.

| SHIPPED No. of PKGS | SHIPPED No. of UNITS | PROPER SHIPPING NAME AND HAZARD CLASS | RETURNED No. of PKGS | RETURNED No. of UNITS | EMERGENCY RESPONSE PROCEDURE GUIDE NO. | EXEMPTION DOT-E | H M | Placards Applied to Railcar or Motor Vehicle |
|---|---|---|---|---|---|---|---|---|
| [illegible] | [illegible] | UN0161, Powder, Smokeless, 1.3C, PG II | | | #112 | [illegible] | [illegible] | EXPLOSIVES 1.3 |
| | | | | | | | | |
| | | [illegible] | | | | | | |
| | | [illegible] 3/19/13 | | | | | | Truck No. 6436 |
| | | | | | | | | Trailer No. [illegible] |
| | | W/O# 214206 | | | | | | Mileage |
| | | | | | | | | Total [illegible] Packages |
| | | | | | | | | Gross Weight # [illegible] |
| | | Seal # | | | | | | Net Explosive Weight |
| | | 7083807/7083808 | | | | | | 36,280 |

ENTERED 3/19/13 [illegible]

RECEIVED 17AT27 MAR 19 2013 AUSTIN POWDER COMPANY EAST CAMDEN PLANT

This is to certify that the above-named materials are properly classified, described, packaged, marked, and labeled and are in proper condition for transportation, according to the applicable regulations of the Department of Transportation.

Signature [signature]

Invoice No. _____

FOR CHEMICAL EMERGENCY, SPILL, LEAK, FIRE, EXPOSURE OR ACCIDENT CALL CHEMTREC — DAY OR NIGHT
IN THE USA CALL 800-424-9300 IN CANADA (ERP #2-0040) 800-561-3636 ELSEWHERE CALL (703) 527-3887 CCN644589

Permanent Address of Shipper:
**Explo Systems, Inc.**
1600 Java Road
Minden, Louisiana 71055
(318) 382-8700

Per _____

DOT Hazardous Material Handling Number _____
Local Federal Explosives License No. 5-LA-119-20-1A-00057
(Shipper)

I have been offered placards identifying the shipment as Specified in 49CFR Subpart F of Part 172. I have received the above goods in apparent good order and condition.

Received By [signature] Date 3/18/13
☐ CONSIGNEE ☐ CARRIER

By _____ Date _____
AUTHORIZED RECEIVER

CONTAINS HAZARDOUS MATERIALS

Agent must detach and retain this Shipping Order

019715

EXP_001349

AUSTIN POWDER PACKING LIST

SHIPMENT DATE 3-18-13

B/L# 2868 TRL 980210

M-6

IND83F-070274 1 PTS
IND81G-070061 11 PTS
IND81D-070020 10 PTS
IND84G-070326 9 PTS
IND84L-070454 1 PTS
IND81L-070074 2 PTS
IND81D-070015 6 PTS
IND82L-070219 1 PTS
IND81E-070022 1 PT

42 PTS WITH 6 FB @140 LBS PER DRUM

TOTAL 35,280 LBS

LIONEL KOONS

EXPLO SYSTEMS INC

# MOTOR VEHICLE INSPECTION (TRANSPORTING HAZARDOUS MATERIALS)

*(Read Instructions before completing this form.)*

This form applies to all vehicles which must be marked or placarded in accordance with Title 49 CFR.

1. BILL OF LADING/TRANSPORTATION CONTROL NUMBER: 2868

| SECTION 1 - DOCUMENTATION | ORIGIN a. | DESTINATION b. |
|---|---|---|
| 2. CARRIER/GOVERNMENT ORGANIZATION | RRVK | |
| 3. DATE/TIME OF INSPECTION | 3/18/13 | |
| 4. LOCATION OF INSPECTION | EXDO SYSTEMS INC | |
| 5. OPERATOR(S) NAME(S) | BARNETT, MEGHAN | |
| 6. OPERATOR(S) LICENSE NUMBER(S) | R20234 30094 MO | |
| 7. MEDICAL EXAMINER'S CERTIFICATE* | 1/3/15 | |

| 8. (X if satisfactory at origin) | | | | | | 9. CVSA DECAL DISPLAYED ON COMMERCIAL EQUIPMENT* | YES | NO |
|---|---|---|---|---|---|---|---|---|
| a. MILITARY HAZMAT ENDORSEMENT | ✓ | d. ERG OR EQUIVALENT COMMERCIAL: | ✓ YES | | NO | | | |
| b. VALID LEASE* | ✓ | e. DRIVER'S VEHICLE INSPECTION REPORT* | | | ✓ | a. TRUCK/TRACTOR | ✓ | |
| c. ROUTE PLAN | ✓ | f. COPY OF 49 CFR PART 397 | | | ✓ | b. TRAILER | ✓ | |

**SECTION II - MECHANICAL INSPECTION**

*All items shall be checked on empty equipment prior to loading. Items with an asterisk shall be checked on all incoming loaded equipment.*

10. TYPE OF VEHICLE(S): TRACTOR / TRAILER / DROM

11. VEHICLE NUMBER(S): TRAC #6436 / TRL # 980210

| 12. PART INSPECTED (X as applicable) | ORIGIN (1) SAT | ORIGIN (1) UNSAT | DESTINATION (2) SAT | DESTINATION (2) UNSAT | | ORIGIN (1) SAT | ORIGIN (1) UNSAT | DESTINATION (2) SAT | DESTINATION (2) UNSAT | COMMENTS (3) |
|---|---|---|---|---|---|---|---|---|---|---|
| a. SPARE ELECTRICAL FUSES | | | | | k. EXHAUST SYSTEM | | | | | |
| b. HORN OPERATIVE | | | | | l. BRAKE SYSTEM* | | | | | |
| c. STEERING SYSTEM | | | | | m. SUSPENSION | | | | | |
| d. WINDSHIELD/WIPERS | | | | | n. COUPLING DEVICES | | | | | |
| e. MIRRORS | | | | | o. CARGO SPACE | | | | | |
| f. WARNING EQUIPMENT | | | | | p. LANDING GEAR* | | | | | |
| g. FIRE EXTINGUISHER* | | | | | q. TIRES, WHEELS, RIMS | | | | | |
| h. ELECTRICAL WIRING | | | | | r. TAILGATE/DOORS* | | | | | |
| i. LIGHTS AND REFLECTORS | | | | | s. TARPAULIN* | N/A | | | | |
| j. FUEL SYSTEM* | | | | | t. OTHER (Specify) | | | | | |

13. INSPECTION RESULTS (X one) ACCEPTED ✓ REJECTED

*(If rejected give reason under "Remarks". Equipment will be approved if deficiencies are corrected prior to loading.)*

14. SATELLITE MOTOR SURVEILLANCE SYSTEM: (X one) ACCEPTED N/A REJECTED

15. REMARKS

16. INSPECTOR SIGNATURE *(Origin)*

17. INSPECTOR SIGNATURE *(Destination)*

**SECTION III - POST LOADING INSPECTION**

This section applies to Commercial and Government/Military vehicles. All items will be checked prior to release of loaded equipment and shall be checked on all incoming loaded equipment.

| | ORIGIN (1) SAT | ORIGIN (1) UNSAT | DESTINATION (2) SAT | DESTINATION (2) UNSAT | COMMENTS (3) |
|---|---|---|---|---|---|
| 18. LOADED IAW APPLICABLE SEGREGATION/COMPATIBILITY TABLE OF 49 CFR | | | | | |
| 19. LOAD PROPERLY SECURED TO PREVENT MOVEMENT | | | | | |
| 20. SEALS APPLIED TO CLOSED VEHICLE; TARPAULIN APPLIED ON OPEN EQUIPMENT | | | | | |
| 21. PROPER PLACARDS APPLIED | | | | | |
| 22. SHIPPING PAPERS/DD FORM 836 FOR GOVERNMENT VEHICLE SHIPMENTS | N/A | | | | |
| 23. COPY OF DD FORM 626 FOR DRIVER | | | | | |
| 24. SHIPPED UNDER DOT SPECIAL PERMIT 868 | N/A | | | | |

25. INSPECTOR SIGNATURE *(Origin)*

26. DRIVER(S) SIGNATURE *(Origin)*

27. INSPECTOR SIGNATURE *(Destination)*

28. DRIVER(S) SIGNATURE *(Destination)*

Explo Systems, Inc.
1600 Java Road
Minden, LA 71055

# MATERIAL SAFETY DATA SHEET

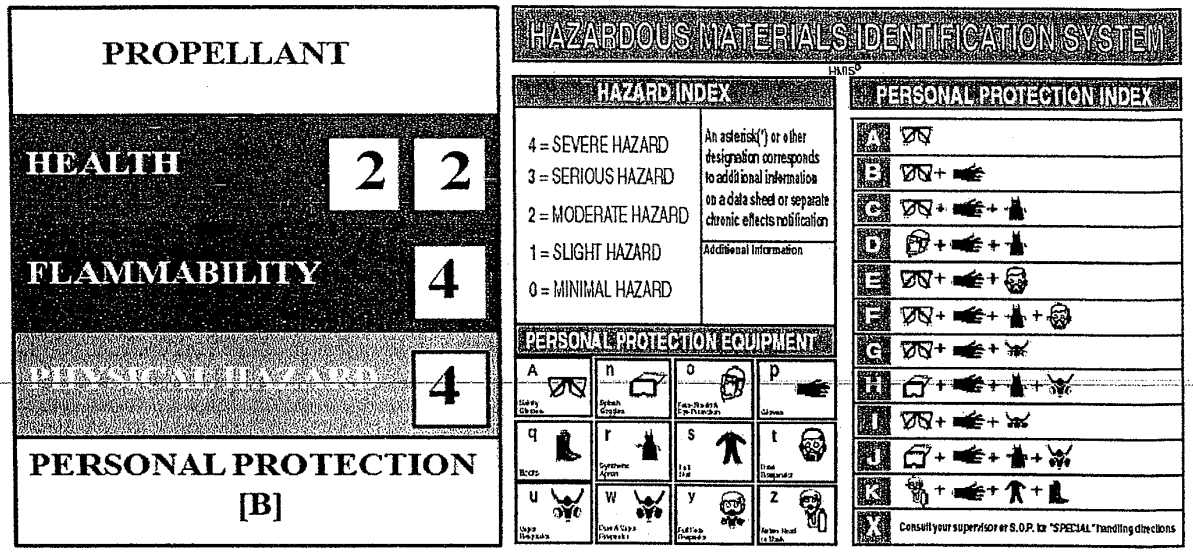
## PROPELLANT (Wetted)

## SECTION I - PRODUCT IDENTIFICATION

PRODUCT NAME: Propellant, Explosive, Solid, Wetted
Technical Information Phone No.: 318.382.8700
For Chemical Emergency (Spill, Fire, Exposure or Accident) call CHEMTREC day or night. Within the US and Canada: +1 800-424-9300. Outside the US and Canada: +1 703-527-3887 (collect calls accepted).

| Ingredient | CAS No. | Wt. % | OSHA PEL<br>ACGIH TLV<br>EPA RQ (if defined)<br>DOT RQ (if defined) |
|---|---|---|---|
| Dibutyl Phthalate | 84-74-2 | 3.00 | OSHA PEL 5 mg/m$^3$<br>ACGIH TLV 5 mg/m$^3$<br>EPA RQ 10 lbs<br>DOT RQ 10 lbs |
| Diphenylamine | 122-39-4 | 1.00 | OSHA PEL 10 mg/m$^3$<br>ACGIH TLV 10 mg/m$^3$<br>EPA RQ (none defined)<br>DOT RQ (none defined) |
| Potassium Sulfate | 7778-80-5 | 2.00 | OSHA PEL none published<br>ACGIH TLV none published<br>EPA RQ (none defined)<br>DOT RQ (none defined) |
| Nitrocellulose (flammable solid) | – | 87.00 | OSHA PEL none published<br>ACGIH TLV none published<br>EPA RQ (none defined)<br>DOT RQ (none defined) |
| Dinitrotoluene | 25321-14-6 | 10.00 | OSHA PEL 10 mg/m$^3$<br>ACGIH TLV 10 mg/m$^3$<br>EPA RQ 10 lbs<br>DOT RQ 10 lbs |

## SECTION II - HAZARDS IDENTIFICATION




Routes of Entry: Inhalation; Skin; Ingestion
Carcinogenicity: None
First Aid Measures: EYES - Immediately flush with copious amount of water (low pressure) for 15 minutes, remove contact lenses; call physician. SKIN - Wash with soap and running water. INGESTION - Contact physician immediately. INHALATION - Remove to fresh air. Treat irritation symptomatically; call physician.
Firefighting Measures: Self-oxidizing, deluge with water. Will not be able to extinguish unless large quantity of water is used in very short time. Use NIOSH/MSHA approved SCBA and full protective equipment; evacuate area.
Unusual Fire/Explosion Hazard: Easily ignited, highly combustible; protect from fire and sparks and extreme heat.
Autoignition: 383°F (195°C)
Hazardous Combustion Products: Oxides of Carbon
Accidental Release Measures: SPILL - Clean immediately with soft (horsehair) brush and conductive rubber or plastic shovel. Use brass or other non-sparking tools and utensils. DO NOT hammer or otherwise cause impact forces to spilled material (explosion or autoignition could occur with impact force being applied).

## SECTION III - HANDLING AND STORAGE

Precautions: Avoid prolonged temperature above 125°F (50°C). Normal storage conditions should be 75°F (21°C) and 50% Humidity. Storage must conform to local, state and federal regulations, specifically: 29 CFR OSHA 1910.109; 27 CFR BATFE 55 subpart K.
Other Special Precautions: Flammable Solid…Keep away from heat, sparks, open flame…Keep containers closed…use with adequate ventilation.
Ventilation: Local and general ventilation necessary to keep air concentration below TLV's.
Personal Protective Equipment: Safety Glasses, Cotton or Leather Gloves, Fire Resistant Coveralls.

## SECTION IV - PHYSICAL AND CHEMICAL PROPERTIES

Specific Gravity: 1.496
Evaporation Rate: <1 (Butylacetate = 1)
Solubility in Water: negligible
Appearance and Odor: Hard Cylinder Perforated, Smooth, Greenish Yellow. Odorless.
Materials to Avoid: Oxides of Nitrogen and Carbon.

## POTENTIAL HAZARDS

### FIRE OR EXPLOSION

- **MAY EXPLODE AND THROW FRAGMENTS 1600 meters (1 MILE) OR MORE IF FIRE REACHES CARGO.**
- **For information on "Compatibility Group" letters, refer to Glossary section.**

### HEALTH

- Fire may produce irritating, corrosive and/or toxic gases.

## PUBLIC SAFETY

- **CALL Emergency Response Telephone Number on Shipping Paper first. If Shipping Paper not available or no answer, refer to appropriate telephone number listed on the inside back cover.**
- Isolate spill or leak area immediately for at least 500 meters (1/3 mile) in all directions.
- Move people out of line of sight of the scene and away from windows.
- Keep unauthorized personnel away.
- Stay upwind.
- Ventilate closed spaces before entering.

### PROTECTIVE CLOTHING

- Wear positive pressure self-contained breathing apparatus (SCBA).
- Structural firefighters' protective clothing will only provide limited protection.

### EVACUATION

**Large Spill**

- **Consider initial evacuation for 800 meters (1/2 mile) in all directions.**

Fire

- If rail car or trailer is involved in a fire and heavily encased explosives such as bombs or artillery projectiles are suspected, ISOLATE for 1600 meters (1 mile) in all directions; also, initiate evacuation including emergency responders for 1600 meters (1 mile) in all directions.
- When heavily encased explosives are not involved, evacuate the area for 800 meters (1/2 mile) in all directions.

*** For information on "Compatibility Group" letters, refer to the Glossary section.**





## EMERGENCY RESPONSE

### FIRE

**CARGO Fire**

- **DO NOT fight fire when fire reaches cargo! Cargo may EXPLODE!**
- Stop all traffic and clear the area for at least 1600 meters (1 mile) in all directions and let burn.
- **Do not move cargo or vehicle if cargo has been exposed to heat.**

**TIRE or VEHICLE Fire**

- **Use plenty of water - FLOOD it! If water is not available, use $CO_2$, dry chemical or dirt.**
- If possible, and WITHOUT RISK, use unmanned hose holders or monitor nozzles from maximum distance to prevent fire from spreading to cargo area.
- Pay special attention to tire fires as re-ignition may occur. Stand by with extinguisher ready.

### SPILL OR LEAK

- ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area).
- All equipment used when handling the product must be grounded.
- Do not touch or walk through spilled material.
- DO NOT OPERATE RADIO TRANSMITTERS WITHIN 100 meters (330 feet) OF ELECTRIC DETONATORS.
- **DO NOT CLEAN-UP OR DISPOSE OF, EXCEPT UNDER SUPERVISION OF A SPECIALIST.**

### FIRST AID

- Move victim to fresh air. • Call 911 or emergency medical service.
- Give artificial respiration if victim is not breathing.
- Administer oxygen if breathing is difficult.
- Remove and isolate contaminated clothing and shoes.
- In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes.
- Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves.

*** For information on "Compatibility Group" letters, refer to the Glossary section.**



EXP_001354

019720

Load 9
2868

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND84L070454** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 4 MAY 2012** |

| Other Information | Sample Data | | Solvent |
|---|---|---|---|
| M6 Propellant | #1 | 0.50 g 100 ml | ACN |

| | Standards (ERG-006) | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 0.867 | 83.7 | 400.6 | 0.479 |
| 2,4-DNDPA | 50.0 | 3.338 | 1156.5 | 0 | 0.000 |
| 2,2' DNDPA | 50.0 | 5.017 | 5373.7 | 23342 | 0.000 |
| 2,4' DNDPA | 50.0 | 7.147 | 1263.8 | 0 | 0.000 |
| 4NDPA | 50.0 | 8.595 | 2061.4 | 48.3 | 0.002 |
| 2NDPA | 50.0 | 9.687 | 3694.9 | 94.1 | 0.003 |
| DPA | 200.0 | 11.119 | 7683.7 | 721.2 | 0.038 |
| N-NitrosoDPA | 75.0 | 11.99 | 2133.1 | | 0.000 |

0.521

| Avg. % Stabilizer for Lot | **0.521** |
|---|---|

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| **Analyst** Takisha Dickerson | Avg. Tot. Stabilizers **0.52** % |
|---|---|
| Analyst Signature | Stable YES / Unstable |
| Lab. Supervisor Signature | Comments **CATEGORY: A** |
| | Actions to be Taken |

Form #150

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND84G070326** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 18 JULY 2012** |

| Other Information | Sample Data | | Solvent |
|---|---|---|---|
| M6 Propellant | #1 | 0.50 g 100 ml | ACN |

| Standards (ERG-006) | | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 0.863 | 133.9 | 498.4 | 0.372 |
| 2,4-DNDPA | 50.0 | 3.365 | 949.7 | 0 | 0.000 |
| 2,2' DNDPA | 50.0 | 5.091 | 2605.4 | 24044 | 0.000 |
| 2,4' DNDPA | 50.0 | 7.514 | 1047.9 | 0 | 0.000 |
| 4NDPA | 50.0 | 8.946 | 1698.8 | 49.1 | 0.003 |
| 2NDPA | 50.0 | 10.142 | 3039.5 | 84.6 | 0.003 |
| DPA | 200.0 | 11.585 | 6044.7 | 789.2 | 0.052 |
| N-NitrosoDPA | 75.0 | 12.4 | 1395.6 | 0 | 0.000 |

0.430

| Avg. % Stabilizer for Lot | **0.430** |
|---|---|

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| **Analyst** Takisha Dickerson | Avg. Tot. Stabilizers **0.43** % |
|---|---|
| Analyst Signature Dickerson | Stable YES / Unstable |
| Lab. Supervisor Signature | Comments **CATEGORY: A** |
| | Actions to be Taken |

Form #158

019722

EXP_001356

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND83F070274** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 27 JULY 2011** |

| Other Information | Sample Data | | Solvent |
|---|---|---|---|
| M6 Propellant | #1 | 0.50 g 100 ml | ACN |

| | Standards (ERG-006) | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 0.694 | 112.8 | 622.1 | 0.552 |
| 2,4-DNDPA | 50.0 | 3.477 | 942.8 | 0 | 0.000 |
| 2,2' DNDPA | 50.0 | 5.339 | 77.4 | 22209 | 0.000 |
| 2,4' DNDPA | 50.0 | 7.842 | 1020.3 | 0 | 0.000 |
| 4NDPA | 50.0 | 9.392 | 1634.2 | 48.5 | 0.003 |
| 2NDPA | 50.0 | 10.693 | 2956.2 | 98.3 | 0.003 |
| DPA | 200.0 | 12.201 | 5630.5 | 451.4 | 0.032 |
| N-NitrosoDPA | 75.0 | 13.103 | 1385.2 | 0 | 0.000 |
| | | | | | 0.590 |
| | | Avg. % Stabilizer for Lot | | | **0.590** |

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | |
|---|---|
| **Analyst** Takisha Dickerson | Avg. Tot. Stabilizers **0.59** % |
| Analyst Signature | Stable YES / Unstable |
| Lab. Supervisor Signature | Comments **CATEGORY: A** |
| | Actions to be Taken |

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND81L070074** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 19 SEPT 2011** |

| Other Information | Sample Data | | | Solvent |
|---|---|---|---|---|
| M6 Propellant | #1 | 0.50 g | 100 ml | ACN |

| Standards (ERG-006) | | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 0.866 | 65.3 | 504.3 | 0.772 |
| 2,4-DNDPA | 50.0 | 3.45 | 959.2 | 0 | 0.000 |
| 2,2' DNDPA | 50.0 | 5.27 | 2749.5 | 21863 | 0.000 |
| 2,4' DNDPA | 50.0 | 7.695 | 1051.4 | 0 | 0.000 |
| 4NDPA | 50.0 | 9.247 | 1702.8 | 66.6 | 0.004 |
| 2NDPA | 50.0 | 10.528 | 3035.1 | 96.6 | 0.003 |
| DPA | 200.0 | 12.044 | 5992.2 | 593 | 0.040 |
| N-NitrosoDPA | 75.0 | 12.922 | 1413.2 | 0 | 0.000 |

| | | |
|---|---|---|
| | | 0.819 |
| | Avg. % Stabilizer for Lot | **0.819** |

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | | |
|---|---|---|
| **Analyst** MIKE KILE | Avg. Tot. Stabilizers | **0.82** % |
| Analyst Signature | Stable YES | Unstable |
| Lab. Supervisor Signature | Comments **CATEGORY:** **A** | |
| | Actions to be Taken | |

Form #158

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND81D070015** | **D533 / M6 propellant** |
| Date of analysis: | **Date:20 OCT 2010** |

| Other Information | Sample Data | | Solvent |
|---|---|---|---|
| M6 Propellant | #1 | 0.5000 g 100 ml | ACN |

| | Standards (ERG-006) | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 5.024 | 281.6 | 2363.4 | 0.839 |
| 2,4-DNDPA | 50.0 | 10.59 | 329 | 0 | 0.000 |
| 2,2' DNDPA | 50.0 | 12.176 | 376.1 | 0 | 0.000 |
| 2,4' DNDPA | 50.0 | 12.67 | 275.3 | 35.7 | 0.013 |
| 4NDPA | 50.0 | 13.632 | 664.1 | 0 | 0.000 |
| 2NDPA | 50.0 | 14.943 | 1788.8 | 34.8 | 0.002 |
| DPA | 200.0 | 16.114 | 286 | 0 | 0.000 |
| N-NitrosoDPA | 75.0 | 19.917 | 329.9 | 158.8 | 0.000 |

| | | |
|---|---|---|
| | | 0.854 |
| | Avg. % Stabilizer for Lot | **0.854** |

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | | | |
|---|---|---|---|
| **Analyst** | Kisha Dickerson | Avg. Tot. Stabilizers | **0.85** % |
| Analyst Signature | | Stable YES | Unstable |
| | | Comments | |
| Lab. Supervisor Signature | | **CATEGORY:** | **A** |
| | | Actions to be Taken | |

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND81E070022** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 23 AUG 2010** |

| Other Information | Sample Data | | Solvent |
|---|---|---|---|
| M6 Propellant | #1 | 0.5000 g 100 ml | ACN |

| Standards (ERG-006) | | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | | 0 | | |
| 2,4-DNDPA | 50.0 | 4.884 | 715.1 | 0 | 0.000 |
| 2,2' DNDPA | 50.0 | 9.663 | 794.8 | 17278.9 | 2.174 |
| 2,4' DNDPA | 50.0 | 11.213 | 1155.8 | 0 | 0.000 |
| 4NDPA | 50.0 | 11.899 | 750.7 | 0 | 0.000 |
| 2NDPA | 50.0 | 12.536 | 1565 | 0 | 0.000 |
| DPA | 200.0 | 13.934 | 4151.3 | 0 | 0.000 |
| N-NitrosoDPA | 75.0 | 14.875 | 1080.5 | 451.1 | 0.063 |

2.237

Avg. % Stabilizer for Lot **2.237**

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | |
|---|---|
| **Analyst** Kisha Dickerson | Avg. Tot. Stabilizers **2.24** % |
| Analyst Signature | Stable YES / Unstable |
| Lab. Supervisor Signature | Comments **CATEGORY: A** |
| | Actions to be Taken |

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND81G070061** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 12 JULY 2011** |

| Other Information | Sample Data | | | Solvent |
|---|---|---|---|---|
| M6 Propellant | #1 | 0.50 g | 100 ml | ACN |

| Standards (ERG-006) | | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 0.71 | 111 | 358.1 | 0.323 |
| 2,4-DNDPA | 50.0 | 3.475 | 1001 | 79.1 | 0.008 |
| 2,2' DNDPA | 50.0 | 5.325 | 95 | 18335 | 0.000 |
| 2,4' DNDPA | 50.0 | 7.791 | 1061.3 | 83.2 | 0.008 |
| 4NDPA | 50.0 | 9.345 | 1700.8 | 167.7 | 0.010 |
| 2NDPA | 50.0 | 10.629 | 3041.2 | 330.5 | 0.011 |
| DPA | 200.0 | 12.152 | 5943.4 | 913.3 | 0.061 |
| N-NitrosoDPA | 75.0 | 13.034 | 1443.1 | 111.8 | 0.000 |
| | | | | | 0.421 |
| | | | Avg. % Stabilizer for Lot | | **0.421** |

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | |
|---|---|
| **Analyst** Mike Kile | Avg. Tot. Stabilizers **0.42** % |
| Analyst Signature | Stable YES / Unstable |
| | Comments **CATEGORY: A** |
| Lab. Supervisor Signature | |
| | Actions to be Taken |

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND81D070020** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 10 Feb 2012** |

| Other Information | Sample Data | | Solvent |
|---|---|---|---|
| M6 Propellant | #1 | 0.50 g 100 ml | ACN |

| Standards (ERG-006) | | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 0.868 | 53.7 | 398.1 | 0.741 |
| 2,4-DNDPA | 50.0 | 3.292 | 916.2 | 0 | 0.000 |
| 2,2' DNDPA | 50.0 | 4.936 | 839.4 | 22071 | 0.000 |
| 2,4' DNDPA | 50.0 | 6.943 | 1003.3 | 0 | 0.000 |
| 4NDPA | 50.0 | 8.309 | 1616.5 | 50 | 0.003 |
| 2NDPA | 50.0 | 9.362 | 2912 | 113.3 | 0.004 |
| DPA | 200.0 | 10.749 | 5497.2 | 666 | 0.048 |
| N-NitrosoDPA | 75.0 | 11.362 | 1264.1 | 355.2 | 0.000 |

| | | |
|---|---|---|
| | | 0.797 |
| | Avg. % Stabilizer for Lot | **0.797** |

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | | | |
|---|---|---|---|
| **Analyst** Mike Kile | | Avg. Tot. Stabilizers | **0.80** % |
| Analyst Signature | | Stable YES | Unstable |
| | | Comments | |
| Lab. Supervisor Signature | | **CATEGORY:** | **A** |
| | | Actions to be Taken | |

Form #152

CONTAINS HAZARDOUS MATERIALS

# STRAIGHT BILL OF LADING

**NOT NEGOTIABLE** Road 10

RECEIVED, subject to the classifications and tariffs in effect on the date of the issue of this Original Bill of Lading.
The property described below, in apparent good order, except as noted (contents and condition of contents of packages unknown) consigned, and destined as indicated below, which said carrier (the word carrier being understood throughout this contract meaning any person or corporation in possession of the property under the contract) agrees to curry to its usual place of delivery of said destination. It on its route, otherwise to deliver to another carrier on the route to said destination. It is mutually agreed, as to each of all or any of said property over all or any portion of said route to destination, and as to each party at any time interested in all or any of said property, that every service lobe performed hereunder shall be subject to all the terms and conditions of the Uniform Domestic Straight Bill of Lading Set forth (t) In Uniform Freight Classification in effect on the date hereof, It this is a rail or rail-water shipment, or (2) in the applicable motor carrier classification or tariff it this is a motor carrier shipment.

Shipper hereby certifies that he is familiar with all the terms and conditions of the said bill of lading, set forth in the classification or tariff which governs the transportation of this shipment, and the sold terms and conditions are hereby agreed to by the shipper and accept for himself and his assigns.

Shipper: Explo Systems, Inc.
1600 Java Road
Minden, LA 71055

Shipper's No. 2867

Shipping Date 3/18/13

At

Purchase Order No.

By R Rule/Smith Freight Charges: Collect _____ Prepaid XXX Location No. 2437

(Mail or Street Address of Consignee — For purposes of notification only)

Consigned to Austin Powder Co Fed Lic. 5-AL-103-30-5E-00139 Exp. Date 5/1/15
Destination 7-LC-10 Bismarck AR State State Lic. Exp. Date
County East Camden AR Customer No.
Route
Charge Account of 1-870-574-0680 Ext 302 Customer P.O. No. Rel. No.

| SHIPPED No. of PKGS | SHIPPED No. of UNITS | PROPER SHIPPING NAME AND HAZARD CLASS | RETURNED No. of PKGS | RETURNED No. of UNITS | EMERGENCY RESPONSE PROCEDURE GUIDE NO. | EXEMPTION ~~DOT-E~~ | HM | Placards Applied to Railcar or Motor Vehicle |
|---|---|---|---|---|---|---|---|---|
| 252/16 | 42PT | UN0161, Powder, Smokeless, 1.3C, PG II | | | #112 | 20100540603 | X | EXPLOSIVES 1.3 |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | Truck No. 7306 |
| | | | | | | | | Trailer No. 6810057 |
| | | | | | | | | Mileage |
| | | | | | | | | Total 25216 PK 2 1/10/13 Packages |
| | | | | | | | | Gross Weight # 39,000 |
| | | Seal # 7083805/7083806 | | | | | | Net Explosive Weight 35,280 |

RECEIVED MAR 19 2013 MAT22 AUSTIN POWDER COMPANY EAST CAMDEN PLANT

ENTERED 3/19/13 MK

This is to certify that the above-named materials are properly classified, described, packaged, marked, and labeled and are in proper condition for transportation, according to the applicable regulations of the Department of Transportation.

Signature _____ Invoice No. _____

FOR CHEMICAL EMERGENCY, SPILL, LEAK, FIRE, EXPOSURE OR ACCIDENT CALL CHEMTREC — DAY OR NIGHT
IN THE USA CALL 800-424-9300 IN CANADA (ERP #2-0040) 800-561-3636 ELSEWHERE CALL (703) 527-3887 CCN644589

Permanent Address of Shipper:
**Explo Systems, Inc.**
1600 Java Road
Minden, Louisiana 71055
(318) 382-8700

Per _____

DOT Hazardous Material Handling Number _____
Local Federal Explosives License No. 5-LA-119-20-1A-00057
(Shipper)

I have been offered placards identifying the shipment as Specified in 49CFR Subpart F of Part 172. I have received the above goods in apparent good order and condition.

Received By _____ Date 3-18-13
☐ CONSIGNEE ☐ CARRIER

By _____ Date _____
AUTHORIZED RECEIVER

CONTAINS HAZARDOUS MATERIALS

019729

EXP_001363

# STRAIGHT BILL OF LADING

# NOT NEGOTIABLE

RECEIVED, subject to the classification and tariffs in effect on the date of the issue of this Original Bill of Lading.
The property described below, in apparent good order, except as noted (contents and condition of contents of packages unknown) consigned, end destined as indicated below, which said carrier (the word carrier being understood throughout this contract meaning any person or corporation in possession of the property under the contract) agrees to curry to its usual place of delivery of said destination. It on its route, otherwise to deliver to another carrier on the route to said destination. It is mutually agreed, as to each of all or any of said property over all or any portion of said route to destination, and as to each party at any time interested in all or any of said property, that every service lobe performed hereunder shall be subject to all the terms and conditions of the Uniform Domestic Straight Bill of Lading Set forth (t) in Uniform Freight Classification in effect on the date hereof. It this is a rail or rail-water shipment, or (2) in the applicable motor carrier classification or tariff it this is a motor carrier shipment.

Shipper hereby certifies that he is familiar with all the terms and conditions of the said bill of lading, set forth in the classification or tariff which governs the transportation of this shipment, and the sold terms and conditions are hereby agreed to by the shipper and accept for himself and his assigns.

Shipper: Explo Systems, Inc.
1600 Java Road
Minden, LA 71055

Shipper's No. 2867

Shipping Date 3/18/13

At

Purchase Order No.

By RRUK/AA#10 Freight Charges: Collect _____ Prepaid XXX Location No. 2437

(Mail or Street Address of Consignee — For purposes of notification only)

Consigned to Austin Powder Co Fed Lic. 5-AR-103-20-5E-00139 Exp. Date 5/1/15

Destination 7-LC-10 Blandy Rd State State Lic. Exp. Date

County East Camden AR Customer No.

Route

Charge Account of 1-870-574 0570 Ex 302 Customer P.O. No. Rel. No.

| SHIPPED No. of PKGS | SHIPPED No. of UNITS | PROPER SHIPPING NAME AND HAZARD CLASS | RETURNED No. of PKGS | RETURNED No. of UNITS | EMERGENCY RESPONSE PROCEDURE GUIDE NO. | EXEMPTION ~~DOT-E~~ | HM | Placards Applied to Railcar or Motor Vehicle |
|---|---|---|---|---|---|---|---|---|
| 252/16 | 42PT | UN0161, Powder, Smokeless, 1.3C, PG II | | | #112 | 2010040603 | X | EXPLOSIVES 1.3 |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | Truck No. 7306 |
| | | | | | | | | Trailer No. 6810057 |
| | | | | | | | | Mileage |
| | | | | | | | | Total 25+16 FD Emolbsea Packages |
| | | | | | | | | Gross Weight # 39000 |
| | | Seal # | | | | | | Net Explosive Weight |
| | | 7083805/7083806 | | | | | | 35,280 |

This is to certify that the above-named materials are properly classified, described, packaged, marked, and labeled and are in proper condition for transportation, according to the applicable regulations of the Department of Transportation.

Signature [signature] Invoice No. _____

FOR CHEMICAL EMERGENCY, SPILL, LEAK, FIRE, EXPOSURE OR ACCIDENT CALL CHEMTREC — DAY OR NIGHT
IN THE USA CALL 800-424-9300 IN CANADA (ERP #2-0040) 800-561-3636 ELSEWHERE CALL (703) 527-3887 CCN644579

Permanent Address of Shipper:
**Explo Systems, Inc.**
1600 Java Road
Minden, Louisiana 71055
(318) 382-8700

Per _____

DOT Hazardous Material Handling Number _____
Local Federal Explosives License No. 5-LA-119-20-1A-00057
(Shipper)

I have been offered placards identifying the shipment as Specified in 49CFR Subpart F of Part 172. I have received the above goods in apparent good order and condition.

Received By [signature] Date 3-18-13
☐ CONSIGNEE ☐ CARRIER

By _____ Date _____
AUTHORIZED RECEIVER

CONTAINS HAZARDOUS MATERIALS

019730

EXP_001364

AUSTIN POWDER PACKING LIST

SHIPMENT DATE 3-18-13

B/L# 2867 TRL 6810057

M-6

IND83F-070274 4 PTS
IND81G-070061 12 PTS
IND81E-070021 1 PT
IND81D-070020 6 PTS
IND84G-070326 5 PTS
IND84L-070454 3 PTS
IND81L-070074 5 PTS
IND81D-070015 4 PTS
IND82L-070219 2 PTS

42 PTS WITH 6 FB @140 LBS PER DRUM

TOTAL 35,280 LBS

LIONEL KOONS

EXPLO SYSTEMS INC

# MOTOR VEHICLE INSPECTION (TRANSPORTING HAZARDOUS MATERIALS)

*(Read Instructions before completing this form.)*

This form applies to all vehicles which must be marked or placarded in accordance with Title 49 CFR.

1. BILL OF LADING/TRANSPORTATION CONTROL NUMBER: 2867

| SECTION 1 - DOCUMENTATION | ORIGIN a. | DESTINATION b. |
|---|---|---|
| 2. CARRIER/GOVERNMENT ORGANIZATION | RWK | |
| 3. DATE/TIME OF INSPECTION | 3/18/13 | |
| 4. LOCATION OF INSPECTION | EXPLO SYSTEMS INC | |
| 5. OPERATOR(S) NAME(S) | PGRIGO, THOMAS | |
| 6. OPERATOR(S) LICENSE NUMBER(S) | P320825 490 080 F/L | |
| 7. MEDICAL EXAMINER'S CERTIFICATE* | 2/25/15 | |

| 8. (X if satisfactory at origin) | | | | | | | 9. CVSA DECAL DISPLAYED ON COMMERCIAL EQUIPMENT* | YES | NO |
|---|---|---|---|---|---|---|---|---|---|
| a. MILITARY HAZMAT ENDORSEMENT | | d. ERG OR EQUIVALENT COMMERCIAL: | | YES | | NO | a. TRUCK/TRACTOR | | |
| b. VALID LEASE* | | e. DRIVER'S VEHICLE INSPECTION REPORT* | | | | | b. TRAILER | | |
| c. ROUTE PLAN | | f. COPY OF 49 CFR PART 397 | | | | | | | |

## SECTION II - MECHANICAL INSPECTION

*All items shall be checked on empty equipment prior to loading. Items with an asterisk shall be checked on all incoming loaded equipment.*

10. TYPE OF VEHICLE(S): TRACTOR / TRAILER / DROM

11. VEHICLE NUMBER(S): TRAC # 7306 / TRL # 6810057

| 12. PART INSPECTED (X as applicable) | ORIGIN (1) SAT | ORIGIN (1) UNSAT | DESTINATION (2) SAT | DESTINATION (2) UNSAT | | ORIGIN (1) SAT | ORIGIN (1) UNSAT | DESTINATION (2) SAT | DESTINATION (2) UNSAT | COMMENTS (3) |
|---|---|---|---|---|---|---|---|---|---|---|
| a. SPARE ELECTRICAL FUSES | | | | | k. EXHAUST SYSTEM | | | | | |
| b. HORN OPERATIVE | | | | | l. BRAKE SYSTEM* | | | | | |
| c. STEERING SYSTEM | | | | | m. SUSPENSION | | | | | |
| d. WINDSHIELD/WIPERS | | | | | n. COUPLING DEVICES | | | | | |
| e. MIRRORS | | | | | o. CARGO SPACE | | | | | |
| f. WARNING EQUIPMENT | | | | | p. LANDING GEAR* | | | | | |
| g. FIRE EXTINGUISHER* | | | | | q. TIRES, WHEELS, RIMS | | | | | |
| h. ELECTRICAL WIRING | | | | | r. TAILGATE/DOORS* | | | | | |
| i. LIGHTS AND REFLECTORS | | | | | s. TARPAULIN* | N/A | | | | |
| j. FUEL SYSTEM* | | | | | t. OTHER (Specify) | | | | | |

13. INSPECTION RESULTS (X one) ACCEPTED ✓ REJECTED

*(If rejected give reason under "Remarks". Equipment will be approved if deficiencies are corrected prior to loading.)*

14. SATELLITE MOTOR SURVEILLANCE SYSTEM: (X one) ACCEPTED N/A REJECTED

15. REMARKS

16. INSPECTOR SIGNATURE *(Origin)*

17. INSPECTOR SIGNATURE *(Destination)*

## SECTION III - POST LOADING INSPECTION

This section applies to Commercial and Government/Military vehicles. All items will be checked prior to release of loaded equipment and shall be checked on all incoming loaded equipment.

| | ORIGIN (1) SAT | ORIGIN (1) UNSAT | DESTINATION (2) SAT | DESTINATION (2) UNSAT | COMMENTS (3) |
|---|---|---|---|---|---|
| 18. LOADED IAW APPLICABLE SEGREGATION/COMPATIBILITY TABLE OF 49 CFR | | | | | |
| 19. LOAD PROPERLY SECURED TO PREVENT MOVEMENT | | | | | |
| 20. SEALS APPLIED TO CLOSED VEHICLE; TARPAULIN APPLIED ON OPEN EQUIPMENT | | | | | |
| 21. PROPER PLACARDS APPLIED | | | | | |
| 22. SHIPPING PAPERS/DD FORM 836 FOR GOVERNMENT VEHICLE SHIPMENTS | N/A | | | | |
| 23. COPY OF DD FORM 626 FOR DRIVER | | | | | |
| 24. SHIPPED UNDER DOT SPECIAL PERMIT 868 | N/A | | | | |

25. INSPECTOR SIGNATURE *(Origin)*

26. DRIVER(S) SIGNATURE *(Origin)*

27. INSPECTOR SIGNATURE *(Destination)*

28. DRIVER(S) SIGNATURE *(Destination)*

EXPLO SYSTEMS, INC.

Explo Systems, Inc.
1600 Java Road
Minden, LA 71055

# MATERIAL SAFETY DATA SHEET

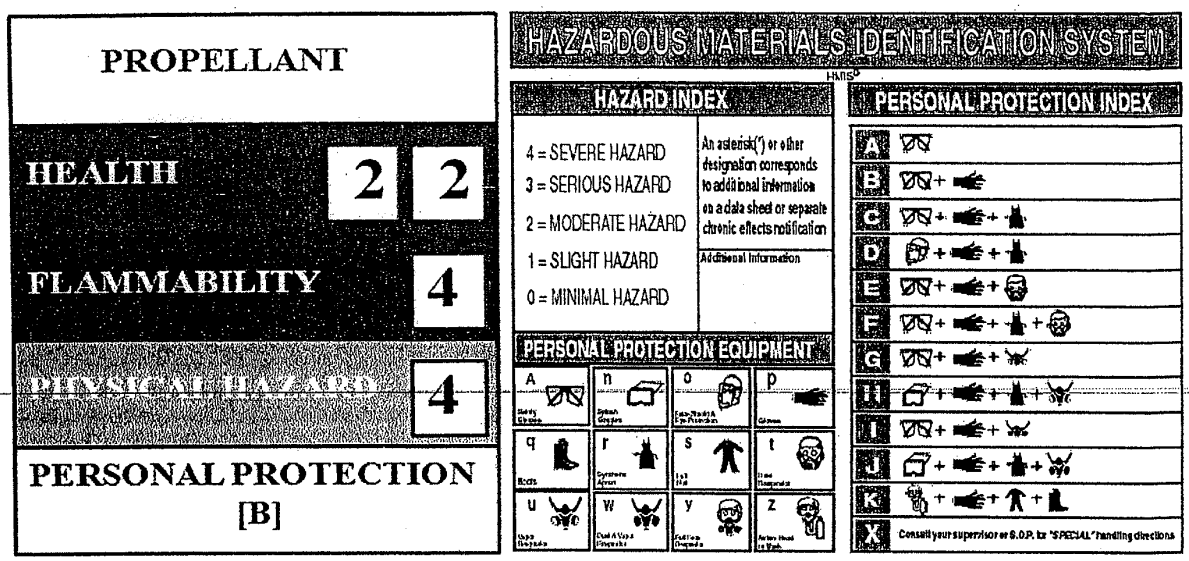
## PROPELLANT (Wetted)

## SECTION I - PRODUCT IDENTIFICATION

PRODUCT NAME: Propellant, Explosive, Solid, Wetted
Technical Information Phone No.: 318 382 8700
For Chemical Emergency (Spill, Fire, Exposure or Accident) call CHEMTREC day or night. Within the US and Canada: +1 800-424-9300. Outside the US and Canada: +1 703-527-3887 (collect calls accepted).

| **Ingredient** | **CAS No.** | **Wt. %** | **OSHA PEL**<br>**ACGIH TLV**<br>**EPA RQ (if defined)**<br>**DOT RQ (if defined)** |
|---|---|---|---|
| Dibutyl Phthalate | 84-74-2 | 3.00 | OSHA PEL 5 mg/m$^3$<br>ACGIH TLV 5 mg/m$^3$<br>EPA RQ 10 lbs<br>DOT RQ 10 lbs |
| Diphenylamine | 122-39-4 | 1.00 | OSHA PEL 10 mg/m$^3$<br>ACGIH TLV 10 mg/m$^3$<br>EPA RQ (none defined)<br>DOT RQ (none defined) |
| Potassium Sulfate | 7778-80-5 | 2.00 | OSHA PEL none published<br>ACGIH TLV none published<br>EPA RQ (none defined)<br>DOT RQ (none defined) |
| Nitrocellulose (flammable solid) | – | 87.00 | OSHA PEL none published<br>ACGIH TLV none published<br>EPA RQ (none defined)<br>DOT RQ (none defined) |
| Dinitrotoluene | 25321-14-6 | 10.00 | OSHA PEL 10 mg/m$^3$<br>ACGIH TLV 10 mg/m$^3$<br>EPA RQ 10 lbs<br>DOT RQ 10 lbs |

## SECTION II - HAZARDS IDENTIFICATION




Routes of Entry: Inhalation; Skin; Ingestion
Carcinogenicity: None
First Aid Measures: EYES - Immediately flush with copious amount of water (low pressure) for 15 minutes, remove contact lenses; call physician. SKIN - Wash with soap and running water. INGESTION - Contact physician immediately. INHALATION - Remove to fresh air. Treat irritation symptomatically; call physician.
Firefighting Measures: Self-oxidizing, deluge with water. Will not be able to extinguish unless large quantity of water is used in very short time. Use NIOSH/MSHA approved SCBA and full protective equipment; evacuate area.
Unusual Fire/Explosion Hazard: Easily ignited, highly combustible; protect from fire and sparks and extreme heat.
Autoignition: 383°F (195°C)
Hazardous Combustion Products: Oxides of Carbon
Accidental Release Measures: SPILL - Clean immediately with soft (horsehair) brush and conductive rubber or plastic shovel. Use brass or other non-sparking tools and utensils. DO NOT hammer or otherwise cause impact forces to spilled material (explosion or autoignition could occur with impact force being applied).

## SECTION III - HANDLING AND STORAGE

Precautions: Avoid prolonged temperature above 125°F (50°C). Normal storage conditions should be 75°F (21°C) and 50% Humidity. Storage must conform to local, state and federal regulations, specifically: 29 CFR OSHA 1910.109; 27 CFR BATFE 55 subpart K.
Other Special Precautions: Flammable Solid…Keep away from heat, sparks, open flame…Keep containers closed…use with adequate ventilation.
Ventilation: Local and general ventilation necessary to keep air concentration below TLV's.
Personal Protective Equipment: Safety Glasses, Cotton or Leather Gloves, Fire Resistant Coveralls.

## SECTION IV - PHYSICAL AND CHEMICAL PROPERTIES

Specific Gravity: 1.496
Evaporation Rate: <1 (Butylacetate = 1)
Solubility in Water: negligible
Appearance and Odor: Hard Cylinder Perforated, Smooth, Greenish Yellow. Odorless.
Materials to Avoid: Oxides of Nitrogen and Carbon.

Conditions to Avoid: Open Flame, Sparks, Heat, Direct Sunlight.
Hazardous Decomposition Products: Oxides of Carbon

## SECTION V – TRANSPORTATION INFORMATION

DOT Proper Shipping Name: Smokeless Powder (wetted)
Hazard Class: 1.3C
UN No. UN0161
Packing Group: II

## SECTION VI - DISPOSAL CONSIDERATIONS

Disposal must be in accordance with federal, state and local regulations. Burn in open burning ground in accordance with regulatory requirements. It may also be burned in an incinerator approved for explosives.

## DISCLAIMER

The information contained in this MSDS (Material Safety Data Sheet) is based upon available constituent data for the components of **Propellant** and is believed to be correct. However, as this information has been obtained from various sources, including the manufacturers of its components and independent laboratories, it is provided herein without warranty or representation that it is complete, accurate and can be relied upon. Explo Systems, Inc. has not attempted to conceal in any manner the deleterious aspects of this product, and makes no warranty as such. Explo Systems, Inc. cannot anticipate nor control the many situations in which this product or this information may be used; there is no guarantee that the health and safety precautions suggested herein will be proper under all conditions. It is the sole responsibility of each user of the product to determine and comply with the requirements of all applicable laws and regulations regarding its use. This information is given solely for the purposes of safety to persons and property. Any other use of this information is expressly prohibited.

## AUTHOR

This MSDS was prepared by: Ferris Callihan, PE - Director Support Technology - Explo Systems, Inc. - 1600 Java Road - Minden, LA 71055 - Tel 318 382 8700 - E-mail: fcallihan@explosystems.com

U.S. Department
of Transportation

Pipeline and Hazardous
Materials Safety Administration

East Building, PHH – 32
1200 New Jersey Avenue, Southeast
Washington, D.C. 20590

The US Department of Transportation
Competent Authority for the United States

## CLASSIFICATION OF EXPLOSIVES
## FIRST REVISION

Based upon a request by Explo Systems Inc., 1600 Java Road, Minden, LA 71055, United States the following items are classed in accordance with Section 173.56, Title 49, Code of Federal Regulations (49 CFR). A copy of your application, all supporting documentation and a copy of this approval must be retained and made available to DOT upon request.

**U.N. PROPER SHIPPING NAME AND NUMBER:**
Powder, smokeless, UN0161

**U.N. CLASSIFICATION CODE**: 1.3C

| REFERENCE NUMBER | PRODUCT DESIGNATION/PART NUMBER |
|---|---|
| EX2010040603 | Reclaimed M6 Propellant |

**NOTES:** This classification is only valid when the smokeless powder has been tested and found to have sufficient residual stabilizers present per US Army Safety Bulletin: "Inspection of Supplies and Equipment, Ammunition Surveillance Procedures" (SB 742-1). The following packaging methods are assigned:
Packaging Method A: Inner Packaging - Not necessary. Outer Packaging – UN 1G fiberdrum, each containing not more than one hundred and forty (140) pounds of smokeless propellant.
Packaging Method B: Inner Packaging: Flexible static-resistant reinforced plastic cloth and strapping lifting bag, each containing not more than eight hundred and eighty (880) pounds of smokeless propellant. Outer Packaging - UN 4G heavy-wall fiberboard box with a volumetric capacity of 119 gallons or less. (see 49 CFR Section 171.8 Definition for "Non-bulk packaging")

**DATED:** 05/05/2011

For Dr. Magdy El-Sibaie
Associate Administrator for Hazardous Materials Safety

Tracking No: 2011040848

Load 10

2867

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND84L070454** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 4 MAY 2012** |

| Other Information | Sample Data | | Solvent |
|---|---|---|---|
| M6 Propellant | #1 | 0.50 g 100 ml | ACN |

| Standards (ERG-006) | | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 0.867 | 83.7 | 400.6 | 0.479 |
| 2,4-DNDPA | 50.0 | 3.338 | 1156.5 | 0 | 0.000 |
| 2,2' DNDPA | 50.0 | 5.017 | 5373.7 | 23342 | 0.000 |
| 2,4' DNDPA | 50.0 | 7.147 | 1263.8 | 0 | 0.000 |
| 4NDPA | 50.0 | 8.595 | 2061.4 | 48.3 | 0.002 |
| 2NDPA | 50.0 | 9.687 | 3694.9 | 94.1 | 0.003 |
| DPA | 200.0 | 11.119 | 7683.7 | 721.2 | 0.038 |
| N-NitrosoDPA | 75.0 | 11.99 | 2133.1 | | 0.000 |

0.521

| Avg. % Stabilizer for Lot | **0.521** |
|---|---|

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| **Analyst** Takisha Dickerson | Avg. Tot. Stabilizers **0.52** % |
|---|---|
| Analyst Signature | Stable YES / Unstable |
| Lab. Supervisor Signature | Comments **CATEGORY: A** |
| | Actions to be Taken |

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND84G070326** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 18 JULY 2012** |

| Other Information | Sample Data | | Solvent |
|---|---|---|---|
| M6 Propellant | #1 | 0.50 g 100 ml | ACN |

| Standards (ERG-006) | | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 0.863 | 133.9 | 498.4 | 0.372 |
| 2,4-DNDPA | 50.0 | 3.365 | 949.7 | 0 | 0.000 |
| 2,2' DNDPA | 50.0 | 5.091 | 2605.4 | 24044 | 0.000 |
| 2,4' DNDPA | 50.0 | 7.514 | 1047.9 | 0 | 0.000 |
| 4NDPA | 50.0 | 8.946 | 1698.8 | 49.1 | 0.003 |
| 2NDPA | 50.0 | 10.142 | 3039.5 | 84.6 | 0.003 |
| DPA | 200.0 | 11.585 | 6044.7 | 789.2 | 0.052 |
| N-NitrosoDPA | 75.0 | 12.4 | 1395.6 | 0 | 0.000 |

0.430

| Avg. % Stabilizer for Lot | **0.430** |
|---|---|

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| **Analyst** Takisha Dickerson | Avg. Tot. Stabilizers **0.43** % |
|---|---|
| Analyst Signature | Stable YES / Unstable |
| Lab. Supervisor Signature | Comments **CATEGORY: A** |
| | Actions to be Taken |

Form #158

019739

EXP_001373

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND83F070274** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 27 JULY 2011** |

| Other Information | Sample Data | | Solvent |
|---|---|---|---|
| M6 Propellant | #1 | 0.50 g 100 ml | ACN |

| Standards (ERG-006) | | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 0.694 | 112.8 | 622.1 | 0.552 |
| 2,4-DNDPA | 50.0 | 3.477 | 942.8 | 0 | 0.000 |
| 2,2' DNDPA | 50.0 | 5.339 | 77.4 | 22209 | 0.000 |
| 2,4' DNDPA | 50.0 | 7.842 | 1020.3 | 0 | 0.000 |
| 4NDPA | 50.0 | 9.392 | 1634.2 | 48.5 | 0.003 |
| 2NDPA | 50.0 | 10.693 | 2956.2 | 98.3 | 0.003 |
| DPA | 200.0 | 12.201 | 5630.5 | 451.4 | 0.032 |
| N-NitrosoDPA | 75.0 | 13.103 | 1385.2 | 0 | 0.000 |

| | | |
|---|---|---|
| | | 0.590 |
| Avg. % Stabilizer for Lot | | **0.590** |

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | | | |
|---|---|---|---|
| **Analyst** | Takisha Dickerson | Avg. Tot. Stabilizers | **0.59** % |
| Analyst Signature | | Stable YES | Unstable |
| Lab. Supervisor Signature | | Comments **CATEGORY:** | **A** |
| | | Actions to be Taken | |

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND81L070074** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 19 SEPT 2011** |

| Other Information | Sample Data | | Solvent |
|---|---|---|---|
| M6 Propellant | #1 | 0.50 g 100 ml | ACN |

| | Standards (ERG-006) | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 0.866 | 65.3 | 504.3 | 0.772 |
| 2,4-DNDPA | 50.0 | 3.45 | 959.2 | 0 | 0.000 |
| 2,2' DNDPA | 50.0 | 5.27 | 2749.5 | 21863 | 0.000 |
| 2,4' DNDPA | 50.0 | 7.695 | 1051.4 | 0 | 0.000 |
| 4NDPA | 50.0 | 9.247 | 1702.8 | 66.6 | 0.004 |
| 2NDPA | 50.0 | 10.528 | 3035.1 | 96.6 | 0.003 |
| DPA | 200.0 | 12.044 | 5992.2 | 593 | 0.040 |
| N-NitrosoDPA | 75.0 | 12.922 | 1413.2 | 0 | 0.000 |
| | | | | | 0.819 |
| | | Avg. % Stabilizer for Lot | | | **0.819** |

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | |
|---|---|
| **Analyst** MIKE KILE | Avg. Tot. Stabilizers **0.82** % |
| Analyst Signature | Stable YES / Unstable |
| Lab. Supervisor Signature | Comments **CATEGORY: A** |
| | Actions to be Taken |

Form #158

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND81D070015** | **D533 / M6 propellant** |
| Date of analysis: | **Date:20 OCT 2010** |

| Other Information | Sample Data | | Solvent |
|---|---|---|---|
| M6 Propellant | #1 | 0.5000 g 100 ml | ACN |

| Standards (ERG-006) | | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 5.024 | 281.6 | 2363.4 | 0.839 |
| 2,4-DNDPA | 50.0 | 10.59 | 329 | 0 | 0.000 |
| 2,2' DNDPA | 50.0 | 12.176 | 376.1 | 0 | 0.000 |
| 2,4' DNDPA | 50.0 | 12.67 | 275.3 | 35.7 | 0.013 |
| 4NDPA | 50.0 | 13.632 | 664.1 | 0 | 0.000 |
| 2NDPA | 50.0 | 14.943 | 1788.8 | 34.8 | 0.002 |
| DPA | 200.0 | 16.114 | 286 | 0 | 0.000 |
| N-NitrosoDPA | 75.0 | 19.917 | 329.9 | 158.8 | 0.000 |

| | | |
|---|---|---|
| | | 0.854 |
| Avg. % Stabilizer for Lot | | **0.854** |

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | | |
|---|---|---|
| **Analyst** Kisha Dickerson | Avg. Tot. Stabilizers | **0.85** % |
| Analyst Signature | Stable YES | Unstable |
| | Comments | |
| Lab. Supervisor Signature | **CATEGORY:** | **A** |
| | Actions to be Taken | |

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND81G070061** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 12 JULY 2011** |

| Other Information | Sample Data | | Solvent |
|---|---|---|---|
| M6 Propellant | #1 | 0.50 g 100 ml | ACN |

| Standards (ERG-006) | | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 0.71 | 111 | 358.1 | 0.323 |
| 2,4-DNDPA | 50.0 | 3.475 | 1001 | 79.1 | 0.008 |
| 2,2' DNDPA | 50.0 | 5.325 | 95 | 18335 | 0.000 |
| 2,4' DNDPA | 50.0 | 7.791 | 1061.3 | 83.2 | 0.008 |
| 4NDPA | 50.0 | 9.345 | 1700.8 | 167.7 | 0.010 |
| 2NDPA | 50.0 | 10.629 | 3041.2 | 330.5 | 0.011 |
| DPA | 200.0 | 12.152 | 5943.4 | 913.3 | 0.061 |
| N-NitrosoDPA | 75.0 | 13.034 | 1443.1 | 111.8 | 0.000 |

| | |
|---|---|
| | 0.421 |
| Avg. % Stabilizer for Lot | **0.421** |

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | |
|---|---|
| **Analyst** Mike Kile | Avg. Tot. Stabilizers **0.42** % |
| Analyst Signature | Stable YES / Unstable |
| Lab. Supervisor Signature | Comments **CATEGORY: A** |
| | Actions to be Taken |

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND81D070020** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 10 Feb 2012** |

| Other Information | Sample Data | | Solvent |
|---|---|---|---|
| M6 Propellant | #1 | 0.50 g 100 ml | ACN |

| Standards (ERG-006) | | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 0.868 | 53.7 | 398.1 | 0.741 |
| 2,4-DNDPA | 50.0 | 3.292 | 916.2 | 0 | 0.000 |
| 2,2' DNDPA | 50.0 | 4.936 | 839.4 | 22071 | 0.000 |
| 2,4' DNDPA | 50.0 | 6.943 | 1003.3 | 0 | 0.000 |
| 4NDPA | 50.0 | 8.309 | 1616.5 | 50 | 0.003 |
| 2NDPA | 50.0 | 9.362 | 2912 | 113.3 | 0.004 |
| DPA | 200.0 | 10.749 | 5497.2 | 666 | 0.048 |
| N-NitrosoDPA | 75.0 | 11.362 | 1264.1 | 355.2 | 0.000 |

0.797

| Avg. % Stabilizer for Lot | **0.797** |
|---|---|

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| **Analyst** Mike Kile | Avg. Tot. Stabilizers **0.80** % | |
|---|---|---|
| Analyst Signature | Stable YES | Unstable |
| | Comments **CATEGORY: A** | |
| Lab. Supervisor Signature | | |
| | Actions to be Taken | |

CONTAINS HAZARDOUS MATERIALS

# STRAIGHT BILL OF LADING — NOT NEGOTIABLE

Load 11

RECEIVED, subject to the classification and tariffs in effect on the date of the issue of this Original Bill of Lading.
The property described below, in apparent good order, except as noted (contents and condition of contents of packages unknown) consigned, end destined as indicated below, which said carrier (the word carrier being understood throughout this contract meaning any person or corporation in possession of the property under the contract) agrees to curry to its usual place of delivery of said destination. It on its route, otherwise to deliver to another carrier on the route to said destination. It is mutually agreed, as to each of all or any of said property over all or any portion of said route to destination, and as to each party at any time interested in all or any of said property, that every service lobe performed hereunder shall be subject to all the terms and conditions of the Uniform Domestic Straight Bill of Lading Set forth (t) in Uniform Freight Classification in effect on the date hereof, It this is a rail or rail-water shipment, or (2) in the applicable motor carrier classification or tariff it this Is a motor carrier shipment.

Shipper hereby certifies that he is familiar with all the terms and conditions of the said bill of lading, set forth in the classification or tariff which governs the transportation of this shipment, and the sold terms and conditions are hereby agreed to by the shipper and accept for himself and his assigns.

Shipper: Explo Systems, Inc.
1600 Java Road
Minden, LA 71055

Shipper's No. 2865

Shipping Date 3/17/13

At

Purchase Order No.

By RRuK  Freight Charges: Collect ____  Prepaid XXX  Location No. 2423

(Mail or Street Address of Consignee -- For purposes of notification only)

Consigned to AUSTIN POWDER CO  Fed Lic. 5-AR-103-20-5E-00139  Exp. Date 5/1/15

Destination 7-LL-10 BRANDY RD  State  State Lic.  Exp. Date

County EAST CAMDEN, AR  Customer No.

Route

Charge Account of 1-870-574-0580 EXT 302  Customer P.O. No.  Rel. No.

| SHIPPED No. of PKGS | SHIPPED No. of UNITS | PROPER SHIPPING NAME AND HAZARD CLASS | RETURNED No. of PKGS | RETURNED No. of UNITS | EMERGENCY RESPONSE PROCEDURE GUIDE NO. | EXEMPTION ~~DOT-E~~ | H M | Placards Applied to Railcar or Motor Vehicle |
|---|---|---|---|---|---|---|---|---|
| 252/16 | 42PT | UN0161, Powder, Smokeless, 1.3C, PG II | | | #112 | 20105406603 | X | EXPLOSIVES 1.3 |
| | | | | | | | | |
| | | | | | | | | |
| | | Mona Kelly | | | | | | Truck No. 7306 |
| | | Monica Kelly 3/19/13 | | | | | | Trailer No. 18483 |
| | | | | | | | | Mileage |
| | | ENTERED 3/20/13 | | | | | | Total 252 16 FD @ 140LBSEA Packages |
| | | | | | | | | Gross Weight # 39,000 |
| | | Seal # | | | | | | Net Explosive Weight |
| | | 7083801 / 7083802 | | | | | | 35,280 |

RECEIVED MAR 19 2013 17AT27 AUSTIN POWDER COMPANY EAST CAMDEN PLANT

This is to certify that the above-named materials are properly classified, described, packaged, marked, and labeled and are in proper condition for transportation, according to the applicable regulations of the Department of Transportation.

Signature _____  Invoice No. ____

FOR CHEMICAL EMERGENCY, SPILL, LEAK, FIRE, EXPOSURE OR ACCIDENT CALL CHEMTREC -- DAY OR NIGHT
IN THE USA CALL 800-424-9300  IN CANADA (ERP #2-0040) 800-561-3636  ELSEWHERE CALL (703) 527-3887 CCN644589

Permanent Address of Shipper:
**Explo Systems, Inc.**
1600 Java Road
Minden, Louisiana 71055
(318) 382-8700

Per _____

DOT Hazardous Material Handling Number ____
Local Federal Explosives License No. 5-LA-119-20-1A-00057
(Shipper)

I have been offered placards identifying the shipment as Specified in 49CFR Subpart F of Part 172. I have received the above goods in apparent good order and condition.

Received By _____ Date 3-17-13
☐ CONSIGNEE ☐ CARRIER

By _____ Date ____
AUTHORIZED RECEIVER

CONTAINS HAZARDOUS MATERIALS

CONTAINS HAZARDOUS MATERIALS

019745

EXP_001379

AUSTIN POWDER PACKING LIST

SHIPMENT DATE 3-18-13

B/L# 2867 TRL 6810057

M-6

IND83F-070274 4 PTS
IND81G-070061 12 PTS
IND81E-070021 1 PT
IND81D-070020 6 PTS
IND84G-070326 5 PTS
IND84L-070454 3 PTS
IND81L-070074 5 PTS
IND81D-070015 4 PTS
IND82L-070219 2 PTS

42 PTS WITH 6 FB @140 LBS PER DRUM

TOTAL 35,280 LBS

LIONEL KOONS

EXPLO SYSTEMS INC

35,280
HAD TO WIPE OFF
SOME DRUMS

# MOTOR VEHICLE INSPECTION (TRANSPORTING HAZARDOUS MATERIALS)

*(Read Instructions before completing this form.)*

This form applies to all vehicles which must be marked or placarded in accordance with Title 49 CFR.

1. BILL OF LADING/TRANSPORTATION CONTROL NUMBER: 2865

| SECTION 1 - DOCUMENTATION | ORIGIN a. | DESTINATION b. |
|---|---|---|
| 2. CARRIER/GOVERNMENT ORGANIZATION | RRUK | |
| 3. DATE/TIME OF INSPECTION | 3/17/13 | |
| 4. LOCATION OF INSPECTION | EYDIA SYSTEMS INC | |
| 5. OPERATOR(S) NAME(S) | PEDRO J THOMAS | |
| 6. OPERATOR(S) LICENSE NUMBER(S) | P320825490060 | |
| 7. MEDICAL EXAMINER'S CERTIFICATE* | 2/25/15 | |

| 8. (X if satisfactory at origin) | | | | | 9. CVSA DECAL DISPLAYED ON COMMERCIAL EQUIPMENT* | YES | NO |
|---|---|---|---|---|---|---|---|
| a. MILITARY HAZMAT ENDORSEMENT | ✓ | d. ERG OR EQUIVALENT COMMERCIAL: | ✓ YES | NO | | | |
| b. VALID LEASE* | ✓ | e. DRIVER'S VEHICLE INSPECTION REPORT* | | ✓ | a. TRUCK/TRACTOR | ✓ | |
| c. ROUTE PLAN | ✓ | f. COPY OF 49 CFR PART 397 | | | b. TRAILER | ✓ | |

## SECTION II - MECHANICAL INSPECTION

*All items shall be checked on empty equipment prior to loading. Items with an asterisk shall be checked on all incoming loaded equipment.*

10. TYPE OF VEHICLE(S): TRACTOR / TRAILER / DROM

11. VEHICLE NUMBER(S): TRAC # 7506 / TRL # 18483

| 12. PART INSPECTED (X as applicable) | ORIGIN (1) SAT | ORIGIN (1) UNSAT | DESTINATION (2) SAT | DESTINATION (2) UNSAT | | ORIGIN (1) SAT | ORIGIN (1) UNSAT | DESTINATION (2) SAT | DESTINATION (2) UNSAT | COMMENTS (3) |
|---|---|---|---|---|---|---|---|---|---|---|
| a. SPARE ELECTRICAL FUSES | ✓ | | | | k. EXHAUST SYSTEM | ✓ | | | | |
| b. HORN OPERATIVE | ✓ | | | | l. BRAKE SYSTEM* | ✓ | | | | |
| c. STEERING SYSTEM | ✓ | | | | m. SUSPENSION | ✓ | | | | |
| d. WINDSHIELD/WIPERS | ✓ | | | | n. COUPLING DEVICES | ✓ | | | | |
| e. MIRRORS | ✓ | | | | o. CARGO SPACE | ✓ | | | | |
| f. WARNING EQUIPMENT | ✓ | | | | p. LANDING GEAR* | ✓ | | | | |
| g. FIRE EXTINGUISHER* | ✓ | | | | q. TIRES, WHEELS, RIMS | ✓ | | | | |
| h. ELECTRICAL WIRING | ✓ | | | | r. TAILGATE/DOORS* | ✓ | | | | |
| i. LIGHTS AND REFLECTORS | ✓ | | | | s. TARPAULIN* | N/A | | | | |
| j. FUEL SYSTEM* | ✓ | | | | t. OTHER (Specify) | | | | | |

13. INSPECTION RESULTS (X one) ACCEPTED ✓ REJECTED

*(If rejected give reason under "Remarks". Equipment will be approved if deficiencies are corrected prior to loading.)*

14. SATELLITE MOTOR SURVEILLANCE SYSTEM: (X one) ACCEPTED N/A REJECTED

15. REMARKS

16. INSPECTOR SIGNATURE *(Origin)*

17. INSPECTOR SIGNATURE *(Destination)*

## SECTION III - POST LOADING INSPECTION

This section applies to Commercial and Government/Military vehicles. All items will be checked prior to release of loaded equipment and shall be checked on all incoming loaded equipment.

| | ORIGIN (1) SAT | ORIGIN (1) UNSAT | DESTINATION (2) SAT | DESTINATION (2) UNSAT | COMMENTS (3) |
|---|---|---|---|---|---|
| 18. LOADED IAW APPLICABLE SEGREGATION/COMPATIBILITY TABLE OF 49 CFR | | | | | |
| 19. LOAD PROPERLY SECURED TO PREVENT MOVEMENT | | | | | |
| 20. SEALS APPLIED TO CLOSED VEHICLE; TARPAULIN APPLIED ON OPEN EQUIPMENT | | | | | |
| 21. PROPER PLACARDS APPLIED | | | | | |
| 22. SHIPPING PAPERS/DD FORM 836 FOR GOVERNMENT VEHICLE SHIPMENTS | N/A | | | | |
| 23. COPY OF DD FORM 626 FOR DRIVER | ✓ | | | | |
| 24. SHIPPED UNDER DOT SPECIAL PERMIT 868 | N/A | | | | |

25. INSPECTOR SIGNATURE *(Origin)*

26. DRIVER(S) SIGNATURE *(Origin)*

27. INSPECTOR SIGNATURE *(Destination)*

28. DRIVER(S) SIGNATURE *(Destination)*



019747

EXP_001381

Explo Systems, Inc.
1600 Java Road
Minden, LA 71055

# MATERIAL SAFETY DATA SHEET

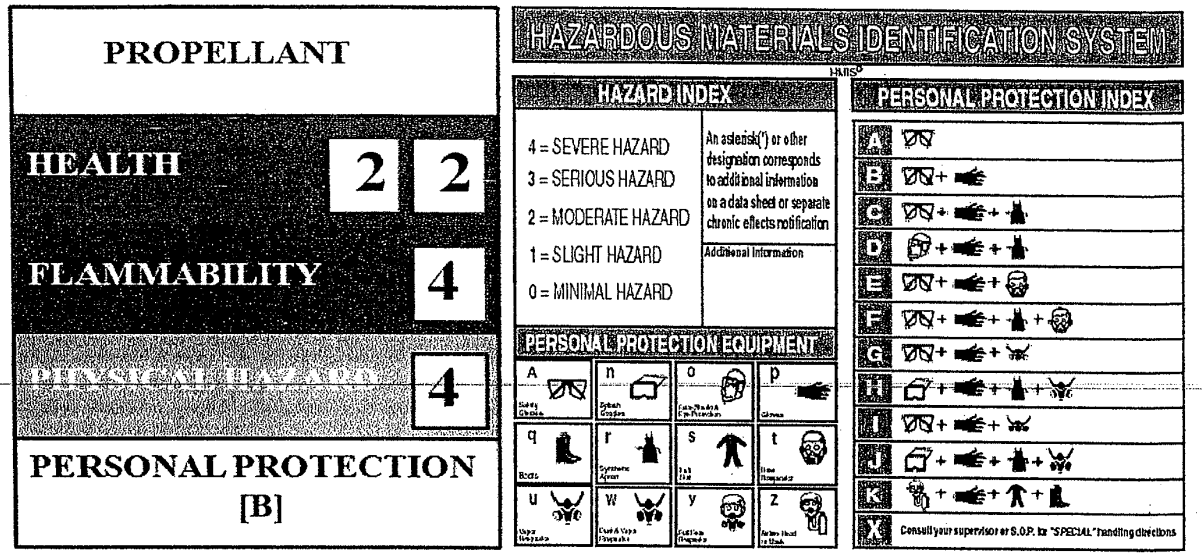
## PROPELLANT (Wetted)

## SECTION I - PRODUCT IDENTIFICATION

PRODUCT NAME: Propellant, Explosive, Solid, Wetted
Technical Information Phone No.: 318.382.8700
For Chemical Emergency (Spill, Fire, Exposure or Accident) call CHEMTREC day or night. Within the US and Canada: +1 800-424-9300. Outside the US and Canada: +1 703-527-3887 (collect calls accepted).

| Ingredient | CAS No. | Wt. % | OSHA PEL<br>ACGIH TLV<br>EPA RQ (if defined)<br>DOT RQ (if defined) |
|---|---|---|---|
| Dibutyl Phthalate | 84-74-2 | 3.00 | OSHA PEL 5 mg/m$^3$<br>ACGIH TLV 5 mg/m$^3$<br>EPA RQ 10 lbs<br>DOT RQ 10 lbs |
| Diphenylamine | 122-39-4 | 1.00 | OSHA PEL 10 mg/m$^3$<br>ACGIH TLV 10 mg/m$^3$<br>EPA RQ (none defined)<br>DOT RQ (none defined) |
| Potassium Sulfate | 7778-80-5 | 2.00 | OSHA PEL none published<br>ACGIH TLV none published<br>EPA RQ (none defined)<br>DOT RQ (none defined) |
| Nitrocellulose (flammable solid) | -- | 87.00 | OSHA PEL none published<br>ACGIH TLV none published<br>EPA RQ (none defined)<br>DOT RQ (none defined) |
| Dinitrotoluene | 25321-14-6 | 10.00 | OSHA PEL 10 mg/m$^3$<br>ACGIH TLV 10 mg/m$^3$<br>EPA RQ 10 lbs<br>DOT RQ 10 lbs |

## SECTION II - HAZARDS IDENTIFICATION




Routes of Entry: Inhalation; Skin; Ingestion
Carcinogenicity: None
First Aid Measures: EYES - Immediately flush with copious amount of water (low pressure) for 15 minutes, remove contact lenses; call physician. SKIN - Wash with soap and running water. INGESTION - Contact physician immediately. INHALATION - Remove to fresh air. Treat irritation symptomatically; call physician.
Firefighting Measures: Self-oxidizing, deluge with water. Will not be able to extinguish unless large quantity of water is used in very short time. Use NIOSH/MSHA approved SCBA and full protective equipment; evacuate area.
Unusual Fire/Explosion Hazard: Easily ignited, highly combustible; protect from fire and sparks and extreme heat.
Autoignition: 383°F (195°C)
Hazardous Combustion Products: Oxides of Carbon
Accidental Release Measures: SPILL - Clean immediately with soft (horsehair) brush and conductive rubber or plastic shovel. Use brass or other non-sparking tools and utensils. DO NOT hammer or otherwise cause impact forces to spilled material (explosion or autoignition could occur with impact force being applied).

## SECTION III - HANDLING AND STORAGE

Precautions: Avoid prolonged temperature above 125°F (50°C). Normal storage conditions should be 75°F (21°C) and 50% Humidity. Storage must conform to local, state and federal regulations, specifically: 29 CFR OSHA 1910.109; 27 CFR BATFE 55 subpart K.
Other Special Precautions: Flammable Solid…Keep away from heat, sparks, open flame…Keep containers closed…use with adequate ventilation.
Ventilation: Local and general ventilation necessary to keep air concentration below TLV's.
Personal Protective Equipment: Safety Glasses, Cotton or Leather Gloves, Fire Resistant Coveralls.

## SECTION IV - PHYSICAL AND CHEMICAL PROPERTIES

Specific Gravity: 1.496
Evaporation Rate: <1 (Butylacetate = 1)
Solubility in Water: negligible
Appearance and Odor: Hard Cylinder Perforated, Smooth, Greenish Yellow. Odorless.
Materials to Avoid: Oxides of Nitrogen and Carbon.

Conditions to Avoid: Open Flame, Sparks, Heat, Direct Sunlight.
Hazardous Decomposition Products: Oxides of Carbon

## SECTION V – TRANSPORTATION INFORMATION

DOT Proper Shipping Name: Smokeless Powder (wetted)
Hazard Class: 1.3C
UN No. UN0161
Packing Group: II

## SECTION VI - DISPOSAL CONSIDERATIONS

Disposal must be in accordance with federal, state and local regulations. Burn in open burning ground in accordance with regulatory requirements. It may also be burned in an incinerator approved for explosives.

## DISCLAIMER

The information contained in this MSDS (Material Safety Data Sheet) is based upon available constituent data for the components of **Propellant** and is believed to be correct. However, as this information has been obtained from various sources, including the manufacturers of its components and independent laboratories, it is provided herein without warranty or representation that it is complete, accurate and can be relied upon. Explo Systems, Inc. has not attempted to conceal in any manner the deleterious aspects of this product, and makes no warranty as such. Explo Systems, Inc. cannot anticipate nor control the many situations in which this product or this information may be used; there is no guarantee that the health and safety precautions suggested herein will be proper under all conditions. It is the sole responsibility of each user of the product to determine and comply with the requirements of all applicable laws and regulations regarding its use. This information is given solely for the purposes of safety to persons and property. Any other use of this information is expressly prohibited.

## AUTHOR

This MSDS was prepared by: Ferris Callihan, PE - Director Support Technology - Explo Systems, Inc. - 1600 Java Road - Minden, LA 71055 - Tel 318 382 8700 - E-mail: fcallihan@explosystems.com

U.S. Department
of Transportation

Pipeline and Hazardous
Materials Safety Administration

East Building, PHH – 32
1200 New Jersey Avenue, Southeast
Washington, D.C. 20590

The US Department of Transportation
Competent Authority for the United States

## CLASSIFICATION OF EXPLOSIVES
## FIRST REVISION

Based upon a request by Explo Systems Inc., 1600 Java Road, Minden, LA 71055, United States the following items are classed in accordance with Section 173.56, Title 49, Code of Federal Regulations (49 CFR). A copy of your application, all supporting documentation and a copy of this approval must be retained and made available to DOT upon request.

**U.N. PROPER SHIPPING NAME AND NUMBER:**
Powder, smokeless, UN0161

**U.N. CLASSIFICATION CODE**: 1.3C

| REFERENCE NUMBER | PRODUCT DESIGNATION/PART NUMBER |
|---|---|
| EX2010040603 | Reclaimed M6 Propellant |

**NOTES:** This classification is only valid when the smokeless powder has been tested and found to have sufficient residual stabilizers present per US Army Safety Bulletin: "Inspection of Supplies and Equipment, Ammunition Surveillance Procedures" (SB 742-1). The following packaging methods are assigned:
Packaging Method A: Inner Packaging - Not necessary. Outer Packaging – UN 1G fiberdrum, each containing not more than one hundred and forty (140) pounds of smokeless propellant.
Packaging Method B: Inner Packaging: Flexible static-resistant reinforced plastic cloth and strapping lifting bag, each containing not more than eight hundred and eighty (880) pounds of smokeless propellant. Outer Packaging - UN 4G heavy-wall fiberboard box with a volumetric capacity of 119 gallons or less. (see 49 CFR Section 171.8 Definition for "Non-bulk packaging")

**DATED:** 05/05/2011

For Dr. Magdy El-Sibaie
Associate Administrator for Hazardous Materials Safety

Tracking No: 2011040848

## POTENTIAL HAZARDS

### FIRE OR EXPLOSION

- **MAY EXPLODE AND THROW FRAGMENTS 1600 meters (1 MILE) OR MORE IF FIRE REACHES CARGO.**
- **For information on "Compatibility Group" letters, refer to Glossary section.**

### HEALTH

- Fire may produce irritating, corrosive and/or toxic gases.

## PUBLIC SAFETY

- **CALL Emergency Response Telephone Number on Shipping Paper first. If Shipping Paper not available or no answer, refer to appropriate telephone number listed on the inside back cover.**
- Isolate spill or leak area immediately for at least 500 meters (1/3 mile) in all directions.
- Move people out of line of sight of the scene and away from windows.
- Keep unauthorized personnel away.
- Stay upwind.
- Ventilate closed spaces before entering.

### PROTECTIVE CLOTHING

- Wear positive pressure self-contained breathing apparatus (SCBA).
- Structural firefighters' protective clothing will only provide limited protection.

### EVACUATION

**Large Spill**

- **Consider initial evacuation for 800 meters (1/2 mile) in all directions.**

**Fire**

- If rail car or trailer is involved in a fire and heavily encased explosives such as bombs or artillery projectiles are suspected, ISOLATE for 1600 meters (1 mile) in all directions; also, initiate evacuation including emergency responders for 1600 meters (1 mile) in all directions.
- When heavily encased explosives are not involved, evacuate the area for 800 meters (1/2 mile) in all directions.

*** For information on "Compatibility Group" letters, refer to the Glossary section.**





## EMERGENCY RESPONSE

### FIRE

**CARGO Fire**

- **DO NOT fight fire when fire reaches cargo! Cargo may EXPLODE!**
- Stop all traffic and clear the area for at least 1600 meters (1 mile) in all directions and let burn.
- **Do not move cargo or vehicle if cargo has been exposed to heat.**

**TIRE or VEHICLE Fire**

- **Use plenty of water - FLOOD it! If water is not available, use $CO_2$, dry chemical or dirt.**
- If possible, and WITHOUT RISK, use unmanned hose holders or monitor nozzles from maximum distance to prevent fire from spreading to cargo area.
- Pay special attention to tire fires as re-ignition may occur. Stand by with extinguisher ready.

### SPILL OR LEAK

- ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area).
- All equipment used when handling the product must be grounded.
- Do not touch or walk through spilled material.
- DO NOT OPERATE RADIO TRANSMITTERS WITHIN 100 meters (330 feet) OF ELECTRIC DETONATORS.
- **DO NOT CLEAN-UP OR DISPOSE OF, EXCEPT UNDER SUPERVISION OF A SPECIALIST.**

### FIRST AID

- Move victim to fresh air. • Call 911 or emergency medical service.
- Give artificial respiration if victim is not breathing.
- Administer oxygen if breathing is difficult.
- Remove and isolate contaminated clothing and shoes.
- In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes.
- Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves.

*** For information on "Compatibility Group" letters, refer to the Glossary section.**



EXP_001386
019752

Load 11
2865

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND84C070331** | **D533 / M6 propellant** |
| Date of analysis: | **Date:21 SEP 2010** |

| Other Information | Sample Data | | Solvent |
|---|---|---|---|
| M6 Propellant | #1 | 0.5000 g 100 ml | ACN |

| Standards (ERG-006) | | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 2.168 | 128.5 | 113.7 | 0.088 |
| 2,4-DNDPA | 50.0 | 5.033 | 432 | 217.6 | 0.050 |
| 2,2' DNDPA | 50.0 | 7.206 | 1480.6 | 820.7 | 0.000 |
| 2,4' DNDPA | 50.0 | 10.409 | 485.4 | 222.7 | 0.046 |
| 4NDPA | 50.0 | 12.024 | 1113.3 | 522 | 0.047 |
| 2NDPA | 50.0 | 13.489 | 784 | 396.3 | 0.051 |
| DPA | 200.0 | 14.97 | 2121.4 | 1130.5 | 0.213 |
| N-NitrosoDPA | 75.0 | 16.167 | 463.9 | 299.3 | 0.000 |

0.495

| Avg. % Stabilizer for Lot | **0.495** |
|---|---|

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| **Analyst** Kisha Dickerson | Avg. Tot. Stabilizers **0.50** % | |
|---|---|---|
| Analyst Signature | Stable YES | Unstable |
| Lab. Supervisor Signature | Comments **CATEGORY: A** | |
| | Actions to be Taken | |

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND84B070327** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 4 Sep 2012** |

| Other Information | Sample Data | | | Solvent |
|---|---|---|---|---|
| M6 Propellant | #1 | 0.50 g | 100 ml | ACN |

| Standards (ERG-006) | | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 0.889 | 48.8 | 501.9 | 1.028 |
| 2,4-DNDPA | 50.0 | 3.418 | 914.3 | 0 | 0.000 |
| 2,2' DNDPA | 50.0 | 5.22 | 777.3 | 23336 | 0.000 |
| 2,4' DNDPA | 50.0 | 7.622 | 980.5 | 0 | 0.000 |
| 4NDPA | 50.0 | 9.134 | 1586.8 | 95.7 | 0.006 |
| 2NDPA | 50.0 | 10.417 | 2826.3 | 104 | 0.004 |
| DPA | 200.0 | 11.797 | 5671.5 | 673.4 | 0.047 |
| N-NitrosoDPA | 75.0 | 12.757 | 1337.5 | 0 | 0.000 |
| | | | | | 1.086 |
| | | | Avg. % Stabilizer for Lot | | **1.086** |

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | |
|---|---|
| **Analyst** Mike Kile | Avg. Tot. Stabilizers **1.09** % |
| Analyst Signature | Stable YES / Unstable |
| | Comments |
| Lab. Supervisor Signature | **CATEGORY: A** |
| | Actions to be Taken |

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND84K070448** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 1 Mar 2012** |

| Other Information | Sample Data | | Solvent |
|---|---|---|---|
| M6 Propellant | #1 | 0.50 g 100 ml | ACN |

| | Standards (ERG-006) | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 0.872 | 13.8 | 97.7 | 0.708 |
| 2,4-DNDPA | 50.0 | 3.42 | 982.9 | 0 | 0.000 |
| 2,2' DNDPA | 50.0 | 5.182 | 2038.4 | 23346 | 0.000 |
| 2,4' DNDPA | 50.0 | 7.465 | 1060.4 | 0 | 0.000 |
| 4NDPA | 50.0 | 8.991 | 1708.9 | 47.8 | 0.003 |
| 2NDPA | 50.0 | 10.17 | 3062.7 | 91.8 | 0.003 |
| DPA | 200.0 | 11.707 | 6061.6 | 816.4 | 0.054 |
| N-NitrosoDPA | 75.0 | 12.518 | 1461.9 | 0 | 0.000 |
| | | | | | 0.768 |
| | | Avg. % Stabilizer for Lot | | | **0.768** |

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | |
|---|---|
| **Analyst** Takisha Dickerson | Avg. Tot. Stabilizers **0.77** % |
| Analyst Signature | Stable YES \| Unstable |
| | Comments |
| Lab. Supervisor Signature | **CATEGORY:** **A** |
| | Actions to be Taken |

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND83F070274** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 27 JULY 2011** |

| Other Information | Sample Data | | Solvent |
|---|---|---|---|
| M6 Propellant | #1 | 0.50 g 100 ml | ACN |

| | Standards (ERG-006) | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 0.694 | 112.8 | 622.1 | 0.552 |
| 2,4-DNDPA | 50.0 | 3.477 | 942.8 | 0 | 0.000 |
| 2,2' DNDPA | 50.0 | 5.339 | 77.4 | 22209 | 0.000 |
| 2,4' DNDPA | 50.0 | 7.842 | 1020.3 | 0 | 0.000 |
| 4NDPA | 50.0 | 9.392 | 1634.2 | 48.5 | 0.003 |
| 2NDPA | 50.0 | 10.693 | 2956.2 | 98.3 | 0.003 |
| DPA | 200.0 | 12.201 | 5630.5 | 451.4 | 0.032 |
| N-NitrosoDPA | 75.0 | 13.103 | 1385.2 | 0 | 0.000 |

| | | |
|---|---|---|
| | | 0.590 |
| | Avg. % Stabilizer for Lot | **0.590** |

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | |
|---|---|
| **Analyst** Takisha Dickerson | Avg. Tot. Stabilizers **0.59** % |
| Analyst Signature | Stable YES / Unstable |
| Lab. Supervisor Signature | Comments **CATEGORY: A** |
| | Actions to be Taken |

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND80M070011** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 22 March 2012** |

| Other Information | Sample Data | | Solvent |
|---|---|---|---|
| M6 Propellant | #1 | 0.50 g 100 ml | ACN |

| | Standards (ERG-006) | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 0.897 | 14.6 | 40.4 | 0.277 |
| 2,4-DNDPA | 50.0 | 3.327 | 870.9 | 0 | 0.000 |
| 2,2' DNDPA | 50.0 | 5.054 | 688.7 | 29012 | 0.000 |
| 2,4' DNDPA | 50.0 | 7.295 | 945.9 | 0 | 0.000 |
| 4NDPA | 50.0 | 8.792 | 1528.5 | 144 | 0.009 |
| 2NDPA | 50.0 | 10.019 | 2755.3 | 103.4 | 0.004 |
| DPA | 200.0 | 11.357 | 5392.9 | 588.9 | 0.044 |
| N-NitrosoDPA | 75.0 | 12.286 | 1332.2 | 0 | 0.000 |

| | | |
|---|---|---|
| | | 0.334 |
| | Avg. % Stabilizer for Lot | **0.334** |

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | |
|---|---|
| **Analyst** Takisha Dickerson | Avg. Tot. Stabilizers **0.33** % |
| Analyst Signature | Stable YES / Unstable |
| | Comments |
| Lab. Supervisor Signature | **CATEGORY: A** |
| | Actions to be Taken |

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND80M070009** | **D533 / M6 propellant** |
| Date of analysis: | **Date:20 SEP 2010** |

| Other Information | Sample Data | | Solvent |
|---|---|---|---|
| M6 Propellant | #1 | 0.5000 g 100 ml | ACN |

| | Standards (ERG-006) | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 2.113 | 241.3 | 1503.9 | 0.623 |
| 2,4-DNDPA | 50.0 | 4.997 | 1505.8 | 0 | 0.000 |
| 2,2' DNDPA | 50.0 | 7.178 | 3394.6 | 16988.6 | 0.000 |
| 2,4' DNDPA | 50.0 | 10.355 | 947.6 | 0 | 0.000 |
| 4NDPA | 50.0 | 11.977 | 1346.1 | 0 | 0.000 |
| 2NDPA | 50.0 | 13.451 | 1788.2 | 0 | 0.000 |
| DPA | 200.0 | 14.881 | 5045.5 | 586 | 0.046 |
| N-NitrosoDPA | 75.0 | 16.02 | 1339.6 | 0 | 0.000 |

| | | |
|---|---|---|
| | | 0.670 |
| Avg. % Stabilizer for Lot | | **0.670** |

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | |
|---|---|
| **Analyst** Kisha Dickerson | Avg. Tot. Stabilizers **0.67** % |
| Analyst Signature | Stable YES \| Unstable |
| Lab. Supervisor Signature | Comments **CATEGORY: A** |
| | Actions to be Taken |

# STRAIGHT BILL OF LADING

**NOT NEGOTIABLE** Load 12

RECEIVED, subject to the classification and tariffs in effect on the date of the issue of this Original Bill of Lading.
The property described below, in apparent good order, except as noted (contents and condition of contents of packages unknown) consigned, end destined as indicated bel which said carrier (the word carrier being understood throughout this contract meaning any person or corporation in possession of the property under the contract) agrees to cu to its usual place of delivery of said destination. It on its route, otherwise to deliver to another carrier on the route to said destination. It is mutually agreed, as to each of all or any said property over all or any portion of said route to destination, and as to each party at any time interested in all or any of said property, that every service lobe perform hereunder shall be subject to all the terms and conditions of the Uniform Domestic Straight Bill of Lading Set forth (t) in Uniform Freight Classification in effect on the date here It this is a rail or rail-water shipment, or (2) in the applicable motor carrier classification or tariff it this is a motor carrier shipment.
Shipper hereby certifies that he is familiar with all the terms and conditions of the said bill of lading, set forth in the classification or tariff which governs the transportation of t shipment, and the sold terms and conditions are hereby agreed to by the shipper and accept for himself and his assigns.

Shipper: Explo Systems, Inc.
1600 Java Road
Minden, LA 71055

Shipper's No. 2870

Shipping Date 3/19/13

At

Purchase Order No.

By RRUK

Freight Charges: Collect _____ Prepaid XXY

Location No. 2431/2434

(Mail or Street Address of Consignee — For purposes of notification only)

Consigned to AUSTIN POWDER CO

Fed Lic. 5-AR-103-20-5E-00139 Exp. Date 5/1/15

Destination 7-LC-10 BLANDY RD

State

State Lic. Exp. Date

County EAST CAMDEN AR

Customer No.

Route

Charge Account of 1-870-574-0580 Ex 302

Customer P.O. No.

Rel. No.

| SHIPPED No. of PKGS | SHIPPED No. of UNITS | PROPER SHIPPING NAME AND HAZARD CLASS | RETURNED No. of PKGS | RETURNED No. of UNITS | EMERGENCY RESPONSE PROCEDURE GUIDE NO. | EXEMPTION ~~DOT-E~~ | H M | Placards Applied to Railcar or Motor Vehicle |
|---|---|---|---|---|---|---|---|---|
| 252/1G | 42PT | UN0161, Powder, Smokeless, 1.3C, PG II | | | #112 | 2010040603 | X | EXPLOSIVES 1.3 |
| | | Monica Kelly | | | | | | |
| | | | | | | | | Truck No. 6436 |
| | | Monica Kelly | 03/20/13 | | | | | Trailer No. 980210 |
| | | W10A214809 | | | | | | Mileage |
| | | | | | | | | Total 252 1G FD @ 140LBED Packages |
| | | | | | | | | Gross |
| | | | | | | | | Weight # 39,000 |
| | | | | | | | | Net Explosive Weight |
| | | 7083811/7083812 | | | | | | 35,280 |

RECEIVED 17A127 MAR 20 2013 AUSTIN POWDER COMPANY EAST CAMDEN PLANT

ENTERED 3/20/13

This is to certify that the above-named materials are properly classified, described, packaged, marked, and labeled and are in proper condition for transportati according to the applicable regulations of the Department of Transportation.

Signature [signature]

Invoice No. _____

FOR CHEMICAL EMERGENCY, SPILL, LEAK, FIRE, EXPOSURE OR ACCIDENT CALL CHEMTREC — DAY OR NIGHT
IN THE USA CALL 800-424-9300 IN CANADA (ERP #2-0040) 800-561-3636 ELSEWHERE CALL (703) 527-3887 CCN644589

Permanent Address of Shipper:
**Explo Systems, Inc.**
1600 Java Road
Minden, Louisiana 71055
(318) 382-8700

Per _____

DOT Hazardous Material Handling Number _____
Local Federal Explosives License No. 5-LA-119-20-1A-00057
(Shipper)

I have been offered placards identifying the shipment as Specified in 49CFR Subpa of Part 172. I have received the above goods in apparent good order and condition.

SLC Received By [signature] Date 3-19-13
☐ CONSIGNEE ☐ CARRIER

By _____ Date _____
AUTHORIZED RECEIVER

CONTAINS HAZARDOUS MATERIALS

CONTAINS HAZARDOUS MATERIALS

019759

EXP_001393

# STRAIGHT BILL OF LADING

## NOT NEGOTIABLE

RECEIVED, subject to the classification and tariffs in effect on the date of the issue of this Original Bill of Lading.
The property described below, in apparent good order, except as noted (contents and condition of contents of packages unknown) consigned, end destined as indicated bel which said carrier (the word carrier being understood throughout this contract meaning any person or corporation in possession of the property under the contract) agrees to c to its usual place of delivery of said destination. It on its route, otherwise to deliver to another carrier on the route to said destination. It is mutually agreed, as to each of all or an said property over all or any portion of said route to destination, and as to each party at any time interested in all or any of said property, that every service lobe perform hereunder shall be subject to all the terms and conditions of the Uniform Domestic Straight Bill of Lading Set forth (t) in Uniform Freight Classification in effect on the date here It this is a rail or rail-water shipment, or (2) in the applicable motor carrier classification or tariff it this is a motor carrier shipment.

Shipper hereby certifies that he is familiar with all the terms and conditions of the said bill of lading, set forth in the classification or tariff which governs the transportation of t shipment, and the sold terms and conditions are hereby agreed to by the shipper and accept for himself and his assigns.

Shipper: Explo Systems, Inc.
1600 Java Road
Minden, LA 71055

Shipper's No. 2870

Shipping Date 3/19/13

At

Purchase Order No.

By RRUK

Freight Charges: Collect _____ Prepaid YXY

Location No. 2431/2434

(Mail or Street Address of Consignee — For purposes of notification only)

Consigned to AUSTIN POWDER CO

Fed Lic. 5-AR-103-20-5E-00139 Exp. Date 5/1/15

Destination 7-LC-10 BLANDY RD

State

State Lic. Exp. Date

County EAST CAMDEN AR

Customer No.

Route

Charge Account of 1-870-574-0580 6302

Customer P.O. No.

Rel. No.

| SHIPPED No. of PKGS | SHIPPED No. of UNITS | PROPER SHIPPING NAME AND HAZARD CLASS | RETURNED No. of PKGS | RETURNED No. of UNITS | EMERGENCY RESPONSE PROCEDURE GUIDE NO. | EXEMPTION ~~DOT-E~~ | H M | Placards Applied to Railcar or Motor Vehicle |
|---|---|---|---|---|---|---|---|---|
| 252/16 | 42851 | UN0161, Powder, Smokeless, 1.3C, PG II | | | #112 | 2010-1203 | X | EXPLOSIVES 1.3 |
| | | Monica Kelly | | | | | | |
| | | | | | | | | Truck No. 6436 |
| | | Monica Kelly | 03/20/13 | | | | | Trailer No. 980210 |
| | | W10A21480C | | | | | | Mileage |
| | | | | | | | | Total 252 16 FD @ 140LBS EA Packages |
| | | | | | | | | Gross Weight # 39,000 |
| | | Seal # | | | | | | Net Explosive Weight |
| | | 7083811/7083812 | | | | | | 35,280 |

RECEIVED
17A727
MAR 20 2013
AUSTIN POWDER COMPANY
EAST CAMDEN PLANT

This is to certify that the above-named materials are properly classified, described, packaged, marked, and labeled and are in proper condition for transportati according to the applicable regulations of the Department of Transportation.

Signature _____

Invoice No. _____

FOR CHEMICAL EMERGENCY, SPILL, LEAK, FIRE, EXPOSURE OR ACCIDENT CALL CHEMTREC — DAY OR NIGHT
IN THE USA CALL 800-424-9300 IN CANADA (ERP #2-0040) 800-561-3636 ELSEWHERE CALL (703) 527-3887 CCC644589

Permanent Address of Shipper:
**Explo Systems, Inc.**
1600 Java Road
Minden, Louisiana 71055
(318) 382-8700

Per _____

DOT Hazardous Material Handling Number _____
Local Federal Explosives License No. 5-LA-119-20-1A-00057
(Shipper)

I have been offered placards identifying the shipment as Specified in 49CFR Subpa of Part 172. I have received the above goods in apparent good order and condition.

Received By _____ Date 3-19-1

☐ CONSIGNEE ☐ CARRIER

By _____ Date _____
AUTHORIZED RECEIVER

CONTAINS HAZARDOUS MATERIALS

CONTAINS HAZARDOUS MATERIALS

019760

EXP_001394

# MOTOR VEHICLE INSPECTION (TRANSPORTING HAZARDOUS MATERIALS)

*(Read Instructions before completing this form.)*

This form applies to all vehicles which must be marked or placarded in accordance with Title 49 CFR.

1. BILL OF LADING/TRANSPORTATION CONTROL NUMBER: 2870

| SECTION 1 - DOCUMENTATION | ORIGIN a. | DESTINATION b. |
|---|---|---|
| 2. CARRIER/GOVERNMENT ORGANIZATION | RBUK | |
| 3. DATE/TIME OF INSPECTION | 3/14/17 | |
| 4. LOCATION OF INSPECTION | EXPLO SYSTEMS INC | |
| 5. OPERATOR(S) NAME(S) | BARNETT, HEATHER | |
| 6. OPERATOR(S) LICENSE NUMBER(S) | R202343009 MO | |
| 7. MEDICAL EXAMINER'S CERTIFICATE* | 1-3-15 | |

8. *(X if satisfactory at origin)*

| | | | | | |
|---|---|---|---|---|---|
| a. MILITARY HAZMAT ENDORSEMENT | ✓ | d. ERG OR EQUIVALENT COMMERCIAL: | ✓ YES | NO | |
| b. VALID LEASE* | | e. DRIVER'S VEHICLE INSPECTION REPORT* | | | ✓ |
| c. ROUTE PLAN | ✓ | f. COPY OF 49 CFR PART 397 | | | ✓ |

9. CVSA DECAL DISPLAYED ON COMMERCIAL EQUIPMENT*

| | YES | NO |
|---|---|---|
| a. TRUCK/TRACTOR | ✓ | |
| b. TRAILER | ✓ | |

## SECTION II - MECHANICAL INSPECTION

*All items shall be checked on empty equipment prior to loading. Items with an asterisk shall be checked on all incoming loaded equipment.*

10. TYPE OF VEHICLE(S): TRACTOR / TRAILER / DROM

11. VEHICLE NUMBER(S): TRAC #6434 / TRL # 980210

| 12. PART INSPECTED (X as applicable) | ORIGIN (1) SAT | ORIGIN (1) UNSAT | DESTINATION (2) SAT | DESTINATION (2) UNSAT | | ORIGIN (1) SAT | ORIGIN (1) UNSAT | DESTINATION (2) SAT | DESTINATION (2) UNSAT | COMMENTS (3) |
|---|---|---|---|---|---|---|---|---|---|---|
| a. SPARE ELECTRICAL FUSES | ✓ | | | | k. EXHAUST SYSTEM | ✓ | | | | |
| b. HORN OPERATIVE | ✓ | | | | l. BRAKE SYSTEM* | ✓ | | | | |
| c. STEERING SYSTEM | ✓ | | | | m. SUSPENSION | ✓ | | | | |
| d. WINDSHIELD/WIPERS | ✓ | | | | n. COUPLING DEVICES | ✓ | | | | |
| e. MIRRORS | ✓ | | | | o. CARGO SPACE | ✓ | | | | |
| f. WARNING EQUIPMENT | ✓ | | | | p. LANDING GEAR* | ✓ | | | | |
| g. FIRE EXTINGUISHER* | ✓ | | | | q. TIRES, WHEELS, RIMS | ✓ | | | | |
| h. ELECTRICAL WIRING | ✓ | | | | r. TAILGATE/DOORS* | ✓ | | | | |
| i. LIGHTS AND REFLECTORS | ✓ | | | | s. TARPAULIN* | N/A | | | | |
| j. FUEL SYSTEM* | ✓ | | | | t. OTHER (Specify) | | | | | |

13. INSPECTION RESULTS (X one) ACCEPTED ✓ REJECTED

*(If rejected give reason under "Remarks". Equipment will be approved if deficiencies are corrected prior to loading.)*

14. SATELLITE MOTOR SURVEILLANCE SYSTEM: (X one) ACCEPTED N/A REJECTED

15. REMARKS

16. INSPECTOR SIGNATURE *(Origin)*

17. INSPECTOR SIGNATURE *(Destination)*

## SECTION III - POST LOADING INSPECTION

This section applies to Commercial and Government/Military vehicles. All items will be checked prior to release of loaded equipment and shall be checked on all incoming loaded equipment.

| | ORIGIN (1) SAT | ORIGIN (1) UNSAT | DESTINATION (2) SAT | DESTINATION (2) UNSAT | COMMENTS (3) |
|---|---|---|---|---|---|
| 18. LOADED IAW APPLICABLE SEGREGATION/COMPATIBILITY TABLE OF 49 CFR | ✓ | | | | |
| 19. LOAD PROPERLY SECURED TO PREVENT MOVEMENT | ✓ | | | | |
| 20. SEALS APPLIED TO CLOSED VEHICLE; TARPAULIN APPLIED ON OPEN EQUIPMENT | ✓ | | | | |
| 21. PROPER PLACARDS APPLIED | ✓ | | | | |
| 22. SHIPPING PAPERS/DD FORM 836 FOR GOVERNMENT VEHICLE SHIPMENTS | N/A | | | | |
| 23. COPY OF DD FORM 626 FOR DRIVER | ✓ | | | | |
| 24. SHIPPED UNDER DOT SPECIAL PERMIT 868 | N/A | | | | |

25. INSPECTOR SIGNATURE *(Origin)*

26. DRIVER(S) SIGNATURE *(Origin)*

27. INSPECTOR SIGNATURE *(Destination)*

28. DRIVER(S) SIGNATURE *(Destination)*



019761

EXP_001395

Explo Systems, Inc.
1600 Java Road
Minden, LA 71055

# MATERIAL SAFETY DATA SHEET

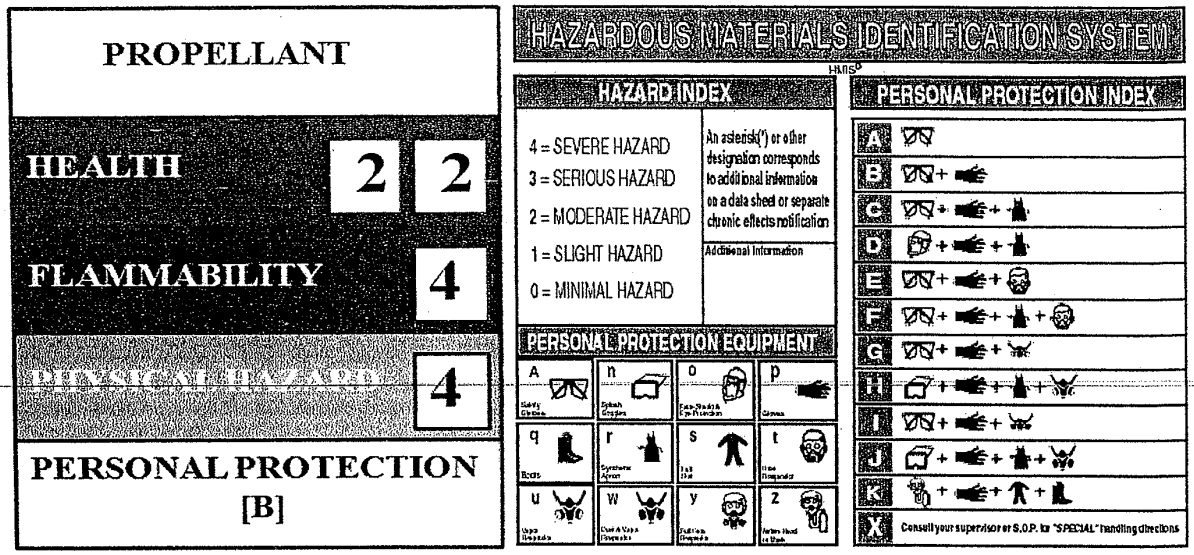
## PROPELLANT (Wetted)

## SECTION I - PRODUCT IDENTIFICATION

PRODUCT NAME: Propellant, Explosive, Solid, Wetted
Technical Information Phone No.: 318.382.8700
For Chemical Emergency (Spill, Fire, Exposure or Accident) call CHEMTREC day or night. Within the US and Canada: +1 800-424-9300. Outside the US and Canada: +1 703-527-3887 (collect calls accepted).

| **Ingredient** | **CAS No.** | **Wt. %** | **OSHA PEL**<br>**ACGIH TLV**<br>**EPA RQ (if defined)**<br>**DOT RQ (if defined)** |
|---|---|---|---|
| Dibutyl Phthalate | 84-74-2 | 3.00 | OSHA PEL 5 mg/m$^3$<br>ACGIH TLV 5 mg/m$^3$<br>EPA RQ 10 lbs<br>DOT RQ 10 lbs |
| Diphenylamine | 122-39-4 | 1.00 | OSHA PEL 10 mg/m$^3$<br>ACGIH TLV 10 mg/m$^3$<br>EPA RQ (none defined)<br>DOT RQ (none defined) |
| Potassium Sulfate | 7778-80-5 | 2.00 | OSHA PEL none published<br>ACGIH TLV none published<br>EPA RQ (none defined)<br>DOT RQ (none defined) |
| Nitrocellulose (flammable solid) | -- | 87.00 | OSHA PEL none published<br>ACGIH TLV none published<br>EPA RQ (none defined)<br>DOT RQ (none defined) |
| Dinitrotoluene | 25321-14-6 | 10.00 | OSHA PEL 10 mg/m$^3$<br>ACGIH TLV 10 mg/m$^3$<br>EPA RQ 10 lbs<br>DOT RQ 10 lbs |

## SECTION II - HAZARDS IDENTIFICATION




Routes of Entry: Inhalation; Skin; Ingestion
Carcinogenicity: None
First Aid Measures: EYES - Immediately flush with copious amount of water (low pressure) for 15 minutes, remove contact lenses; call physician. SKIN - Wash with soap and running water. INGESTION - Contact physician immediately. INHALATION - Remove to fresh air. Treat irritation symptomatically; call physician.
Firefighting Measures: Self-oxidizing, deluge with water. Will not be able to extinguish unless large quantity of water is used in very short time. Use NIOSH/MSHA approved SCBA and full protective equipment; evacuate area.
Unusual Fire/Explosion Hazard: Easily ignited, highly combustible; protect from fire and sparks and extreme heat.
Autoignition: 383°F (195°C)
Hazardous Combustion Products: Oxides of Carbon
Accidental Release Measures: SPILL - Clean immediately with soft (horsehair) brush and conductive rubber or plastic shovel. Use brass or other non-sparking tools and utensils. DO NOT hammer or otherwise cause impact forces to spilled material (explosion or autoignition could occur with impact force being applied).

## SECTION III - HANDLING AND STORAGE

Precautions: Avoid prolonged temperature above 125°F (50°C). Normal storage conditions should be 75°F (21°C) and 50% Humidity. Storage must conform to local, state and federal regulations, specifically: 29 CFR OSHA 1910.109; 27 CFR BATFE 55 subpart K.
Other Special Precautions: Flammable Solid…Keep away from heat, sparks, open flame…Keep containers closed…use with adequate ventilation.
Ventilation: Local and general ventilation necessary to keep air concentration below TLV's.
Personal Protective Equipment: Safety Glasses, Cotton or Leather Gloves, Fire Resistant Coveralls.

## SECTION IV - PHYSICAL AND CHEMICAL PROPERTIES

Specific Gravity: 1.496
Evaporation Rate: <1 (Butylacetate = 1)
Solubility in Water: negligible
Appearance and Odor: Hard Cylinder Perforated, Smooth, Greenish Yellow. Odorless.
Materials to Avoid: Oxides of Nitrogen and Carbon.

U.S. Department
of Transportation

Pipeline and Hazardous
Materials Safety Administration

East Building, PHH – 32
1200 New Jersey Avenue, Southeast
Washington, D.C. 20590

The US Department of Transportation
Competent Authority for the United States

## CLASSIFICATION OF EXPLOSIVES
## FIRST REVISION

Based upon a request by Explo Systems Inc., 1600 Java Road, Minden, LA 71055, United States the following items are classed in accordance with Section 173.56, Title 49, Code of Federal Regulations (49 CFR). A copy of your application, all supporting documentation and a copy of this approval must be retained and made available to DOT upon request.

**U.N. PROPER SHIPPING NAME AND NUMBER:**
Powder, smokeless, UN0161

**U.N. CLASSIFICATION CODE**: 1.3C

| **REFERENCE NUMBER** | **PRODUCT DESIGNATION/PART NUMBER** |
|---|---|
| EX2010040603 | Reclaimed M6 Propellant |

**NOTES:** This classification is only valid when the smokeless powder has been tested and found to have sufficient residual stabilizers present per US Army Safety Bulletin: "Inspection of Supplies and Equipment, Ammunition Surveillance Procedures" (SB 742-1). The following packaging methods are assigned:
Packaging Method A: Inner Packaging - Not necessary. Outer Packaging – UN 1G fiberdrum, each containing not more than one hundred and forty (140) pounds of smokeless propellant.
Packaging Method B: Inner Packaging: Flexible static-resistant reinforced plastic cloth and strapping lifting bag, each containing not more than eight hundred and eighty (880) pounds of smokeless propellant. Outer Packaging - UN 4G heavy-wall fiberboard box with a volumetric capacity of 119 gallons or less. (see 49 CFR Section 171.8 Definition for "Non-bulk packaging")

**DATED:** 05/05/2011

For Dr. Magdy El-Sibaie
Associate Administrator for Hazardous Materials Safety

Tracking No: 2011040848

CONTAINS HAZARDOUS MATERIALS

# STRAIGHT BILL OF LADING

**NOT NEGOTIABLE** Load 13

RECEIVED, subject to the classification and tariffs in effect on the date of the issue of this Original Bill of Lading.
The property described below, in apparent good order, except as noted (contents and condition of contents of packages unknown) consigned, end destined as indicated below, which said carrier (the word carrier being understood throughout this contract meaning any person or corporation in possession of the property under the contract) agrees to curry to its usual place of delivery of said destination. It on its route, otherwise to deliver to another carrier on the route to said destination. It is mutually agreed, as to each of all or any of said property over all or any portion of said route to destination, and as to each party at any time interested in all or any of said property, that every service lobe performed hereunder shall be subject to all the terms and conditions of the Uniform Domestic Straight Bill of Lading Set forth (t) in Uniform Freight Classification in effect on the date hereof, It this is a rail or rail-water shipment, or (2) in the applicable motor carrier classification or tariff it this is a motor carrier shipment.

Shipper hereby certifies that he is familiar with all the terms and conditions of the said bill of lading, set forth in the classification or tariff which governs the transportation of this shipment, and the sold terms and conditions are hereby agreed to by the shipper and accept for himself and his assigns.

Shipper: Explo Systems, Inc.
1600 Java Road
Minden, LA 71055

Shipper's No. 2872

Shipping Date 3/20/13

At

Purchase Order No.

By RRR

Freight Charges: Collect _____ Prepaid VPP

Location No. 1600/2923

(Mail or Street Address of Consignee — For purposes of notification only)

Consigned to Austin Powder Co
Destination 7-11 in Pinnacle
State
County Hot Springs AR
Route
Charge Account of

Fed Lic. 5-AR-157-20-1C-00057 Exp. Date 5/1/15
State Lic. Exp. Date
Customer No.
Customer P.O. No. Rel. No.

| SHIPPED No. of PKGS | SHIPPED No. of UNITS | PROPER SHIPPING NAME AND HAZARD CLASS | RETURNED No. of PKGS | RETURNED No. of UNITS | EMERGENCY RESPONSE PROCEDURE GUIDE NO. | EXEMPTION DOT-E | H M | Placards Applied to Railcar or Motor Vehicle |
|---|---|---|---|---|---|---|---|---|
| 250 lbs | UNIT | UN0161, Powder, Smokeless, 1.3C, PG II | | | #112 | | X | EXPLOSIVES 1.3 |
| | | | | | | | | |
| | | Hyman Kelly | | | | | | |
| | | Minden Mill 0 Pgh's | | | | | | Truck No. 6416 |
| | | | | | | | | Trailer No. 28W021 |
| | | W-10 AT 2147 CT | | | | | | Mileage |
| | | | | | | | | Total 250 lbs Packages |
| | | | | | | | | Gross Weight # 379 000 |
| | | Sub | | | | | | Net Explosive Weight |
| | | 7208515 / 7053816 | | | | | | 250 |

RECEIVED
17AT28
MAR 20 2013
AUSTIN POWDER COMPANY
EAST CAMDEN PLANT

ENTERED
3/21/13

This is to certify that the above-named materials are properly classified, described, packaged, marked, and labeled and are in proper condition for transportation, according to the applicable regulations of the Department of Transportation.

Signature _____ Invoice No. _____

FOR CHEMICAL EMERGENCY, SPILL, LEAK, FIRE, EXPOSURE OR ACCIDENT CALL CHEMTREC — DAY OR NIGHT
IN THE USA CALL 800-424-9300 IN CANADA (ERP #2-0040) 800-561-3636 ELSEWHERE CALL (703) 527-3887

Permanent Address of Shipper:
**Explo Systems, Inc.**
1600 Java Road
Minden, Louisiana 71055
(318) 382-8700

Per _____

DOT Hazardous Material Handling Number _____
Local Federal Explosives License No. 5-LA-119-20-1A-00057
(Shipper)

I have been offered placards identifying the shipment as Specified in 49CFR Subpart F of Part 172. I have received the above goods in apparent good order and condition.

Received By _____ Date _____
☐ CONSIGNEE ☐ CARRIER

By _____ Date _____
AUTHORIZED RECEIVER

CONTAINS HAZARDOUS MATERIALS

Agent must detach and retain this Shipping Order

019766

EXP_001400

AUSTIN POWDER PACKING LIST

SHIPMENT DATE 3-20-13

B/L# 2872 TRL 7810021

M-6

IND82H-070166 7 PTS
IND83G-070281 1 PT
IND82A-070101 1 PT
IND85F-070588 2 PTS
IND83C-070235 3 PT
IND83E-070273 4 PTS
IND82H-070169 2 PTS
IND86E-070616 1 PT
IND86E-070617 1 PT
IND84B-070327 1 PT
IND84C-070331 1 PT
IND81G-070061 2 PTS
IND87H-070276 3 PTS
IND83F-070276 1 PT
IND84H-Y70442 2 PTS
IND84D-070429 1 PT
IND88D-070970 1 PT
IND84H-Y70441 2 PTS
IND85K-070598 4 PTS
IND87A-Y70677 1 PT
IND85C-070512 1 PT
42 PTS WITH 6 FB @140 LBS PER DRUM

TOTAL 35,280 LBS

LIONEL KOONS

EXPLO SYSTEMS INC

# MOTOR VEHICLE INSPECTION (TRANSPORTING HAZARDOUS MATERIALS)

*(Read Instructions before completing this form.)*

This form applies to all vehicles which must be marked or placarded in accordance with Title 49 CFR.

1. BILL OF LADING/TRANSPORTATION CONTROL NUMBER: 2872

| SECTION 1 - DOCUMENTATION | ORIGIN a. | DESTINATION b. |
|---|---|---|
| 2. CARRIER/GOVERNMENT ORGANIZATION | RLR K | |
| 3. DATE/TIME OF INSPECTION | 3/20/13 | |
| 4. LOCATION OF INSPECTION | EXPLO SYSTEMS INC | |
| 5. OPERATOR(S) NAME(S) | BARRETT, HEATHER | |
| 6. OPERATOR(S) LICENSE NUMBER(S) | R202343009 MO | |
| 7. MEDICAL EXAMINER'S CERTIFICATE* | 1-3-15 | |

| 8. (X if satisfactory at origin) | | | | | | 9. CVSA DECAL DISPLAYED ON COMMERCIAL EQUIPMENT* | YES | NO |
|---|---|---|---|---|---|---|---|---|
| a. MILITARY HAZMAT ENDORSEMENT | | d. ERG OR EQUIVALENT COMMERCIAL: | ✓ | YES | | a. TRUCK/TRACTOR | ✓ | |
| b. VALID LEASE* | ✓ | e. DRIVER'S VEHICLE INSPECTION REPORT* | | | ✓ | b. TRAILER | ✓ | |
| c. ROUTE PLAN | ✓ | f. COPY OF 49 CFR PART 397 | | | ✓ | | | |

## SECTION II - MECHANICAL INSPECTION

*All items shall be checked on empty equipment prior to loading. Items with an asterisk shall be checked on all incoming loaded equipment.*

10. TYPE OF VEHICLE(S): TRACTOR / TRAILER / DROM

11. VEHICLE NUMBER(S): TRAC # 6436 / TRL # 7810021

| 12. PART INSPECTED (X as applicable) | ORIGIN (1) SAT | ORIGIN (1) UNSAT | DESTINATION (2) SAT | DESTINATION (2) UNSAT | | ORIGIN (1) SAT | ORIGIN (1) UNSAT | DESTINATION (2) SAT | DESTINATION (2) UNSAT | COMMENTS (3) |
|---|---|---|---|---|---|---|---|---|---|---|
| a. SPARE ELECTRICAL FUSES | | | | | k. EXHAUST SYSTEM | | | | | |
| b. HORN OPERATIVE | | | | | l. BRAKE SYSTEM* | | | | | |
| c. STEERING SYSTEM | | | | | m. SUSPENSION | | | | | |
| d. WINDSHIELD/WIPERS | | | | | n. COUPLING DEVICES | | | | | |
| e. MIRRORS | | | | | o. CARGO SPACE | | | | | |
| f. WARNING EQUIPMENT | | | | | p. LANDING GEAR* | | | | | |
| g. FIRE EXTINGUISHER* | | | | | q. TIRES, WHEELS, RIMS | | | | | |
| h. ELECTRICAL WIRING | | | | | r. TAILGATE/DOORS* | | | | | |
| i. LIGHTS AND REFLECTORS | | | | | s. TARPAULIN* | N/A | | | | |
| j. FUEL SYSTEM* | | | | | t. OTHER (Specify) | | | | | |

13. INSPECTION RESULTS (X one) ACCEPTED ✓ REJECTED

*(If rejected give reason under "Remarks". Equipment will be approved if deficiencies are corrected prior to loading.)*

14. SATELLITE MOTOR SURVEILLANCE SYSTEM: (X one) ACCEPTED N/A REJECTED

15. REMARKS

16. INSPECTOR SIGNATURE *(Origin)*

17. INSPECTOR SIGNATURE *(Destination)*

## SECTION III - POST LOADING INSPECTION

This section applies to Commercial and Government/Military vehicles. All items will be checked prior to release of loaded equipment and shall be checked on all incoming loaded equipment.

| | ORIGIN (1) SAT | ORIGIN (1) UNSAT | DESTINATION (2) SAT | DESTINATION (2) UNSAT | COMMENTS (3) |
|---|---|---|---|---|---|
| 18. LOADED IAW APPLICABLE SEGREGATION/COMPATIBILITY TABLE OF 49 CFR | | | | | |
| 19. LOAD PROPERLY SECURED TO PREVENT MOVEMENT | | | | | |
| 20. SEALS APPLIED TO CLOSED VEHICLE; TARPAULIN APPLIED ON OPEN EQUIPMENT | | | | | |
| 21. PROPER PLACARDS APPLIED | | | | | |
| 22. SHIPPING PAPERS/DD FORM 836 FOR GOVERNMENT VEHICLE SHIPMENTS | N/A | | | | |
| 23. COPY OF DD FORM 626 FOR DRIVER | | | | | |
| 24. SHIPPED UNDER DOT SPECIAL PERMIT 868 | N/A | | | | |

25. INSPECTOR SIGNATURE *(Origin)*

26. DRIVER(S) SIGNATURE *(Origin)*

27. INSPECTOR SIGNATURE *(Destination)*

28. DRIVER(S) SIGNATURE *(Destination)*

Explo Systems, Inc.
1600 Java Road
Minden, LA 71055

# MATERIAL SAFETY DATA SHEET

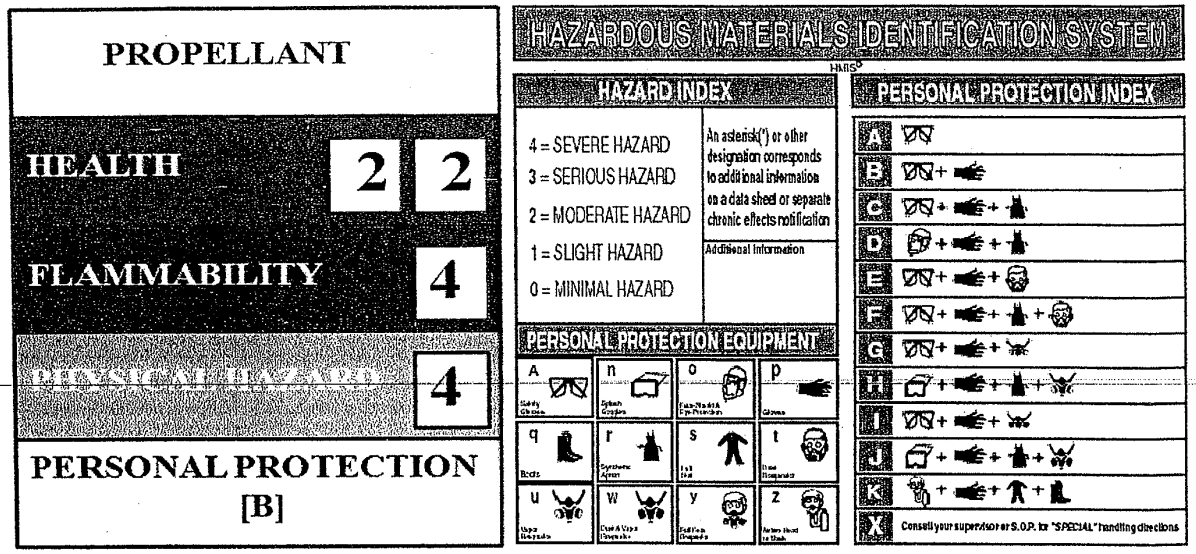
## PROPELLANT (Wetted)

## SECTION I - PRODUCT IDENTIFICATION

PRODUCT NAME: Propellant, Explosive, Solid, Wetted
Technical Information Phone No.: 318.382.8700
For Chemical Emergency (Spill, Fire, Exposure or Accident) call CHEMTREC day or night. Within the US and Canada: +1 800-424-9300. Outside the US and Canada: +1 703-527-3887 (collect calls accepted).

| Ingredient | CAS No. | Wt. % | OSHA PEL<br>ACGIH TLV<br>EPA RQ (if defined)<br>DOT RQ (if defined) |
|---|---|---|---|
| Dibutyl Phthalate | 84-74-2 | 3.00 | OSHA PEL 5 mg/m$^3$<br>ACGIH TLV 5 mg/m$^3$<br>EPA RQ 10 lbs<br>DOT RQ 10 lbs |
| Diphenylamine | 122-39-4 | 1.00 | OSHA PEL 10 mg/m$^3$<br>ACGIH TLV 10 mg/m$^3$<br>EPA RQ (none defined)<br>DOT RQ (none defined) |
| Potassium Sulfate | 7778-80-5 | 2.00 | OSHA PEL none published<br>ACGIH TLV none published<br>EPA RQ (none defined)<br>DOT RQ (none defined) |
| Nitrocellulose (flammable solid) | – | 87.00 | OSHA PEL none published<br>ACGIH TLV none published<br>EPA RQ (none defined)<br>DOT RQ (none defined) |
| Dinitrotoluene | 25321-14-6 | 10.00 | OSHA PEL 10 mg/m$^3$<br>ACGIH TLV 10 mg/m$^3$<br>EPA RQ 10 lbs<br>DOT RQ 10 lbs |

## SECTION II - HAZARDS IDENTIFICATION




Routes of Entry: Inhalation; Skin; Ingestion
Carcinogenicity: None
First Aid Measures: EYES - Immediately flush with copious amount of water (low pressure) for 15 minutes, remove contact lenses; call physician. SKIN - Wash with soap and running water. INGESTION - Contact physician immediately. INHALATION - Remove to fresh air. Treat irritation symptomatically; call physician.
Firefighting Measures: Self-oxidizing, deluge with water. Will not be able to extinguish unless large quantity of water is used in very short time. Use NIOSH/MSHA approved SCBA and full protective equipment; evacuate area.
Unusual Fire/Explosion Hazard: Easily ignited, highly combustible; protect from fire and sparks and extreme heat.
Autoignition: 383°F (195°C)
Hazardous Combustion Products: Oxides of Carbon
Accidental Release Measures: SPILL - Clean immediately with soft (horsehair) brush and conductive rubber or plastic shovel. Use brass or other non-sparking tools and utensils. DO NOT hammer or otherwise cause impact forces to spilled material (explosion or autoignition could occur with impact force being applied).

## SECTION III - HANDLING AND STORAGE

Precautions: Avoid prolonged temperature above 125°F (50°C). Normal storage conditions should be 75°F (21°C) and 50% Humidity. Storage must conform to local, state and federal regulations, specifically: 29 CFR OSHA 1910.109; 27 CFR BATFE 55 subpart K.
Other Special Precautions: Flammable Solid…Keep away from heat, sparks, open flame…Keep containers closed…use with adequate ventilation.
Ventilation: Local and general ventilation necessary to keep air concentration below TLV's.
Personal Protective Equipment: Safety Glasses, Cotton or Leather Gloves, Fire Resistant Coveralls.

## SECTION IV - PHYSICAL AND CHEMICAL PROPERTIES

Specific Gravity: 1.496
Evaporation Rate: <1 (Butylacetate = 1)
Solubility in Water: negligible
Appearance and Odor: Hard Cylinder Perforated, Smooth, Greenish Yellow. Odorless.
Materials to Avoid: Oxides of Nitrogen and Carbon.

Conditions to Avoid: Open Flame, Sparks, Heat, Direct Sunlight.
Hazardous Decomposition Products: Oxides of Carbon

## SECTION V – TRANSPORTATION INFORMATION

DOT Proper Shipping Name: Smokeless Powder (wetted)
Hazard Class: 1.3C
UN No. UN0161
Packing Group: II

## SECTION VI - DISPOSAL CONSIDERATIONS

Disposal must be in accordance with federal, state and local regulations. Burn in open burning ground in accordance with regulatory requirements. It may also be burned in an incinerator approved for explosives.

## DISCLAIMER

The information contained in this MSDS (Material Safety Data Sheet) is based upon available constituent data for the components of **Propellant** and is believed to be correct. However, as this information has been obtained from various sources, including the manufacturers of its components and independent laboratories, it is provided herein without warranty or representation that it is complete, accurate and can be relied upon. Explo Systems, Inc. has not attempted to conceal in any manner the deleterious aspects of this product, and makes no warranty as such. Explo Systems, Inc. cannot anticipate nor control the many situations in which this product or this information may be used; there is no guarantee that the health and safety precautions suggested herein will be proper under all conditions. It is the sole responsibility of each user of the product to determine and comply with the requirements of all applicable laws and regulations regarding its use. This information is given solely for the purposes of safety to persons and property. Any other use of this information is expressly prohibited.

## AUTHOR

This MSDS was prepared by: Ferris Callihan, PE - Director Support Technology - Explo Systems, Inc. - 1600 Java Road - Minden, LA 71055 - Tel 318 382 8700 - E-mail: fcallihan@explosystems.com

U.S. Department
of Transportation

Pipeline and Hazardous
Materials Safety Administration

East Building, PHH – 32
1200 New Jersey Avenue, Southeast
Washington, D.C. 20590

The US Department of Transportation
Competent Authority for the United States

## CLASSIFICATION OF EXPLOSIVES
## FIRST REVISION

Based upon a request by Explo Systems Inc., 1600 Java Road, Minden, LA 71055, United States the following items are classed in accordance with Section 173.56, Title 49, Code of Federal Regulations (49 CFR). A copy of your application, all supporting documentation and a copy of this approval must be retained and made available to DOT upon request.

**U.N. PROPER SHIPPING NAME AND NUMBER:**
Powder, smokeless, UN0161

**U.N. CLASSIFICATION CODE**: 1.3C

| **REFERENCE NUMBER** | **PRODUCT DESIGNATION/PART NUMBER** |
|---|---|
| EX2010040603 | Reclaimed M6 Propellant |

**NOTES:** This classification is only valid when the smokeless powder has been tested and found to have sufficient residual stabilizers present per US Army Safety Bulletin: "Inspection of Supplies and Equipment, Ammunition Surveillance Procedures" (SB 742-1). The following packaging methods are assigned:
Packaging Method A: Inner Packaging - Not necessary. Outer Packaging – UN 1G fiberdrum, each containing not more than one hundred and forty (140) pounds of smokeless propellant.
Packaging Method B: Inner Packaging: Flexible static-resistant reinforced plastic cloth and strapping lifting bag, each containing not more than eight hundred and eighty (880) pounds of smokeless propellant. Outer Packaging - UN 4G heavy-wall fiberboard box with a volumetric capacity of 119 gallons or less. (see 49 CFR Section 171.8 Definition for "Non-bulk packaging")

**DATED:** 05/05/2011

For Dr. Magdy El-Sibaie
Associate Administrator for Hazardous Materials Safety

Tracking No: 2011040848



019772

EXP_001406

Load 13
2872

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND86E070617** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 18 JULY 2012** |

| Other Information | Sample Data | | Solvent |
|---|---|---|---|
| M6 Propellant | #1 | 0.50 g 100 ml | ACN |

| Standards (ERG-006) | | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 0.863 | 133.9 | 389.2 | 0.291 |
| 2,4-DNDPA | 50.0 | 3.365 | 949.7 | 0 | 0.000 |
| 2,2' DNDPA | 50.0 | 5.091 | 2605.4 | 22628 | 0.000 |
| 2,4' DNDPA | 50.0 | 7.514 | 1047.9 | 0 | 0.000 |
| 4NDPA | 50.0 | 8.946 | 1698.8 | 45.3 | 0.003 |
| 2NDPA | 50.0 | 10.142 | 3039.5 | 80.7 | 0.003 |
| DPA | 200.0 | 11.585 | 6044.7 | 861.6 | 0.057 |
| N-NitrosoDPA | 75.0 | 12.4 | 1395.6 | 0 | 0.000 |

0.353

| Avg. % Stabilizer for Lot | **0.353** |
|---|---|

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| **Analyst** Takisha Dickerson | Avg. Tot. Stabilizers **0.35** % |
|---|---|
| Analyst Signature TDickerson | Stable YES / Unstable |
| Lab. Supervisor Signature | Comments **CATEGORY: A** |
| | Actions to be Taken |

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND86E070616** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 19 NOV 2010** |

| Other Information | Sample Data | | Solvent |
|---|---|---|---|
| M6 Propellant | #1 | 0.5000 g 100 ml | ACN |

| | Standards (ERG-006) | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 2.068 | 135.8 | 654.4 | 0.482 |
| 2,4-DNDPA | 50.0 | 5.182 | 717.3 | 0 | 0.000 |
| 2,2' DNDPA | 50.0 | 7.635 | 736.3 | 13022.2 | 0.000 |
| 2,4' DNDPA | 50.0 | 11.713 | 779 | 0 | 0.000 |
| 4NDPA | 50.0 | 13.454 | 462.4 | 0 | 0.000 |
| 2NDPA | 50.0 | 15.161 | 1164.1 | 0 | 0.000 |
| DPA | 200.0 | 16.583 | 4078.5 | 221.2 | 0.022 |
| N-NitrosoDPA | 75.0 | 18.033 | 1011.7 | 0 | 0.000 |
| | | | | | 0.504 |
| | | Avg. % Stabilizer for Lot | | | **0.504** |

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | |
|---|---|
| **Analyst** Kisha Dickerson | Avg. Tot. Stabilizers **0.50** % |
| Analyst Signature | Stable YES \| Unstable |
| | Comments |
| Lab. Supervisor Signature | **CATEGORY:** **A** |
| | Actions to be Taken |

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND85C070512** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 10 AUGUST 2012** |

| Other Information | Sample Data | | Solvent |
|---|---|---|---|
| M6 Propellant | #1 | 0.50 g 100 ml | ACN |

| Standards (ERG-006) | | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 0.882 | 8.8 | 112.9 | 1.283 |
| 2,4-DNDPA | 50.0 | 3.343 | 910.9 | 0 | 0.000 |
| 2,2' DNDPA | 50.0 | 5.034 | 3858.6 | 22576 | 0.000 |
| 2,4' DNDPA | 50.0 | 7.363 | 1013.2 | 0 | 0.000 |
| 4NDPA | 50.0 | 8.784 | 1647.3 | 59.7 | 0.004 |
| 2NDPA | 50.0 | 9.95 | 2919.6 | 95.5 | 0.003 |
| DPA | 200.0 | 11.386 | 5857.1 | 714.1 | 0.049 |
| N-NitrosoDPA | 75.0 | 12.173 | 1371.4 | 0 | 0.000 |

1.339

| Avg. % Stabilizer for Lot | **1.339** |
|---|---|

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| **Analyst** Takisha Dickerson | Avg. Tot. Stabilizers **1.34** % |
|---|---|
| Analyst Signature | Stable YES / Unstable |
| Lab. Supervisor Signature | Comments **CATEGORY: A** |
| | Actions to be Taken |

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND85K070598** | **D533 / M6 propellant** |
| Date of analysis: | **Date:25 AUG 2010** |

| Other Information | Sample Data | | Solvent |
|---|---|---|---|
| M6 Propellant | #1 | 0.5000 g 100 ml | ACN |

| Standards (ERG-006) | | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 2.177 | 146.5 | 1423.9 | 0.972 |
| 2,4-DNDPA | 50.0 | 5.001 | 961.7 | 0 | 0.000 |
| 2,2' DNDPA | 50.0 | 7.038 | 2567.5 | 14670.5 | 0.000 |
| 2,4' DNDPA | 50.0 | 9.931 | 938.5 | 0 | 0.000 |
| 4NDPA | 50.0 | 11.434 | 1325.8 | 0 | 0.000 |
| 2NDPA | 50.0 | 12.813 | 1809.7 | 0 | 0.000 |
| DPA | 200.0 | 14.19 | 4886.9 | 403.2 | 0.033 |
| N-NitrosoDPA | 75.0 | 15.18 | 1296.7 | 0 | 0.000 |

1.005

| Avg. % Stabilizer for Lot | **1.005** |
|---|---|

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| **Analyst** Kisha Dickerson | Avg. Tot. Stabilizers **1.00** % | |
|---|---|---|
| Analyst Signature | Stable YES | Unstable |
| Lab. Supervisor Signature | Comments **CATEGORY: A** | |
| | Actions to be Taken | |

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND85F070588** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 20 Dec 2010** |

| Other Information | Sample Data | | Solvent |
|---|---|---|---|
| M6 Propellant | #1 | 0.5000 g 100 ml | ACN |

| Standards (ERG-006) | | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 2.059 | 87.1 | 1411.1 | 1.620 |
| 2,4-DNDPA | 50.0 | 5.198 | 631.9 | 845.8 | 0.134 |
| 2,2' DNDPA | 50.0 | 7.699 | 1074.2 | 15722.5 | 0.000 |
| 2,4' DNDPA | 50.0 | 11.782 | 545 | 0 | 0.000 |
| 4NDPA | 50.0 | 13.513 | 1464.9 | 246.8 | 0.017 |
| 2NDPA | 50.0 | 15.189 | 1011.6 | 0 | 0.000 |
| DPA | 200.0 | 16.638 | 2894.7 | 309.8 | 0.043 |
| N-NitrosoDPA | 75.0 | 18.069 | 720.1 | 0 | 0.000 |

| | |
|---|---|
| | 1.814 |
| Avg. % Stabilizer for Lot | **1.814** |

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | |
|---|---|
| **Analyst** Kisha Dickerson | Avg. Tot. Stabilizers **1.81** % |
| Analyst Signature | Stable YES / Unstable |
| Lab. Supervisor Signature | Comments **CATEGORY: A** |
| | Actions to be Taken |

Form #158

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND84C070331** | **D533 / M6 propellant** |
| Date of analysis: | **Date:21 SEP 2010** |

| Other Information | Sample Data | | Solvent |
|---|---|---|---|
| M6 Propellant | #1 | 0.5000 g 100 ml | ACN |

| Standards (ERG-006) | | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 2.168 | 128.5 | 113.7 | 0.088 |
| 2,4-DNDPA | 50.0 | 5.033 | 432 | 217.6 | 0.050 |
| 2,2' DNDPA | 50.0 | 7.206 | 1480.6 | 820.7 | 0.000 |
| 2,4' DNDPA | 50.0 | 10.409 | 485.4 | 222.7 | 0.046 |
| 4NDPA | 50.0 | 12.024 | 1113.3 | 522 | 0.047 |
| 2NDPA | 50.0 | 13.489 | 784 | 396.3 | 0.051 |
| DPA | 200.0 | 14.97 | 2121.4 | 1130.5 | 0.213 |
| N-NitrosoDPA | 75.0 | 16.167 | 463.9 | 299.3 | 0.000 |

| | |
|---|---|
| | 0.495 |
| Avg. % Stabilizer for Lot | **0.495** |

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | |
|---|---|
| **Analyst** Kisha Dickerson | Avg. Tot. Stabilizers **0.50** % |
| Analyst Signature | Stable YES / Unstable |
| Lab. Supervisor Signature | Comments **CATEGORY: A** |
| | Actions to be Taken |

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND84B070327** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 4 Sep 2012** |

| Other Information | Sample Data | | Solvent |
|---|---|---|---|
| M6 Propellant | #1 | 0.50 g 100 ml | ACN |

| Standards (ERG-006) | | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 0.889 | 48.8 | 501.9 | 1.028 |
| 2,4-DNDPA | 50.0 | 3.418 | 914.3 | 0 | 0.000 |
| 2,2' DNDPA | 50.0 | 5.22 | 777.3 | 23336 | 0.000 |
| 2,4' DNDPA | 50.0 | 7.622 | 980.5 | 0 | 0.000 |
| 4NDPA | 50.0 | 9.134 | 1586.8 | 95.7 | 0.006 |
| 2NDPA | 50.0 | 10.417 | 2826.3 | 104 | 0.004 |
| DPA | 200.0 | 11.797 | 5671.5 | 673.4 | 0.047 |
| N-NitrosoDPA | 75.0 | 12.757 | 1337.5 | 0 | 0.000 |

| | | |
|---|---|---|
| | | 1.086 |
| | Avg. % Stabilizer for Lot | **1.086** |

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | | |
|---|---|---|
| **Analyst** Mike Kile | Avg. Tot. Stabilizers | **1.09** % |
| Analyst Signature | Stable YES | Unstable |
| | Comments | |
| Lab. Supervisor Signature | **CATEGORY:** | **A** |
| | Actions to be Taken | |

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND83F070276** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 4 Sep 2012** |

| Other Information | Sample Data | | Solvent |
|---|---|---|---|
| M6 Propellant | #1 | 0.50 g 100 ml | ACN |

| Standards (ERG-006) | | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 0.889 | 48.8 | 578.6 | 1.186 |
| 2,4-DNDPA | 50.0 | 3.418 | 914.3 | 0 | 0.000 |
| 2,2' DNDPA | 50.0 | 5.22 | 777.3 | 23990 | 0.000 |
| 2,4' DNDPA | 50.0 | 7.622 | 980.5 | 0 | 0.000 |
| 4NDPA | 50.0 | 9.134 | 1586.8 | 40.6 | 0.003 |
| 2NDPA | 50.0 | 10.417 | 2826.3 | 88.7 | 0.003 |
| DPA | 200.0 | 11.797 | 5671.5 | 812.6 | 0.057 |
| N-NitrosoDPA | 75.0 | 12.757 | 1337.5 | 0 | 0.000 |

| | | |
|---|---|---|
| | | 1.249 |
| Avg. % Stabilizer for Lot | | **1.249** |

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | |
|---|---|
| **Analyst** Mike Kile | Avg. Tot. Stabilizers **1.25** % |
| Analyst Signature | Stable YES \| Unstable |
| | Comments |
| Lab. Supervisor Signature | **CATEGORY: A** |
| | Actions to be Taken |

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND83C070235** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 27 JULY 2011** |

| Other Information | Sample Data | | Solvent |
|---|---|---|---|
| M6 Propellant | #1 | 0.50 g 100 ml | ACN |

| | Standards (ERG-006) | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 0.694 | 112.8 | 396 | 0.351 |
| 2,4-DNDPA | 50.0 | 3.477 | 942.8 | 35.1 | 0.004 |
| 2,2' DNDPA | 50.0 | 5.339 | 77.4 | 22444 | 0.000 |
| 2,4' DNDPA | 50.0 | 7.842 | 1020.3 | 32.9 | 0.003 |
| 4NDPA | 50.0 | 9.392 | 1634.2 | 231.7 | 0.014 |
| 2NDPA | 50.0 | 10.693 | 2956.2 | 221.1 | 0.007 |
| DPA | 200.0 | 12.201 | 5630.5 | 417 | 0.030 |
| N-NItrosoDPA | 75.0 | 13.103 | 1385.2 | 0 | 0.000 |

| | | |
|---|---|---|
| | | 0.409 |
| | Avg. % Stabilizer for Lot | **0.409** |

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | |
|---|---|
| **Analyst** Mike Kile | Avg. Tot. Stabilizers **0.41** % |
| Analyst Signature | Stable YES \| Unstable |
| | Comments |
| Lab. Supervisor Signature | **CATEGORY: A** |
| | Actions to be Taken |

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND83G070281** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 4 April 2012** |

| Other Information | Sample Data | | Solvent |
|---|---|---|---|
| M6 Propellant | #1 | 0.50 g 100 ml | ACN |

| | Standards (ERG-006) | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 0.881 | 40.9 | 93.7 | 0.229 |
| 2,4-DNDPA | 50.0 | 3.279 | 928 | 0 | 0.000 |
| 2,2' DNDPA | 50.0 | 4.66 | 26957 | 26191 | 0.000 |
| 2,4' DNDPA | 50.0 | 6.571 | 992.8 | 0 | 0.000 |
| 4NDPA | 50.0 | 7.798 | 1662.7 | 158.3 | 0.010 |
| 2NDPA | 50.0 | 8.806 | 2938.9 | 98.9 | 0.003 |
| DPA | 200.0 | 10.221 | 5774.5 | 1004.4 | 0.070 |
| N-NitrosoDPA | 75.0 | 10.895 | 1475.9 | 0 | 0.000 |

| | |
|---|---|
| | 0.312 |
| Avg. % Stabilizer for Lot | **0.312** |

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | |
|---|---|
| **Analyst** Takisha Dickerson | Avg. Tot. Stabilizers **0.31** % |
| Analyst Signature | Stable YES / Unstable |
| Lab. Supervisor Signature | Comments **CATEGORY: A** |
| | Actions to be Taken |

Form #159

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND82A070101** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 28 June 2012** |

| Other Information | Sample Data | | Solvent |
|---|---|---|---|
| M6 Propellant | #1 | 0.50 g 100 ml | ACN |

| | Standards (ERG-006) | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 0.874 | 19.1 | 129.9 | 0.680 |
| 2,4-DNDPA | 50.0 | 3.347 | 961.1 | 0 | 0.000 |
| 2,2' DNDPA | 50.0 | 5.046 | 4032.7 | 23810 | 0.000 |
| 2,4' DNDPA | 50.0 | 6.347 | 22 | 0 | 0.000 |
| 4NDPA | 50.0 | 7.273 | 1080.1 | 0 | 0.000 |
| 2NDPA | 50.0 | 8.74 | 1782.9 | 45.1 | 0.003 |
| DPA | 200.0 | 9.886 | 3122.3 | 81.2 | 0.010 |
| N-NitrosoDPA | 75.0 | 11.353 | 6047.1 | 776.8 | 0.000 |

| | |
|---|---|
| | 0.693 |
| Avg. % Stabilizer for Lot | **0.693** |

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | |
|---|---|
| **Analyst** Takisha Dickerson | Avg. Tot. Stabilizers **0.69** % |
| Analyst Signature | Stable YES / Unstable |
| Lab. Supervisor Signature | Comments **CATEGORY: A** |
| | Actions to be Taken |

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND81G070061** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 12 JULY 2011** |

| Other Information | Sample Data | | | Solvent |
|---|---|---|---|---|
| M6 Propellant | #1 | 0.50 g | 100 ml | ACN |

| Standards (ERG-006) | | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 0.71 | 111 | 358.1 | 0.323 |
| 2,4-DNDPA | 50.0 | 3.475 | 1001 | 79.1 | 0.008 |
| 2,2' DNDPA | 50.0 | 5.325 | 95 | 18335 | 0.000 |
| 2,4' DNDPA | 50.0 | 7.791 | 1061.3 | 83.2 | 0.008 |
| 4NDPA | 50.0 | 9.345 | 1700.8 | 167.7 | 0.010 |
| 2NDPA | 50.0 | 10.629 | 3041.2 | 330.5 | 0.011 |
| DPA | 200.0 | 12.152 | 5943.4 | 913.3 | 0.061 |
| N-NitrosoDPA | 75.0 | 13.034 | 1443.1 | 111.8 | 0.000 |
| | | | | | 0.421 |
| | | Avg. % Stabilizer for Lot | | | **0.421** |

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | |
|---|---|
| **Analyst** Mike Kile | Avg. Tot. Stabilizers **0.42** % |
| Analyst Signature | Stable YES \| Unstable |
| | Comments **CATEGORY: A** |
| Lab. Supervisor Signature | |
| | Actions to be Taken |

CONTAINS HAZARDOUS MATERIALS

# STRAIGHT BILL OF LADING

**NOT NEGOTIABLE** Load 14

RECEIVED, subject to the classification and tariffs in effect on the date of the issue of this Original Bill of Lading.
The property described below, in apparent good order, except as noted (contents and condition of contents of packages unknown) consigned, end destined as indicated below, which said carrier (the word carrier being understood throughout this contract meaning any person or corporation in possession of the property under the contract) agrees to curry to its usual place of delivery of said destination. It on its route, otherwise to deliver to another carrier on the route to said destination. It is mutually agreed, as to each of all or any of said property over all or any portion of said route to destination, and as to each party at any time interested in all or any of said property, that every service lobe performed hereunder shall be subject to all the terms and conditions of the Uniform Domestic Straight Bill of Lading Set forth (t) in Uniform Freight Classification in effect on the date hereof, It this is a rail or rail-water shipment, or (2) in the applicable motor carrier classification or tariff it this is a motor carrier shipment.
Shipper hereby certifies that he is familiar with all the terms and conditions of the said bill of lading, set forth in the classification or tariff which governs the transportation of this shipment, and the sold terms and conditions are hereby agreed to by the shipper and accept for himself and his assigns.

Shipper: Explo Systems, Inc.
1600 Java Road
Minden, LA 71055

Shipper's No. 2871

Shipping Date 3/20/13

At

Purchase Order No.

By RRUK

Freight Charges: Collect _____ Prepaid XXX

Location No. 2478

(Mail or Street Address of Consignee — For purposes of notification only)

Consigned to Austin Powder Co 7-LE-10 Blandy Rd East Camden AR

Fed Lic. 5-AR-103-20-SE-00139

Exp. Date 5/1/15

Destination

State

State Lic.

Exp. Date

County

Customer No.

Route

Charge Account of 1.870.57 0580 F 302

Customer P.O. No.

Rel. No.

| SHIPPED No. of PKGS | SHIPPED No. of UNITS | PROPER SHIPPING NAME AND HAZARD CLASS | RETURNED No. of PKGS | RETURNED No. of UNITS | EMERGENCY RESPONSE PROCEDURE GUIDE NO. | EXEMPTION DOT-E | HM | Placards Applied to Railcar or Motor Vehicle |
|---|---|---|---|---|---|---|---|---|
| 252/[illegible] | 4 PT | UN0161, Powder, Smokeless, 1.3C, PG II | | | #112 | [illegible] | [illegible] | EXPLOSIVES 1.3 |
| | | | | | | | | |
| | | | | | | | | |
| | | Monica Kelly | | | | | | Truck No. 7306 |
| | | Monica Kelly 03/21/13 | | | | | | Trailer No. 68/0057 |
| | | | | | | | | Mileage |
| | | | | | | | | Total 252 PG PG [illegible] Packages |
| | | | | | | | | Gross Weight # 39000 |
| | | Seal | | | | | | Net Explosive Weight |
| | | 7083813/7083814 | | | | | | 35 250 |

ENTERED 3/21/13

RECEIVED 17AT28 MAR 21 2013 AUSTIN POWDER COMPANY EAST CAMDEN PLANT

This is to certify that the above-named materials are properly classified, described, packaged, marked, and labeled and are in proper condition for transportation, according to the applicable regulations of the Department of Transportation.

Signature [signature]

Invoice No. _____

FOR CHEMICAL EMERGENCY, SPILL, LEAK, FIRE, EXPOSURE OR ACCIDENT CALL CHEMTREC — DAY OR NIGHT
IN THE USA CALL 800-424-9300 IN CANADA (ERP #2-0040) 800-561-3636 ELSEWHERE CALL (703) 527-3887 [illegible]

Permanent Address of Shipper:
**Explo Systems, Inc.**
1600 Java Road
Minden, Louisiana 71055
(318) 382-8700

Per _____

DOT Hazardous Material Handling Number _____
Local Federal Explosives License No. 5-LA-119-20-1A-00057
(Shipper)

I have been offered placards identifying the shipment as Specified in 49CFR Subpart F of Part 172. I have received the above goods in apparent good order and condition.

Received By _____ Date _____
❑ CONSIGNEE ❑ CARRIER

By _____ Date _____
AUTHORIZED RECEIVER

CONTAINS HAZARDOUS MATERIALS

Agent must detach and retain this Shipping Order

019786

EXP_001420

AUSTIN POWDER PACKING LIST

SHIPMENT DATE 3-20-13

B/L# 2871 TRL 6810057

M-6

IND84K-070448 4 PTS
IND84B-070327 1 PT
IND82F-070162 1 PT
IND82H-070168 9 PTS
IND83F-070276 12 PTS
IND81D-070019 3 PTS
IND81L-070078 1 PT
IND81L-070072 10 PTS
IND85C-070512 1 PT

42 PTS WITH 6 FB @140 LBS PER DRUM

TOTAL 35,280 LBS 35,280 lbs

LIONEL KOONS

EXPLO SYSTEMS INC

AUSTIN POWDER PACKING LIST

SHIPMENT DATE 3-20-13

B/L# 2871 TRL 6810057

M-6

IND84K-070448 4 PTS
IND84B-070327 1 PT
IND82F-070162 1 PT
IND82H-070168 9 PTS
IND83F-070276 12 PTS
IND81D-070019 3 PTS
IND81L-070078 1 PT
IND81L-070072 10 PTS
IND85C-070512 1 PT

42 PTS WITH 6 FB @140 LBS PER DRUM

TOTAL 35,280 LBS

LIONEL KOONS

EXPLO SYSTEMS INC

# MOTOR VEHICLE INSPECTION (TRANSPORTING HAZARDOUS MATERIALS)

*(Read Instructions before completing this form.)*

This form applies to all vehicles which must be marked or placarded in accordance with Title 49 CFR.

1. BILL OF LADING/TRANSPORTATION CONTROL NUMBER: 2571

| SECTION 1 - DOCUMENTATION | ORIGIN a. | DESTINATION b. |
|---|---|---|
| 2. CARRIER/GOVERNMENT ORGANIZATION | RRWK | |
| 3. DATE/TIME OF INSPECTION | 3/20/13 | |
| 4. LOCATION OF INSPECTION | EXPLO SYSTEMS INC | |
| 5. OPERATOR(S) NAME(S) | PRADO, THOMAS | |
| 6. OPERATOR(S) LICENSE NUMBER(S) | P320-825-49-0060-0 FL | |
| 7. MEDICAL EXAMINER'S CERTIFICATE* | 2/25/15 | |

8. *(X if satisfactory at origin)*

| | | | | | |
|---|---|---|---|---|---|
| a. MILITARY HAZMAT ENDORSEMENT | | d. ERG OR EQUIVALENT COMMERCIAL: | YES | NO | |
| b. VALID LEASE* | | e. DRIVER'S VEHICLE INSPECTION REPORT* | | | |
| c. ROUTE PLAN | ✓ | f. COPY OF 49 CFR PART 397 | | | |

9. CVSA DECAL DISPLAYED ON COMMERCIAL EQUIPMENT*

| | YES | NO |
|---|---|---|
| a. TRUCK/TRACTOR | ✓ | |
| b. TRAILER | ✓ | |

## SECTION II - MECHANICAL INSPECTION

*All items shall be checked on empty equipment prior to loading. Items with an asterisk shall be checked on all incoming loaded equipment.*

10. TYPE OF VEHICLE(S): TRACTOR / TRAILER / DROM

11. VEHICLE NUMBER(S): TRAC #7304 / TRL # 6810057

| 12. PART INSPECTED *(X as applicable)* | ORIGIN (1) SAT | ORIGIN (1) UNSAT | DESTINATION (2) SAT | DESTINATION (2) UNSAT | | ORIGIN (1) SAT | ORIGIN (1) UNSAT | DESTINATION (2) SAT | DESTINATION (2) UNSAT | COMMENTS (3) |
|---|---|---|---|---|---|---|---|---|---|---|
| a. SPARE ELECTRICAL FUSES | | | | | k. EXHAUST SYSTEM | | | | | |
| b. HORN OPERATIVE | | | | | l. BRAKE SYSTEM* | | | | | |
| c. STEERING SYSTEM | | | | | m. SUSPENSION | | | | | |
| d. WINDSHIELD/WIPERS | | | | | n. COUPLING DEVICES | | | | | |
| e. MIRRORS | | | | | o. CARGO SPACE | | | | | |
| f. WARNING EQUIPMENT | | | | | p. LANDING GEAR* | | | | | |
| g. FIRE EXTINGUISHER* | | | | | q. TIRES, WHEELS, RIMS | | | | | |
| h. ELECTRICAL WIRING | | | | | r. TAILGATE/DOORS* | | | | | |
| i. LIGHTS AND REFLECTORS | | | | | s. TARPAULIN* | N/A | | | | |
| j. FUEL SYSTEM* | | | | | t. OTHER *(Specify)* | | | | | |

13. INSPECTION RESULTS *(X one)* ACCEPTED ✓ REJECTED

*(If rejected give reason under "Remarks". Equipment will be approved if deficiencies are corrected prior to loading.)*

14. SATELLITE MOTOR SURVEILLANCE SYSTEM: *(X one)* ACCEPTED N/A REJECTED

15. REMARKS

16. INSPECTOR SIGNATURE *(Origin)*

17. INSPECTOR SIGNATURE *(Destination)*

## SECTION III - POST LOADING INSPECTION

This section applies to Commercial and Government/Military vehicles. All items will be checked prior to release of loaded equipment and shall be checked on all incoming loaded equipment.

| | ORIGIN (1) SAT | ORIGIN (1) UNSAT | DESTINATION (2) SAT | DESTINATION (2) UNSAT | COMMENTS (3) |
|---|---|---|---|---|---|
| 18. LOADED IAW APPLICABLE SEGREGATION/COMPATIBILITY TABLE OF 49 CFR | | | | | |
| 19. LOAD PROPERLY SECURED TO PREVENT MOVEMENT | | | | | |
| 20. SEALS APPLIED TO CLOSED VEHICLE; TARPAULIN APPLIED ON OPEN EQUIPMENT | | | | | |
| 21. PROPER PLACARDS APPLIED | | | | | |
| 22. SHIPPING PAPERS/DD FORM 836 FOR GOVERNMENT VEHICLE SHIPMENTS | N/A | | | | |
| 23. COPY OF DD FORM 626 FOR DRIVER | | | | | |
| 24. SHIPPED UNDER DOT SPECIAL PERMIT 868 | N/A | | | | |

25. INSPECTOR SIGNATURE *(Origin)*

26. DRIVER(S) SIGNATURE *(Origin)*

27. INSPECTOR SIGNATURE *(Destination)*

28. DRIVER(S) SIGNATURE *(Destination)*

Explo Systems, Inc.
1600 Java Road
Minden, LA 71055

# MATERIAL SAFETY DATA SHEET

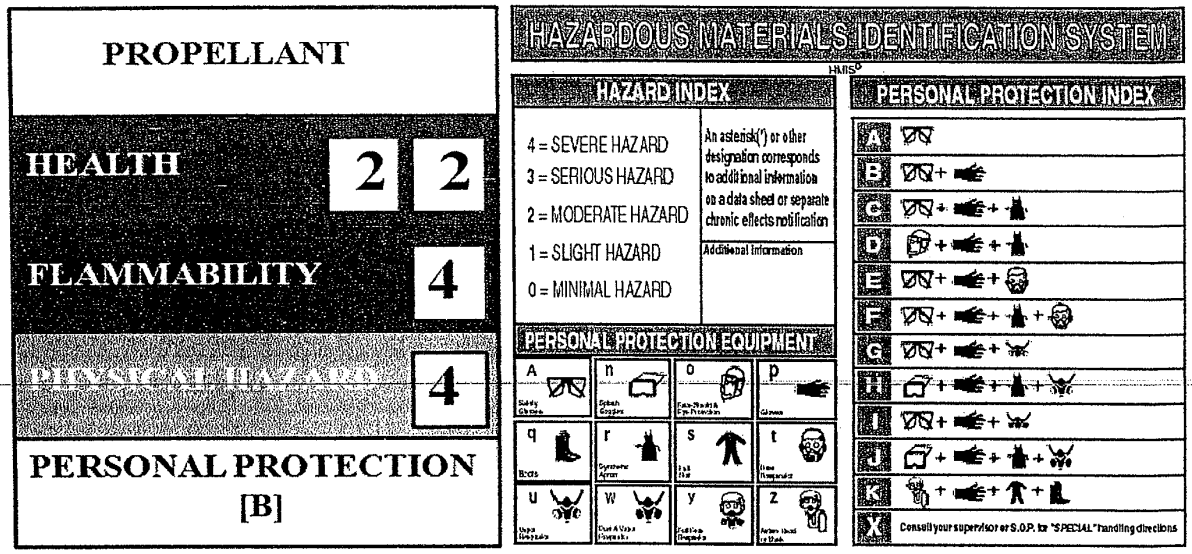
## PROPELLANT (Wetted)

## SECTION I - PRODUCT IDENTIFICATION

PRODUCT NAME: Propellant, Explosive, Solid, Wetted
Technical Information Phone No.: 318 382 8700
For Chemical Emergency (Spill, Fire, Exposure or Accident) call CHEMTREC day or night. Within the US and Canada: +1 800-424-9300. Outside the US and Canada: +1 703-527-3887 (collect calls accepted).

| Ingredient | CAS No. | Wt. % | OSHA PEL<br>ACGIH TLV<br>EPA RQ (if defined)<br>DOT RQ (if defined) |
|---|---|---|---|
| Dibutyl Phthalate | 84-74-2 | 3.00 | OSHA PEL 5 mg/m$^3$<br>ACGIH TLV 5 mg/m$^3$<br>EPA RQ 10 lbs<br>DOT RQ 10 lbs |
| Diphenylamine | 122-39-4 | 1.00 | OSHA PEL 10 mg/m$^3$<br>ACGIH TLV 10 mg/m$^3$<br>EPA RQ (none defined)<br>DOT RQ (none defined) |
| Potassium Sulfate | 7778-80-5 | 2.00 | OSHA PEL none published<br>ACGIH TLV none published<br>EPA RQ (none defined)<br>DOT RQ (none defined) |
| Nitrocellulose (flammable solid) | -- | 87.00 | OSHA PEL none published<br>ACGIH TLV none published<br>EPA RQ (none defined)<br>DOT RQ (none defined) |
| Dinitrotoluene | 25321-14-6 | 10.00 | OSHA PEL 10 mg/m$^3$<br>ACGIH TLV 10 mg/m$^3$<br>EPA RQ 10 lbs<br>DOT RQ 10 lbs |

## SECTION II - HAZARDS IDENTIFICATION




Routes of Entry: Inhalation; Skin; Ingestion
Carcinogenicity: None
First Aid Measures: EYES - Immediately flush with copious amount of water (low pressure) for 15 minutes, remove contact lenses; call physician. SKIN - Wash with soap and running water. INGESTION - Contact physician immediately. INHALATION - Remove to fresh air. Treat irritation symptomatically; call physician.
Firefighting Measures: Self-oxidizing, deluge with water. Will not be able to extinguish unless large quantity of water is used in very short time. Use NIOSH/MSHA approved SCBA and full protective equipment; evacuate area.
Unusual Fire/Explosion Hazard: Easily ignited, highly combustible; protect from fire and sparks and extreme heat.
Autoignition: 383°F (195°C)
Hazardous Combustion Products: Oxides of Carbon
Accidental Release Measures: SPILL - Clean immediately with soft (horsehair) brush and conductive rubber or plastic shovel. Use brass or other non-sparking tools and utensils. DO NOT hammer or otherwise cause impact forces to spilled material (explosion or autoignition could occur with impact force being applied).

## SECTION III - HANDLING AND STORAGE

Precautions: Avoid prolonged temperature above 125°F (50°C). Normal storage conditions should be 75°F (21°C) and 50% Humidity. Storage must conform to local, state and federal regulations, specifically: 29 CFR OSHA 1910.109; 27 CFR BATFE 55 subpart K.
Other Special Precautions: Flammable Solid…Keep away from heat, sparks, open flame…Keep containers closed…use with adequate ventilation.
Ventilation: Local and general ventilation necessary to keep air concentration below TLV's.
Personal Protective Equipment: Safety Glasses, Cotton or Leather Gloves, Fire Resistant Coveralls.

## SECTION IV - PHYSICAL AND CHEMICAL PROPERTIES

Specific Gravity: 1.496
Evaporation Rate: <1 (Butylacetate = 1)
Solubility in Water: negligible
Appearance and Odor: Hard Cylinder Perforated, Smooth, Greenish Yellow. Odorless.
Materials to Avoid: Oxides of Nitrogen and Carbon.

Conditions to Avoid: Open Flame, Sparks, Heat, Direct Sunlight.
Hazardous Decomposition Products: Oxides of Carbon

## SECTION V – TRANSPORTATION INFORMATION

DOT Proper Shipping Name: Smokeless Powder (wetted)
Hazard Class: 1.3C
UN No. UN0161
Packing Group: II

## SECTION VI - DISPOSAL CONSIDERATIONS

Disposal must be in accordance with federal, state and local regulations. Burn in open burning ground in accordance with regulatory requirements. It may also be burned in an incinerator approved for explosives.

## DISCLAIMER

The information contained in this MSDS (Material Safety Data Sheet) is based upon available constituent data for the components of **Propellant** and is believed to be correct. However, as this information has been obtained from various sources, including the manufacturers of its components and independent laboratories, it is provided herein without warranty or representation that it is complete, accurate and can be relied upon. Explo Systems, Inc. has not attempted to conceal in any manner the deleterious aspects of this product, and makes no warranty as such. Explo Systems, Inc. cannot anticipate nor control the many situations in which this product or this information may be used; there is no guarantee that the health and safety precautions suggested herein will be proper under all conditions. It is the sole responsibility of each user of the product to determine and comply with the requirements of all applicable laws and regulations regarding its use. This information is given solely for the purposes of safety to persons and property. Any other use of this information is expressly prohibited.

## AUTHOR

This MSDS was prepared by: Ferris Callihan, PE - Director Support Technology - Explo Systems, Inc. - 1600 Java Road - Minden, LA 71055 - Tel 318 382 8700 - E-mail: fcallihan@explosystems.com

U.S. Department
of Transportation

Pipeline and Hazardous
Materials Safety Administration

East Building, PHH – 32
1200 New Jersey Avenue, Southeast
Washington, D.C. 20590

The US Department of Transportation
Competent Authority for the United States

## CLASSIFICATION OF EXPLOSIVES
## FIRST REVISION

Based upon a request by Explo Systems Inc., 1600 Java Road, Minden, LA 71055, United States the following items are classed in accordance with Section 173.56, Title 49, Code of Federal Regulations (49 CFR). A copy of your application, all supporting documentation and a copy of this approval must be retained and made available to DOT upon request.

**U.N. PROPER SHIPPING NAME AND NUMBER:**
Powder, smokeless, UN0161

**U.N. CLASSIFICATION CODE**: 1.3C

| REFERENCE NUMBER | PRODUCT DESIGNATION/PART NUMBER |
|---|---|
| EX2010040603 | Reclaimed M6 Propellant |

**NOTES:** This classification is only valid when the smokeless powder has been tested and found to have sufficient residual stabilizers present per US Army Safety Bulletin: "Inspection of Supplies and Equipment, Ammunition Surveillance Procedures" (SB 742-1). The following packaging methods are assigned:
Packaging Method A: Inner Packaging - Not necessary. Outer Packaging – UN 1G fiberdrum, each containing not more than one hundred and forty (140) pounds of smokeless propellant.
Packaging Method B: Inner Packaging: Flexible static-resistant reinforced plastic cloth and strapping lifting bag, each containing not more than eight hundred and eighty (880) pounds of smokeless propellant. Outer Packaging - UN 4G heavy-wall fiberboard box with a volumetric capacity of 119 gallons or less. (see 49 CFR Section 171.8 Definition for "Non-bulk packaging")

**DATED:** 05/05/2011

Harpreet S Virgh

For Dr. Magdy El-Sibaie
Associate Administrator for Hazardous Materials Safety

Tracking No: 2011040848

Load 14
2871

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND85C070512** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 10 AUGUST 2012** |

| Other Information | Sample Data | | Solvent |
|---|---|---|---|
| M6 Propellant | #1 | 0.50 g 100 ml | ACN |

| Standards (ERG-006) | | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 0.882 | 8.8 | 112.9 | 1.283 |
| 2,4-DNDPA | 50.0 | 3.343 | 910.9 | 0 | 0.000 |
| 2,2' DNDPA | 50.0 | 5.034 | 3858.6 | 22576 | 0.000 |
| 2,4' DNDPA | 50.0 | 7.363 | 1013.2 | 0 | 0.000 |
| 4NDPA | 50.0 | 8.784 | 1647.3 | 59.7 | 0.004 |
| 2NDPA | 50.0 | 9.95 | 2919.6 | 95.5 | 0.003 |
| DPA | 200.0 | 11.386 | 5857.1 | 714.1 | 0.049 |
| N-NitrosoDPA | 75.0 | 12.173 | 1371.4 | 0 | 0.000 |

1.339

| Avg. % Stabilizer for Lot | **1.339** |
|---|---|

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| **Analyst** Takisha Dickerson | Avg. Tot. Stabilizers **1.34** % |
|---|---|
| Analyst Signature TDickerson | Stable YES / Unstable |
| Lab. Supervisor Signature | Comments **CATEGORY: A** |
| | Actions to be Taken |

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND84K070448** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 1 Mar 2012** |

| Other Information | Sample Data | | Solvent |
|---|---|---|---|
| M6 Propellant | #1 | 0.50 g 100 ml | ACN |

| | Standards (ERG-006) | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 0.872 | 13.8 | 97.7 | 0.708 |
| 2,4-DNDPA | 50.0 | 3.42 | 982.9 | 0 | 0.000 |
| 2,2' DNDPA | 50.0 | 5.182 | 2038.4 | 23346 | 0.000 |
| 2,4' DNDPA | 50.0 | 7.465 | 1060.4 | 0 | 0.000 |
| 4NDPA | 50.0 | 8.991 | 1708.9 | 47.8 | 0.003 |
| 2NDPA | 50.0 | 10.17 | 3062.7 | 91.8 | 0.003 |
| DPA | 200.0 | 11.707 | 6061.6 | 816.4 | 0.054 |
| N-NitrosoDPA | 75.0 | 12.518 | 1461.9 | 0 | 0.000 |

| | |
|---|---|
| | 0.768 |
| Avg. % Stabilizer for Lot | **0.768** |

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | |
|---|---|
| **Analyst** Takisha Dickerson | Avg. Tot. Stabilizers **0.77** % |
| Analyst Signature | Stable YES \| Unstable |
| | Comments **CATEGORY: A** |
| Lab. Supervisor Signature | |
| | Actions to be Taken |

Form #150

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND84B070327** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 4 Sep 2012** |

| Other Information | Sample Data | | Solvent |
|---|---|---|---|
| M6 Propellant | #1 | 0.50 g | 100 ml ACN |

| Standards (ERG-006) | | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 0.889 | 48.8 | 501.9 | 1.028 |
| 2,4-DNDPA | 50.0 | 3.418 | 914.3 | 0 | 0.000 |
| 2,2' DNDPA | 50.0 | 5.22 | 777.3 | 23336 | 0.000 |
| 2,4' DNDPA | 50.0 | 7.622 | 980.5 | 0 | 0.000 |
| 4NDPA | 50.0 | 9.134 | 1586.8 | 95.7 | 0.006 |
| 2NDPA | 50.0 | 10.417 | 2826.3 | 104 | 0.004 |
| DPA | 200.0 | 11.797 | 5671.5 | 673.4 | 0.047 |
| N-NitrosoDPA | 75.0 | 12.757 | 1337.5 | 0 | 0.000 |

| | | |
|---|---|---|
| | | 1.086 |
| | Avg. % Stabilizer for Lot | **1.086** |

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | | |
|---|---|---|
| **Analyst** Mike Kile | Avg. Tot. Stabilizers | **1.09** % |
| Analyst Signature | Stable YES | Unstable |
| | Comments | |
| Lab. Supervisor Signature | **CATEGORY:** | **A** |
| | Actions to be Taken | |

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND83F070276** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 4 Sep 2012** |

Other Information
M6 Propellant

| Sample Data | | | Solvent |
|---|---|---|---|
| #1 | 0.50 g | 100 ml | ACN |

| Standards (ERG-006) | | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 0.889 | 48.8 | 578.6 | 1.186 |
| 2,4-DNDPA | 50.0 | 3.418 | 914.3 | 0 | 0.000 |
| 2,2' DNDPA | 50.0 | 5.22 | 777.3 | 23990 | 0.000 |
| 2,4' DNDPA | 50.0 | 7.622 | 980.5 | 0 | 0.000 |
| 4NDPA | 50.0 | 9.134 | 1586.8 | 40.6 | 0.003 |
| 2NDPA | 50.0 | 10.417 | 2826.3 | 88.7 | 0.003 |
| DPA | 200.0 | 11.797 | 5671.5 | 812.6 | 0.057 |
| N-NitrosoDPA | 75.0 | 12.757 | 1337.5 | 0 | 0.000 |
| | | | | | 1.249 |
| | | Avg. % Stabilizer for Lot | | | **1.249** |

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | |
|---|---|
| **Analyst** Mike Kile | Avg. Tot. Stabilizers **1.25** % |
| Analyst Signature | Stable YES / Unstable |
| Lab. Supervisor Signature | Comments **CATEGORY: A** |
| | Actions to be Taken |

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND82H070168** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 1 FEB 2011** |

| Other Information | Sample Data | | Solvent |
|---|---|---|---|
| M6 Propellant | #1 | 0.5000 g 100 ml | ACN |

| Standards (ERG-006) | | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 4.156 | 1116 | 2540.4 | 0.228 |
| 2,4-DNDPA | 50.0 | 9.388 | 1191.2 | 31231.4 | 2.622 |
| 2,2' DNDPA | 50.0 | 10.987 | 1694.7 | 51.5 | 0.000 |
| 2,4' DNDPA | 50.0 | 11.73 | 1272.3 | 143.2 | 0.011 |
| 4NDPA | 50.0 | 12.459 | 2443.3 | 0 | 0.000 |
| 2NDPA | 50.0 | 13.939 | 5852.1 | 838.5 | 0.014 |
| DPA | 200.0 | 15.022 | 1753.1 | 0 | 0.000 |
| N-NitrosoDPA | 75.0 | 18.932 | 2535.1 | 985.4 | 0.000 |

| | |
|---|---|
| | 2.875 |
| Avg. % Stabilizer for Lot | **2.875** |

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | | |
|---|---|---|
| **Analyst** Mike Kile | Avg. Tot. Stabilizers | **2.88** % |
| Analyst Signature | Stable YES | Unstable |
| | Comments | |
| Lab. Supervisor Signature | **CATEGORY:** | **A** |
| | Actions to be Taken | |

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND81L070072** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 29 MAY 2012** |

| Other Information | Sample Data | | Solvent |
|---|---|---|---|
| M6 Propellant | #1 | 0.50 g 100 ml | ACN |

| Standards (ERG-006) | | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 0.86 | 235.9 | 624.2 | 0.265 |
| 2,4-DNDPA | 50.0 | 3.398 | 913.2 | 0 | 0.000 |
| 2,2' DNDPA | 50.0 | 5.133 | 1007.2 | 37338 | 0.000 |
| 2,4' DNDPA | 50.0 | 7.409 | 1002.4 | 0 | 0.000 |
| 4NDPA | 50.0 | 8.917 | 1612.8 | 156.8 | 0.010 |
| 2NDPA | 50.0 | 10.112 | 2882.2 | 297.6 | 0.010 |
| DPA | 200.0 | 11.607 | 5642.3 | 1100.9 | 0.078 |
| N-NitrosoDPA | 75.0 | 12.414 | 1351.4 | | 0.000 |
| | | | | | 0.363 |
| | | | Avg. % Stabilizer for Lot | | **0.363** |

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | |
|---|---|
| **Analyst** Takisha Dickerson | Avg. Tot. Stabilizers **0.36** % |
| Analyst Signature | Stable YES / Unstable |
| | Comments **CATEGORY: A** |
| Lab. Supervisor Signature | |
| | Actions to be Taken |

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND81D070019** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 29 MAY 2012** |

| Other Information | Sample Data | | Solvent |
|---|---|---|---|
| M6 Propellant | #1 | 0.50 g 100 ml | ACN |

| | Standards (ERG-006) | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 0.86 | 235.9 | 525.7 | 0.223 |
| 2,4-DNDPA | 50.0 | 3.398 | 913.2 | 0 | 0.000 |
| 2,2' DNDPA | 50.0 | 5.133 | 1007.2 | 37577 | 0.000 |
| 2,4' DNDPA | 50.0 | 7.409 | 1002.4 | 0 | 0.000 |
| 4NDPA | 50.0 | 8.917 | 1612.8 | 186.9 | 0.012 |
| 2NDPA | 50.0 | 10.112 | 2882.2 | 282.1 | 0.010 |
| DPA | 200.0 | 11.607 | 5642.3 | 917.9 | 0.065 |
| N-NitrosoDPA | 75.0 | 12.414 | 1351.4 | | 0.000 |

| | |
|---|---|
| | 0.309 |
| Avg. % Stabilizer for Lot | **0.309** |

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | |
|---|---|
| **Analyst** Takisha Dickerson | Avg. Tot. Stabilizers **0.31** % |
| Analyst Signature | Stable YES / Unstable |
| Lab. Supervisor Signature | Comments **CATEGORY: A** |
| | Actions to be Taken |

CONTAINS HAZARDOUS MATERIALS

# STRAIGHT BILL OF LADING

**NOT NEGOTIABLE** Load 15

RECEIVED, subject to the classification and tariffs in effect on the date of the issue of this Original Bill of Lading.
The property described below, in apparent good order, except as noted (contents and condition of contents of packages unknown) consigned, end destined as indicated below, which said carrier (the word carrier being understood throughout this contract meaning any person or corporation in possession of the property under the contract) agrees to curry to its usual place of delivery of said destination. It on its route, otherwise to deliver to another carrier on the route to said destination. It is mutually agreed, as to each of all or any of said property over all or any portion of said route to destination, and as to each party at any time interested in all or any of said property, that every service lobe performed hereunder shall be subject to all the terms and conditions of the Uniform Domestic Straight Bill of Lading Set forth (t) in Uniform Freight Classification in effect on the date hereof, It this is a rail or rail-water shipment, or (2) in the applicable motor carrier classification or tariff it this is a motor carrier shipment.

Shipper hereby certifies that he is familiar with all the terms and conditions of the said bill of lading, set forth in the classification or tariff which governs the transportation of this shipment, and the sold terms and conditions are hereby agreed to by the shipper and accept for himself and his assigns.

Shipper: Explo Systems, Inc.
1600 Java Road
Minden, LA 71055

Shipper's No. 2869

Shipping Date 3/19/13

At

Purchase Order No.

By R/R – Aatco  Freight Charges: Collect _____ Prepaid XXX  Location No. 2431

(Mail or Street Address of Consignee — For purposes of notification only)

Consigned to Austin Powder Co  Fed Lic. 5-AR-103-20-5E-00139  Exp. Date 5/1/15

Destination 7-LC-10 Blandy Rd  State  State Lic.  Exp. Date

County East Camden AR  Customer No.

Route

Charge Account of 1-870-574-0580 ex 302  Customer P.O. No.  Rel. No.

| SHIPPED No. of PKGS | SHIPPED No. of UNITS | PROPER SHIPPING NAME AND HAZARD CLASS | RETURNED No. of PKGS | RETURNED No. of UNITS | EMERGENCY RESPONSE PROCEDURE GUIDE NO. | EXEMPTION ~~DOT-E~~ | H M | Placards Applied to Railcar or Motor Vehicle |
|---|---|---|---|---|---|---|---|---|
| 252/16 | 42pt | UN0161, Powder, Smokeless, 1.3C, PG II | | | #112 | 2010040603 | X Y | EXPLOSIVES 1.3 |
| | | | | | | | | |
| | | | | | | | | |
| | | Monica Kelly | | | | | | Truck No. 7306 |
| | | Monica Kelly 03/21/13 | | | | | | Trailer No. 1810004 |
| | | | | | | | | Mileage |
| | | ENTERED 3/21/13 | | | | | | Total 252 16 FD @ 140 LBS EA Packages |
| | | | | | | | | Gross Weight # 39,000 |
| | | Seal # | | | | | | Net Explosive Weight |
| | | 7083809/7083810 | | | | | | 35,280 |

RECEIVED
17A730
MAR 21 2013
AUSTIN POWDER COMPANY
EAST CAMDEN PLANT

This is to certify that the above-named materials are properly classified, described, packaged, marked, and labeled and are in proper condition for transportation, according to the applicable regulations of the Department of Transportation.

Signature [signature]  Invoice No. _____

FOR CHEMICAL EMERGENCY, SPILL, LEAK, FIRE, EXPOSURE OR ACCIDENT CALL CHEMTREC — DAY OR NIGHT
IN THE USA CALL 800-424-9300  IN CANADA (ERP #2-0040) 800-561-3636  ELSEWHERE CALL (703) 527-3887  CCN644589

Permanent Address of Shipper:
**Explo Systems, Inc.**
1600 Java Road
Minden, Louisiana 71055
(318) 382-8700

Per _____

DOT Hazardous Material Handling Number _____
Local Federal Explosives License No. 5-LA-119-20-1A-00057
(Shipper)

I have been offered placards identifying the shipment as Specified in 49CFR Subpart F of Part 172. I have received the above goods in apparent good order and condition.

Received By [signature]  Date 3-19-13
❑ CONSIGNEE ❑ CARRIER

By _____  Date _____
AUTHORIZED RECEIVER

CONTAINS HAZARDOUS MATERIALS

019802

EXP_001436

Load 15

AUSTIN POWDER PACKING LIST

SHIPMENT DATE 3-19-13

B/L# 2869 TRL 1810004

M-6

IND83F-070274 2 PTS
IND81G-070061 18 PTS
IND81D-070020 3 PTS
IND84G-070326 2 PTS
IND84L-070454 4 PTS
IND81G-070025 2 PTS
IND82J-070122 2 PTS
IND81D-070019 1 PT
IND82D-070110 3 PTS
IND84K-070452 3 PTS
IND88E-070963 1 PT
IND83M-070322 1 PT
42 PTS WITH 6 FB @140 LBS PER DRUM

TOTAL 35,280 LBS

LIONEL KOONS

EXPLO SYSTEMS INC

# MOTOR VEHICLE INSPECTION (TRANSPORTING HAZARDOUS MATERIALS)

*(Read Instructions before completing this form.)*

This form applies to all vehicles which must be marked or placarded in accordance with Title 49 CFR.

1. BILL OF LADING/TRANSPORTATION CONTROL NUMBER

| SECTION 1 - DOCUMENTATION | ORIGIN a. | DESTINATION b. |
|---|---|---|
| 2. CARRIER/GOVERNMENT ORGANIZATION | RCWK [illegible] | |
| 3. DATE/TIME OF INSPECTION | 3/14/13 | |
| 4. LOCATION OF INSPECTION | EXDO SYSTEMS INC | |
| 5. OPERATOR(S) NAME(S) | PEDRO THOMAS | |
| 6. OPERATOR(S) LICENSE NUMBER(S) | P320825-490-60 FL | |
| 7. MEDICAL EXAMINER'S CERTIFICATE* | 2/25/15 | |

| 8. (X if satisfactory at origin) | | | | 9. CVSA DECAL DISPLAYED ON COMMERCIAL EQUIPMENT* | YES | NO |
|---|---|---|---|---|---|---|
| a. MILITARY HAZMAT ENDORSEMENT | ✓ | d. ERG OR EQUIVALENT COMMERCIAL: | YES | a. TRUCK/TRACTOR | ✓ | |
| b. VALID LEASE* | ✓ | e. DRIVER'S VEHICLE INSPECTION REPORT* | | b. TRAILER | | ✓ |
| c. ROUTE PLAN | ✓ | f. COPY OF 49 CFR PART 397 | | | | |

## SECTION II - MECHANICAL INSPECTION

*All items shall be checked on empty equipment prior to loading. Items with an asterisk shall be checked on all incoming loaded equipment.*

10. TYPE OF VEHICLE(S): TRACTOR / TRAILER / DROM

11. VEHICLE NUMBER(S): TRAC #7306 / TRL # 810004

| 12. PART INSPECTED (X as applicable) | ORIGIN (1) SAT | ORIGIN (1) UNSAT | DESTINATION (2) SAT | DESTINATION (2) UNSAT | | ORIGIN (1) SAT | ORIGIN (1) UNSAT | DESTINATION (2) SAT | DESTINATION (2) UNSAT | COMMENTS (3) |
|---|---|---|---|---|---|---|---|---|---|---|
| a. SPARE ELECTRICAL FUSES | | | | | k. EXHAUST SYSTEM | | | | | |
| b. HORN OPERATIVE | | | | | l. BRAKE SYSTEM* | | | | | |
| c. STEERING SYSTEM | | | | | m. SUSPENSION | | | | | |
| d. WINDSHIELD/WIPERS | | | | | n. COUPLING DEVICES | | | | | |
| e. MIRRORS | | | | | o. CARGO SPACE | | | | | |
| f. WARNING EQUIPMENT | | | | | p. LANDING GEAR* | | | | | |
| g. FIRE EXTINGUISHER* | | | | | q. TIRES, WHEELS, RIMS | | | | | |
| h. ELECTRICAL WIRING | | | | | r. TAILGATE/DOORS* | | | | | |
| i. LIGHTS AND REFLECTORS | | | | | s. TARPAULIN* | N/A | | | | |
| j. FUEL SYSTEM* | | | | | t. OTHER (Specify) | | | | | |

13. INSPECTION RESULTS (X one) ACCEPTED ✓ REJECTED

*(If rejected give reason under "Remarks". Equipment will be approved if deficiencies are corrected prior to loading.)*

14. SATELLITE MOTOR SURVEILLANCE SYSTEM: (X one) ACCEPTED N/A REJECTED

15. REMARKS

16. INSPECTOR SIGNATURE *(Origin)* [signature]

17. INSPECTOR SIGNATURE *(Destination)*

## SECTION III - POST LOADING INSPECTION

This section applies to Commercial and Government/Military vehicles. All items will be checked prior to release of loaded equipment and shall be checked on all incoming loaded equipment.

| | ORIGIN (1) SAT | ORIGIN (1) UNSAT | DESTINATION (2) SAT | DESTINATION (2) UNSAT | COMMENTS (3) |
|---|---|---|---|---|---|
| 18. LOADED IAW APPLICABLE SEGREGATION/COMPATIBILITY TABLE OF 49 CFR | | | | | |
| 19. LOAD PROPERLY SECURED TO PREVENT MOVEMENT | | | | | |
| 20. SEALS APPLIED TO CLOSED VEHICLE; TARPAULIN APPLIED ON OPEN EQUIPMENT | | | | | |
| 21. PROPER PLACARDS APPLIED | | | | | |
| 22. SHIPPING PAPERS/DD FORM 836 FOR GOVERNMENT VEHICLE SHIPMENTS | N/A | | | | |
| 23. COPY OF DD FORM 626 FOR DRIVER | | | | | |
| 24. SHIPPED UNDER DOT SPECIAL PERMIT 868 | N/A | | | | |

25. INSPECTOR SIGNATURE *(Origin)* [signature]

26. DRIVER(S) SIGNATURE *(Origin)* [signature]

27. INSPECTOR SIGNATURE *(Destination)*

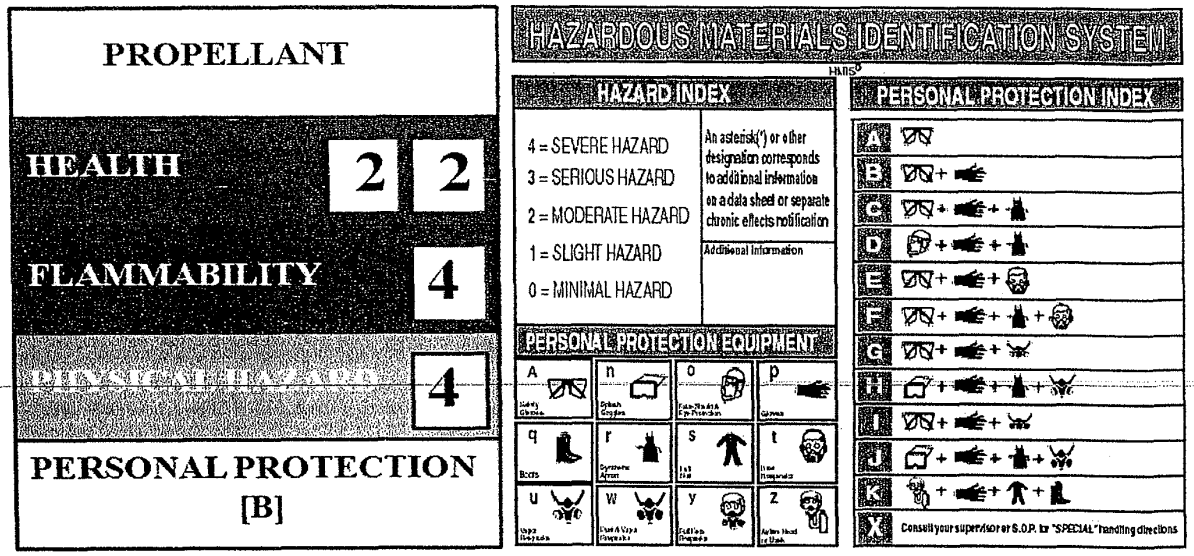
28. DRIVER(S) SIGNATURE *(Destination)*



019804

EXP_001438

## SECTION II - HAZARDS IDENTIFICATION




Routes of Entry: Inhalation; Skin; Ingestion
Carcinogenicity: None
First Aid Measures: EYES - Immediately flush with copious amount of water (low pressure) for 15 minutes, remove contact lenses; call physician. SKIN - Wash with soap and running water. INGESTION - Contact physician immediately. INHALATION - Remove to fresh air. Treat irritation symptomatically; call physician.
Firefighting Measures: Self-oxidizing, deluge with water. Will not be able to extinguish unless large quantity of water is used in very short time. Use NIOSH/MSHA approved SCBA and full protective equipment; evacuate area.
Unusual Fire/Explosion Hazard: Easily ignited, highly combustible; protect from fire and sparks and extreme heat.
Autoignition: 383°F (195°C)
Hazardous Combustion Products: Oxides of Carbon
Accidental Release Measures: SPILL - Clean immediately with soft (horsehair) brush and conductive rubber or plastic shovel. Use brass or other non-sparking tools and utensils. DO NOT hammer or otherwise cause impact forces to spilled material (explosion or autoignition could occur with impact force being applied).

## SECTION III - HANDLING AND STORAGE

Precautions: Avoid prolonged temperature above 125°F (50°C). Normal storage conditions should be 75°F (21°C) and 50% Humidity. Storage must conform to local, state and federal regulations, specifically: 29 CFR OSHA 1910.109; 27 CFR BATFE 55 subpart K.
Other Special Precautions: Flammable Solid…Keep away from heat, sparks, open flame…Keep containers closed…use with adequate ventilation.
Ventilation: Local and general ventilation necessary to keep air concentration below TLV's.
Personal Protective Equipment: Safety Glasses, Cotton or Leather Gloves, Fire Resistant Coveralls.

## SECTION IV - PHYSICAL AND CHEMICAL PROPERTIES

Specific Gravity: 1.496
Evaporation Rate: <1 (Butylacetate = 1)
Solubility in Water: negligible
Appearance and Odor: Hard Cylinder Perforated, Smooth, Greenish Yellow. Odorless.
Materials to Avoid: Oxides of Nitrogen and Carbon.

Conditions to Avoid: Open Flame, Sparks, Heat, Direct Sunlight.
Hazardous Decomposition Products: Oxides of Carbon

## SECTION V – TRANSPORTATION INFORMATION

DOT Proper Shipping Name: Smokeless Powder (wetted)
Hazard Class: 1.3C
UN No. UN0161
Packing Group: II

## SECTION VI - DISPOSAL CONSIDERATIONS

Disposal must be in accordance with federal, state and local regulations. Burn in open burning ground in accordance with regulatory requirements. It may also be burned in an incinerator approved for explosives.

## DISCLAIMER

The information contained in this MSDS (Material Safety Data Sheet) is based upon available constituent data for the components of **Propellant** and is believed to be correct. However, as this information has been obtained from various sources, including the manufacturers of its components and independent laboratories, it is provided herein without warranty or representation that it is complete, accurate and can be relied upon. Explo Systems, Inc. has not attempted to conceal in any manner the deleterious aspects of this product, and makes no warranty as such. Explo Systems, Inc. cannot anticipate nor control the many situations in which this product or this information may be used; there is no guarantee that the health and safety precautions suggested herein will be proper under all conditions. It is the sole responsibility of each user of the product to determine and comply with the requirements of all applicable laws and regulations regarding its use. This information is given solely for the purposes of safety to persons and property. Any other use of this information is expressly prohibited.

## AUTHOR

This MSDS was prepared by: Ferris Callihan, PE - Director Support Technology - Explo Systems, Inc. - 1600 Java Road - Minden, LA 71055 - Tel 318 382 8700 - E-mail: fcallihan@explosystems.com

U.S. Department
of Transportation

Pipeline and Hazardous
Materials Safety Administration

East Building, PHH – 32
1200 New Jersey Avenue, Southeast
Washington, D.C. 20590

The US Department of Transportation
Competent Authority for the United States

## CLASSIFICATION OF EXPLOSIVES
## FIRST REVISION

Based upon a request by Explo Systems Inc., 1600 Java Road, Minden, LA 71055, United States the following items are classed in accordance with Section 173.56, Title 49, Code of Federal Regulations (49 CFR). A copy of your application, all supporting documentation and a copy of this approval must be retained and made available to DOT upon request.

**U.N. PROPER SHIPPING NAME AND NUMBER:**
Powder, smokeless, UN0161

**U.N. CLASSIFICATION CODE**: 1.3C

| REFERENCE NUMBER | PRODUCT DESIGNATION/PART NUMBER |
|---|---|
| EX2010040603 | Reclaimed M6 Propellant |

**NOTES:** This classification is only valid when the smokeless powder has been tested and found to have sufficient residual stabilizers present per US Army Safety Bulletin: "Inspection of Supplies and Equipment, Ammunition Surveillance Procedures" (SB 742-1). The following packaging methods are assigned:
Packaging Method A: Inner Packaging - Not necessary. Outer Packaging – UN 1G fiberdrum, each containing not more than one hundred and forty (140) pounds of smokeless propellant.
Packaging Method B: Inner Packaging: Flexible static-resistant reinforced plastic cloth and strapping lifting bag, each containing not more than eight hundred and eighty (880) pounds of smokeless propellant. Outer Packaging - UN 4G heavy-wall fiberboard box with a volumetric capacity of 119 gallons or less. (see 49 CFR Section 171.8 Definition for "Non-bulk packaging")

**DATED:** 05/05/2011

For Dr. Magdy El-Sibaie
Associate Administrator for Hazardous Materials Safety

Tracking No: 2011040848



019807

EXP_001441

## POTENTIAL HAZARDS

### FIRE OR EXPLOSION

- **MAY EXPLODE AND THROW FRAGMENTS 1600 meters (1 MILE) OR MORE IF FIRE REACHES CARGO.**
- **For information on "Compatibility Group" letters, refer to Glossary section.**

### HEALTH

- Fire may produce irritating, corrosive and/or toxic gases.

## PUBLIC SAFETY

- **CALL Emergency Response Telephone Number on Shipping Paper first. If Shipping Paper not available or no answer, refer to appropriate telephone number listed on the inside back cover.**
- Isolate spill or leak area immediately for at least 500 meters (1/3 mile) in all directions.
- Move people out of line of sight of the scene and away from windows.
- Keep unauthorized personnel away.
- Stay upwind.
- Ventilate closed spaces before entering.

### PROTECTIVE CLOTHING

- Wear positive pressure self-contained breathing apparatus (SCBA).
- Structural firefighters' protective clothing will only provide limited protection.

### EVACUATION

**Large Spill**

- **Consider initial evacuation for 800 meters (1/2 mile) in all directions.**

**Fire**

- If rail car or trailer is involved in a fire and heavily encased explosives such as bombs or artillery projectiles are suspected, ISOLATE for 1600 meters (1 mile) in all directions; also, initiate evacuation including emergency responders for 1600 meters (1 mile) in all directions.
- When heavily encased explosives are not involved, evacuate the area for 800 meters (1/2 mile) in all directions.

*** For information on "Compatibility Group" letters, refer to the Glossary section.**





## EMERGENCY RESPONSE

### FIRE

**CARGO Fire**

- **DO NOT fight fire when fire reaches cargo! Cargo may EXPLODE!**
- Stop all traffic and clear the area for at least 1600 meters (1 mile) in all directions and let burn.
- **Do not move cargo or vehicle if cargo has been exposed to heat.**

**TIRE or VEHICLE Fire**

- **Use plenty of water - FLOOD it! If water is not available, use $CO_2$, dry chemical or dirt.**
- If possible, and WITHOUT RISK, use unmanned hose holders or monitor nozzles from maximum distance to prevent fire from spreading to cargo area.
- Pay special attention to tire fires as re-ignition may occur. Stand by with extinguisher ready.

### SPILL OR LEAK

- ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area).
- All equipment used when handling the product must be grounded.
- Do not touch or walk through spilled material.
- DO NOT OPERATE RADIO TRANSMITTERS WITHIN 100 meters (330 feet) OF ELECTRIC DETONATORS.
- **DO NOT CLEAN-UP OR DISPOSE OF, EXCEPT UNDER SUPERVISION OF A SPECIALIST.**

### FIRST AID

- Move victim to fresh air. • Call 911 or emergency medical service.
- Give artificial respiration if victim is not breathing.
- Administer oxygen if breathing is difficult.
- Remove and isolate contaminated clothing and shoes.
- In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes.
- Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves.

*** For information on "Compatibility Group" letters, refer to the Glossary section.**



EXP_001442
019808

TS
2869

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND88E070963** | **D533 / M6 propellant** |
| Date of analysis: | **Date:25 AUG 2010** |

| Other Information | Sample Data | | Solvent |
|---|---|---|---|
| M6 Propellant | #1 | 0.5000 g 100 ml | ACN |

| Standards (ERG-006) | | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 2.177 | 146.5 | 1369.8 | 0.935 |
| 2,4-DNDPA | 50.0 | 5.001 | 961.7 | 0 | 0.000 |
| 2,2' DNDPA | 50.0 | 7.038 | 2567.5 | 12491.2 | 0.000 |
| 2,4' DNDPA | 50.0 | 9.931 | 938.5 | 0 | 0.000 |
| 4NDPA | 50.0 | 11.434 | 1325.8 | 0 | 0.000 |
| 2NDPA | 50.0 | 12.813 | 1809.7 | 0 | 0.000 |
| DPA | 200.0 | 14.19 | 4886.9 | 610.3 | 0.050 |
| N-NitrosoDPA | 75.0 | 15.18 | 1296.7 | 0 | 0.000 |

| | | |
|---|---|---|
| | | 0.985 |
| | Avg. % Stabilizer for Lot | **0.985** |

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | |
|---|---|
| **Analyst** Kisha Dickerson | Avg. Tot. Stabilizers **0.98** % |
| Analyst Signature | Stable YES / Unstable |
| Lab. Supervisor Signature | Comments **CATEGORY: A** |
| | Actions to be Taken |

Form #158

Original Print Date:07/19/2010

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND84K070452** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 13 AUGUST 2012** |

| Other Information | Sample Data | | Solvent |
|---|---|---|---|
| M6 Propellant | #1 | 0.50 g | 100 ml ACN |

| Standards (ERG-006) | | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 0.874 | 41.1 | 237.6 | 0.578 |
| 2,4-DNDPA | 50.0 | 3.363 | 1017.6 | 0 | 0.000 |
| 2,2' DNDPA | 50.0 | 5.079 | 4556.2 | 22977 | 0.000 |
| 2,4' DNDPA | 50.0 | 7.471 | 1126.4 | 0 | 0.000 |
| 4NDPA | 50.0 | 8.907 | 1830.9 | 53.4 | 0.003 |
| 2NDPA | 50.0 | 10.084 | 3271.2 | 114.5 | 0.004 |
| DPA | 200.0 | 11.54 | 6554.9 | 610.4 | 0.037 |
| N-NitrosoDPA | 75.0 | 12.349 | 1509.1 | 0 | 0.000 |

| | | |
|---|---|---|
| | | 0.622 |
| Avg. % Stabilizer for Lot | | **0.622** |

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | | |
|---|---|---|
| **Analyst** Takisha Dickerson | Avg. Tot. Stabilizers | **0.62** % |
| Analyst Signature Dickerson | Stable YES | Unstable |
| Lab. Supervisor Signature | Comments **CATEGORY:** **A** | |
| | Actions to be Taken | |

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND84L070454** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 4 MAY 2012** |

| Other Information | Sample Data | | Solvent |
|---|---|---|---|
| M6 Propellant | #1 | 0.50 g 100 ml | ACN |

| Standards (ERG-006) | | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 0.867 | 83.7 | 400.6 | 0.479 |
| 2,4-DNDPA | 50.0 | 3.338 | 1156.5 | 0 | 0.000 |
| 2,2' DNDPA | 50.0 | 5.017 | 5373.7 | 23342 | 0.000 |
| 2,4' DNDPA | 50.0 | 7.147 | 1263.8 | 0 | 0.000 |
| 4NDPA | 50.0 | 8.595 | 2061.4 | 48.3 | 0.002 |
| 2NDPA | 50.0 | 9.687 | 3694.9 | 94.1 | 0.003 |
| DPA | 200.0 | 11.119 | 7683.7 | 721.2 | 0.038 |
| N-NitrosoDPA | 75.0 | 11.99 | 2133.1 | | 0.000 |

| | |
|---|---|
| Avg. % Stabilizer for Lot | 0.521<br>**0.521** |

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | |
|---|---|
| **Analyst** Takisha Dickerson | Avg. Tot. Stabilizers **0.52** % |
| Analyst Signature | Stable YES / Unstable |
| Lab. Supervisor Signature | Comments<br>**CATEGORY: A** |
| | Actions to be Taken |

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND84G070326** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 3 MAY 2012** |

| Other Information | Sample Data | | Solvent |
|---|---|---|---|
| M6 Propellant | #1 | 0.50 g 100 ml | ACN |

| | Standards (ERG-006) | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 0.867 | 104.4 | 324.4 | 0.311 |
| 2,4-DNDPA | 50.0 | 3.335 | 1105.6 | 0 | 0.000 |
| 2,2' DNDPA | 50.0 | 5.007 | 4986.7 | 23068 | 0.000 |
| 2,4' DNDPA | 50.0 | 7.137 | 1206.9 | 0 | 0.000 |
| 4NDPA | 50.0 | 8.593 | 1969.2 | 87.1 | 0.004 |
| 2NDPA | 50.0 | 9.688 | 3527.8 | 151.4 | 0.004 |
| DPA | 200.0 | 11.153 | 7041.6 | 785.8 | 0.045 |
| N-NitrosoDPA | 75.0 | 11.897 | 1704.5 | | 0.000 |

0.364

| Avg. % Stabilizer for Lot | **0.364** |
|---|---|

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | |
|---|---|
| **Analyst** Takisha Dickerson | Avg. Tot. Stabilizers **0.36** % |
| Analyst Signature | Stable YES / Unstable |
| Lab. Supervisor Signature | Comments **CATEGORY: A** |
| | Actions to be Taken |

Form #159

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND83M070322** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 23 JULY 2010** |

| Other Information | Sample Data | | Solvent |
|---|---|---|---|
| M6 Propellant | #1 | 0.5000 g 100 ml | ACN |

| Standards (ERG-006) | | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 2.1 | 138.2 | 340.6 | 0.251 |
| 2,4-DNDPA | 50.0 | 4.911 | 1162.1 | 283.8 | 0.025 |
| 2,2' DNDPA | 50.0 | 6.723 | 453.3 | 0 | 0.000 |
| 2,4' DNDPA | 50.0 | 9.11 | 1583.4 | 0 | 0.000 |
| 4NDPA | 50.0 | 10.528 | 2068.9 | 0 | 0.000 |
| 2NDPA | 50.0 | 11.725 | 3520.6 | 3386 | 0.098 |
| DPA | 200.0 | 13.111 | 6312.2 | 0 | 0.000 |
| N-NitrosoDPA | 75.0 | 13.888 | 1967 | 0 | 0.000 |

| | | |
|---|---|---|
| | | 0.374 |
| Avg. % Stabilizer for Lot | | **0.374** |

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | |
|---|---|
| **Analyst** MARTY | Avg. Tot. Stabilizers **0.37** % |
| Analyst Signature | Stable YES / Unstable |
| | Comments **CATEGORY: A** |
| Lab. Supervisor Signature | |
| | Actions to be Taken |

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND83F070274** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 27 JULY 2011** |

| Other Information | Sample Data | | Solvent |
|---|---|---|---|
| M6 Propellant | #1 | 0.50 g 100 ml | ACN |

| | Standards (ERG-006) | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 0.694 | 112.8 | 622.1 | 0.552 |
| 2,4-DNDPA | 50.0 | 3.477 | 942.8 | 0 | 0.000 |
| 2,2' DNDPA | 50.0 | 5.339 | 77.4 | 22209 | 0.000 |
| 2,4' DNDPA | 50.0 | 7.842 | 1020.3 | 0 | 0.000 |
| 4NDPA | 50.0 | 9.392 | 1634.2 | 48.5 | 0.003 |
| 2NDPA | 50.0 | 10.693 | 2956.2 | 98.3 | 0.003 |
| DPA | 200.0 | 12.201 | 5630.5 | 451.4 | 0.032 |
| N-NitrosoDPA | 75.0 | 13.103 | 1385.2 | 0 | 0.000 |
| | | | | | 0.590 |
| | | Avg. % Stabilizer for Lot | | | **0.590** |

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | |
|---|---|
| **Analyst** Takisha Dickerson | Avg. Tot. Stabilizers **0.59** % |
| Analyst Signature | Stable YES \| Unstable |
| Lab. Supervisor Signature | Comments **CATEGORY: A** |
| | Actions to be Taken |

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND82D070110** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 27 JULY 2011** |

| Other Information | Sample Data | | Solvent |
|---|---|---|---|
| M6 Propellant | #1 | 0.50 g | 100 ml ACN |

| | Standards (ERG-006) | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 0.694 | 112.8 | 437.7 | 0.388 |
| 2,4-DNDPA | 50.0 | 3.477 | 942.8 | 0 | 0.000 |
| 2,2' DNDPA | 50.0 | 5.339 | 77.4 | 22925 | 0.000 |
| 2,4' DNDPA | 50.0 | 7.842 | 1020.3 | 0 | 0.000 |
| 4NDPA | 50.0 | 9.392 | 1634.2 | 119.1 | 0.007 |
| 2NDPA | 50.0 | 10.693 | 2956.2 | 134.9 | 0.005 |
| DPA | 200.0 | 12.201 | 5630.5 | 218.4 | 0.016 |
| N-NitrosoDPA | 75.0 | 13.103 | 1385.2 | 0 | 0.000 |

| | | |
|---|---|---|
| | | 0.415 |
| | Avg. % Stabilizer for Lot | **0.415** |

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | |
|---|---|
| **Analyst** Mike Kile | Avg. Tot. Stabilizers **0.42** % |
| Analyst Signature | Stable YES / Unstable |
| | Comments **CATEGORY: A** |
| Lab. Supervisor Signature | |
| | Actions to be Taken |

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND81D070019** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 29 MAY 2012** |

| Other Information | Sample Data | | | Solvent |
|---|---|---|---|---|
| M6 Propellant | #1 | 0.50 g | 100 ml | ACN |

| Standards (ERG-006) | | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 0.86 | 235.9 | 525.7 | 0.223 |
| 2,4-DNDPA | 50.0 | 3.398 | 913.2 | 0 | 0.000 |
| 2,2' DNDPA | 50.0 | 5.133 | 1007.2 | 37577 | 0.000 |
| 2,4' DNDPA | 50.0 | 7.409 | 1002.4 | 0 | 0.000 |
| 4NDPA | 50.0 | 8.917 | 1612.8 | 186.9 | 0.012 |
| 2NDPA | 50.0 | 10.112 | 2882.2 | 282.1 | 0.010 |
| DPA | 200.0 | 11.607 | 5642.3 | 917.9 | 0.065 |
| N-NitrosoDPA | 75.0 | 12.414 | 1351.4 | | 0.000 |
| | | | | | 0.309 |
| | | | Avg. % Stabilizer for Lot | | **0.309** |

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | |
|---|---|
| **Analyst** Takisha Dickerson | Avg. Tot. Stabilizers **0.31** % |
| Analyst Signature | Stable YES \| Unstable |
| Lab. Supervisor Signature | Comments **CATEGORY: A** |
| | Actions to be Taken |

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND81D070020** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 10 Feb 2012** |

| Other Information | Sample Data | | Solvent |
|---|---|---|---|
| M6 Propellant | #1 | 0.50 g 100 ml | ACN |

| | Standards (ERG-006) | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 0.868 | 53.7 | 398.1 | 0.741 |
| 2,4-DNDPA | 50.0 | 3.292 | 916.2 | 0 | 0.000 |
| 2,2' DNDPA | 50.0 | 4.936 | 839.4 | 22071 | 0.000 |
| 2,4' DNDPA | 50.0 | 6.943 | 1003.3 | 0 | 0.000 |
| 4NDPA | 50.0 | 8.309 | 1616.5 | 50 | 0.003 |
| 2NDPA | 50.0 | 9.362 | 2912 | 113.3 | 0.004 |
| DPA | 200.0 | 10.749 | 5497.2 | 666 | 0.048 |
| N-NitrosoDPA | 75.0 | 11.362 | 1264.1 | 355.2 | 0.000 |

| | | |
|---|---|---|
| | | 0.797 |
| Avg. % Stabilizer for Lot | | **0.797** |

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | |
|---|---|
| **Analyst** Mike Kile | Avg. Tot. Stabilizers **0.80** % |
| Analyst Signature | Stable YES \| Unstable |
| | Comments **CATEGORY: A** |
| Lab. Supervisor Signature | |
| | Actions to be Taken |

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND81G070025** | **D533 / M6 propellant** |
| Date of analysis: | **Date:20 OCT 2010** |

| Other Information | Sample Data | | Solvent |
|---|---|---|---|
| M6 Propellant | #1 | 0.5000 g 100 ml | ACN |

| Standards (ERG-006) | | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 5.024 | 281.6 | 50.9 | 0.018 |
| 2,4-DNDPA | 50.0 | 10.59 | 329 | 2675.2 | 0.813 |
| 2,2' DNDPA | 50.0 | 12.176 | 376.1 | 0 | 0.000 |
| 2,4' DNDPA | 50.0 | 12.67 | 275.3 | 36.2 | 0.013 |
| 4NDPA | 50.0 | 13.632 | 664.1 | 0 | 0.000 |
| 2NDPA | 50.0 | 14.943 | 1788.8 | 39.7 | 0.002 |
| DPA | 200.0 | 16.114 | 286 | 34.1 | 0.048 |
| N-NitrosoDPA | 75.0 | 19.917 | 329.9 | 0 | 0.000 |

| | | |
|---|---|---|
| | | 0.894 |
| Avg. % Stabilizer for Lot | | **0.894** |

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | | |
|---|---|---|
| **Analyst** Kisha Dickerson | Avg. Tot. Stabilizers | **0.89** % |
| Analyst Signature | Stable YES | Unstable |
| | Comments | |
| Lab. Supervisor Signature | **CATEGORY:** | **A** |
| | Actions to be Taken | |

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND81G070061** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 12 JULY 2011** |

| Other Information | Sample Data | | Solvent |
|---|---|---|---|
| M6 Propellant | #1 | 0.50 g 100 ml | ACN |

| Standards (ERG-006) | | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 0.71 | 111 | 358.1 | 0.323 |
| 2,4-DNDPA | 50.0 | 3.475 | 1001 | 79.1 | 0.008 |
| 2,2' DNDPA | 50.0 | 5.325 | 95 | 18335 | 0.000 |
| 2,4' DNDPA | 50.0 | 7.791 | 1061.3 | 83.2 | 0.008 |
| 4NDPA | 50.0 | 9.345 | 1700.8 | 167.7 | 0.010 |
| 2NDPA | 50.0 | 10.629 | 3041.2 | 330.5 | 0.011 |
| DPA | 200.0 | 12.152 | 5943.4 | 913.3 | 0.061 |
| N-NitrosoDPA | 75.0 | 13.034 | 1443.1 | 111.8 | 0.000 |

| | |
|---|---|
| | 0.421 |
| Avg. % Stabilizer for Lot | **0.421** |

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | |
|---|---|
| **Analyst** Mike Kile | Avg. Tot. Stabilizers **0.42** % |
| Analyst Signature | Stable YES / Unstable |
| | Comments **CATEGORY: A** |
| Lab. Supervisor Signature | |
| | Actions to be Taken |

# STRAIGHT BILL OF LADING

**NOT NEGOTIABLE** Load 16

RECEIVED, subject to the classification and tariffs in effect on the date of the issue of this Original Bill of Lading.
The property described below, in apparent good order, except as noted (contents and condition of contents of packages unknown) consigned, end destined as indicated below which said carrier (the word carrier being understood throughout this contract meaning any person or corporation in possession of the property under the contract) agrees to curr to its usual place of delivery of said destination. It on its route, otherwise to deliver to another carrier on the route to said destination. It is mutually agreed, as to each of all or any c said property over all or any portion of said route to destination, and as to each party at any time interested in all or any of said property, that every service lobe performe hereunder shall be subject to all the terms and conditions of the Uniform Domestic Straight Bill of Lading Set forth (t) in Uniform Freight Classification in effect on the date hereof It this is a rail or rail-water shipment, or (2) in the applicable motor carrier classification or tariff it this is a motor carrier shipment.

Shipper hereby certifies that he is familiar with all the terms and conditions of the said bill of lading, set forth in the classification or tariff which governs the transportation of thi shipment, and the sold terms and conditions are hereby agreed to by the shipper and accept for himself and his assigns.

Shipper: Explo Systems, Inc.
1600 Java Road
Minden, LA 71055

Shipper's No. 2862

Shipping Date 3/17/13

At

Purchase Order No.

By RRUR

Freight Charges: Collect _____ Prepaid XXX

Location No. 2420

(Mail or Street Address of Consignee — For purposes of notification only)

Consigned to Austin Powder Co

Fed Lic. 5-AR-103-20-5E-00139

Exp. Date 5/1/15

Destination 7-LE-10 Blandy Rd East Camden AR

State

State Lic.

Exp. Date

County

Customer No.

Route

Charge Account of 1-870-574 0580 Ex 302

Customer P.O. No.

Rel. No.

| SHIPPED No. of PKGS | SHIPPED No. of UNITS | PROPER SHIPPING NAME AND HAZARD CLASS | RETURNED No. of PKGS | RETURNED No. of UNITS | EMERGENCY RESPONSE PROCEDURE GUIDE NO. | EXEMPTION ~~DOT-E~~ | H M | Placards Applied to Railcar or Motor Vehicle |
|---|---|---|---|---|---|---|---|---|
| 252/16 | 42/11 | UN0161, Powder, Smokeless, 1.3C, PG II | | | #112 | 2010040603 | X | EXPLOSIVES 1.3 |
| | | | | | | | | |
| | | Monica Kelly | | | | | | |
| | | Monica Kelly 3/21/13 | | | | | | Truck No. 6436 |
| | | 1ST LOAD | | | | | | Trailer No. 18477 |
| | | W/O# 214544 | | | | | | Mileage |
| | | ~~[illegible]~~ | | | | | | |
| | | | | | | | | Total 252 16 FD @ 140LB EA |
| | | | | | | | | Packages |
| | | | | | | | | Gross |
| | | | | | | | | Weight # 39,000 |
| | | | | | | | | Net Explosive Weight |
| | | 7083995/7083996 | | | | | | 35,280 |

ENTERED 3/21/13

RECEIVED 17AT28 MAR 21 2013 AUSTIN POWDER COMPANY EAST CAMDEN PLANT

This is to certify that the above-named materials are properly classified, described, packaged, marked, and labeled and are in proper condition for transportatio according to the applicable regulations of the Department of Transportation.

Signature [signature]

Invoice No. _____

FOR CHEMICAL EMERGENCY, SPILL, LEAK, FIRE, EXPOSURE OR ACCIDENT CALL CHEMTREC — DAY OR NIGHT
IN THE USA CALL 800-424-9300 IN CANADA (ERP #2-0040) 800-561-3636 ELSEWHERE CALL (703) 527-3887 CCN644579

Permanent Address of Shipper:
**Explo Systems, Inc.**
1600 Java Road
Minden, Louisiana 71055
(318) 382-8700

Per _____

DOT Hazardous Material Handling Number _____
Local Federal Explosives License No: 5-LA-119-20-1A-00057
(Shipper)

I have been offered placards identifying the shipment as Specified in 49CFR Subpart of Part 172. I have received the above goods in apparent good order and condition.

Received By [signature] Date 3-17-13
☐ CONSIGNEE ☐ CARRIER

By _____ Date _____
AUTHORIZED RECEIVER

CONTAINS HAZARDOUS MATERIALS

CONTAINS HAZARDOUS MATERIALS

019820

EXP_001454

Load 16

AUSTIN POWDER PACKING LIST

SHIPMENT DATE 3-17-13

B/L# 2862 TRL 18477

M-6

IND82E-070115 1 PT
IND86F-070620 3 PTS
IND87H-070847 1 PT
IND84K-070448 7 PTS
IND85K-070598 2 PTS
IND83F-070274 3 PTS
IND84C-070331 4 PTS
IND82M-070274 5 PTS
IND80M-070011 15 PTS
IND80M-070009 1 PT

42 PTS WITH 6 FB @140 LBS PER DRUM

TOTAL 35,280 LBS

LIONEL KOONS

EXPLO SYSTEMS INC

# MOTOR VEHICLE INSPECTION (TRANSPORTING HAZARDOUS MATERIALS)

*(Read Instructions before completing this form.)* 2862

This form applies to all vehicles which must be marked or placarded in accordance with Title 49 CFR.

1. BILL OF LADING/TRANSPORTATION CONTROL NUMBER

| SECTION 1 - DOCUMENTATION | ORIGIN a. | DESTINATION b. |
|---|---|---|
| 2. CARRIER/GOVERNMENT ORGANIZATION | ERVK | |
| 3. DATE/TIME OF INSPECTION | 3/17/13 | |
| 4. LOCATION OF INSPECTION | EXPLO SYSTEMS INC | |
| 5. OPERATOR(S) NAME(S) | [illegible] | |
| 6. OPERATOR(S) LICENSE NUMBER(S) | R20234300[illegible] | |
| 7. MEDICAL EXAMINER'S CERTIFICATE* | 1/3/15 | |

| 8. (X if satisfactory at origin) | | | | 9. CVSA DECAL DISPLAYED ON COMMERCIAL EQUIPMENT* | YES | NO |
|---|---|---|---|---|---|---|
| a. MILITARY HAZMAT ENDORSEMENT | | d. ERG OR EQUIVALENT COMMERCIAL: | YES / NO | a. TRUCK/TRACTOR | | |
| b. VALID LEASE* | | e. DRIVER'S VEHICLE INSPECTION REPORT* | | b. TRAILER | | |
| c. ROUTE PLAN | | f. COPY OF 49 CFR PART 397 | | | | |

## SECTION II - MECHANICAL INSPECTION

*All items shall be checked on empty equipment prior to loading. Items with an asterisk shall be checked on all incoming loaded equipment.*

| 10. TYPE OF VEHICLE(S) | 11. VEHICLE NUMBER(S) |
|---|---|
| TRACTOR / TRAILER / DROM | TRAC # 6436 / TRL # 18477 |

| 12. PART INSPECTED (X as applicable) | ORIGIN (1) SAT | ORIGIN (1) UNSAT | DESTINATION (2) SAT | DESTINATION (2) UNSAT | | ORIGIN (1) SAT | ORIGIN (1) UNSAT | DESTINATION (2) SAT | DESTINATION (2) UNSAT | COMMENTS (3) |
|---|---|---|---|---|---|---|---|---|---|---|
| a. SPARE ELECTRICAL FUSES | | | | | k. EXHAUST SYSTEM | | | | | |
| b. HORN OPERATIVE | | | | | l. BRAKE SYSTEM* | | | | | |
| c. STEERING SYSTEM | | | | | m. SUSPENSION | | | | | |
| d. WINDSHIELD/WIPERS | | | | | n. COUPLING DEVICES | | | | | |
| e. MIRRORS | | | | | o. CARGO SPACE | | | | | |
| f. WARNING EQUIPMENT | | | | | p. LANDING GEAR* | | | | | |
| g. FIRE EXTINGUISHER* | | | | | q. TIRES, WHEELS, RIMS | | | | | |
| h. ELECTRICAL WIRING | | | | | r. TAILGATE/DOORS* | | | | | |
| i. LIGHTS AND REFLECTORS | | | | | s. TARPAULIN* | | | | | |
| j. FUEL SYSTEM* | | | | | t. OTHER (Specify) | | | | | |

13. INSPECTION RESULTS (X one) ACCEPTED ✓ REJECTED

*(If rejected give reason under "Remarks". Equipment will be approved if deficiencies are corrected prior to loading.)*

14. SATELLITE MOTOR SURVEILLANCE SYSTEM: (X one) ACCEPTED N/A REJECTED

15. REMARKS

16. INSPECTOR SIGNATURE *(Origin)* [signature]

17. INSPECTOR SIGNATURE *(Destination)*

## SECTION III - POST LOADING INSPECTION

This section applies to Commercial and Government/Military vehicles. All items will be checked prior to release of loaded equipment and shall be checked on all incoming loaded equipment.

| | ORIGIN (1) SAT | ORIGIN (1) UNSAT | DESTINATION (2) SAT | DESTINATION (2) UNSAT | COMMENTS (3) |
|---|---|---|---|---|---|
| 18. LOADED IAW APPLICABLE SEGREGATION/COMPATIBILITY TABLE OF 49 CFR | | | | | |
| 19. LOAD PROPERLY SECURED TO PREVENT MOVEMENT | | | | | |
| 20. SEALS APPLIED TO CLOSED VEHICLE; TARPAULIN APPLIED ON OPEN EQUIPMENT | | | | | |
| 21. PROPER PLACARDS APPLIED | | | | | |
| 22. SHIPPING PAPERS/DD FORM 836 FOR GOVERNMENT VEHICLE SHIPMENTS | N/A | | | | |
| 23. COPY OF DD FORM 626 FOR DRIVER | | | | | |
| 24. SHIPPED UNDER DOT SPECIAL PERMIT 868 | N/A | | | | |

25. INSPECTOR SIGNATURE *(Origin)* [signature]

26. DRIVER(S) SIGNATURE *(Origin)* [signature]

27. INSPECTOR SIGNATURE *(Destination)*

28. DRIVER(S) SIGNATURE *(Destination)*



019822

EXP_001456

Explo Systems, Inc.
1600 Java Road
Minden, LA 71055

# MATERIAL SAFETY DATA SHEET

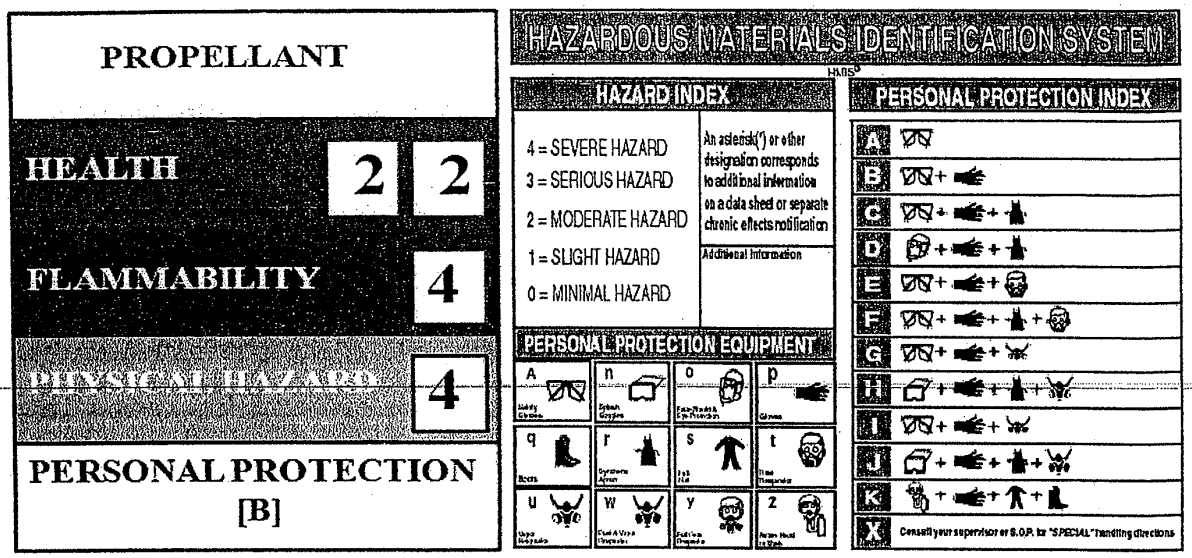
## PROPELLANT (Wetted)

## SECTION I - PRODUCT IDENTIFICATION

PRODUCT NAME: Propellant, Explosive, Solid, Wetted
Technical Information Phone No.: 318.382.8700
For Chemical Emergency (Spill, Fire, Exposure or Accident) call CHEMTREC day or night. Within the US and Canada: +1 800-424-9300. Outside the US and Canada: +1 703-527-3887 (collect calls accepted).

| Ingredient | CAS No. | Wt. % | OSHA PEL<br>ACGIH TLV<br>EPA RQ (if defined)<br>DOT RQ (if defined) |
|---|---|---|---|
| Dibutyl Phthalate | 84-74-2 | 3.00 | OSHA PEL 5 mg/m$^3$<br>ACGIH TLV 5 mg/m$^3$<br>EPA RQ 10 lbs<br>DOT RQ 10 lbs |
| Diphenylamine | 122-39-4 | 1.00 | OSHA PEL 10 mg/m$^3$<br>ACGIH TLV 10 mg/m$^3$<br>EPA RQ (none defined)<br>DOT RQ (none defined) |
| Potassium Sulfate | 7778-80-5 | 2.00 | OSHA PEL none published<br>ACGIH TLV none published<br>EPA RQ (none defined)<br>DOT RQ (none defined) |
| Nitrocellulose (flammable solid) | -- | 87.00 | OSHA PEL none published<br>ACGIH TLV none published<br>EPA RQ (none defined)<br>DOT RQ (none defined) |
| Dinitrotoluene | 25321-14-6 | 10.00 | OSHA PEL 10 mg/m$^3$<br>ACGIH TLV 10 mg/m$^3$<br>EPA RQ 10 lbs<br>DOT RQ 10 lbs |

## SECTION II - HAZARDS IDENTIFICATION




Routes of Entry: Inhalation; Skin; Ingestion
Carcinogenicity: None
First Aid Measures: EYES - Immediately flush with copious amount of water (low pressure) for 15 minutes, remove contact lenses; call physician. SKIN - Wash with soap and running water. INGESTION - Contact physician immediately. INHALATION - Remove to fresh air. Treat irritation symptomatically; call physician.
Firefighting Measures: Self-oxidizing, deluge with water. Will not be able to extinguish unless large quantity of water is used in very short time. Use NIOSH/MSHA approved SCBA and full protective equipment; evacuate area.
Unusual Fire/Explosion Hazard: Easily ignited, highly combustible; protect from fire and sparks and extreme heat.
Autoignition: 383°F (195°C)
Hazardous Combustion Products: Oxides of Carbon
Accidental Release Measures: SPILL - Clean immediately with soft (horsehair) brush and conductive rubber or plastic shovel. Use brass or other non-sparking tools and utensils. DO NOT hammer or otherwise cause impact forces to spilled material (explosion or autoignition could occur with impact force being applied).

## SECTION III - HANDLING AND STORAGE

Precautions: Avoid prolonged temperature above 125°F (50°C). Normal storage conditions should be 75°F (21°C) and 50% Humidity. Storage must conform to local, state and federal regulations, specifically: 29 CFR OSHA 1910.109; 27 CFR BATFE 55 subpart K.
Other Special Precautions: Flammable Solid…Keep away from heat, sparks, open flame…Keep containers closed…use with adequate ventilation.
Ventilation: Local and general ventilation necessary to keep air concentration below TLV's.
Personal Protective Equipment: Safety Glasses, Cotton or Leather Gloves, Fire Resistant Coveralls.

## SECTION IV - PHYSICAL AND CHEMICAL PROPERTIES

Specific Gravity: 1.496
Evaporation Rate: <1 (Butylacetate = 1)
Solubility in Water: negligible
Appearance and Odor: Hard Cylinder Perforated, Smooth, Greenish Yellow. Odorless.
Materials to Avoid: Oxides of Nitrogen and Carbon.

Conditions to Avoid: Open Flame, Sparks, Heat, Direct Sunlight.
Hazardous Decomposition Products: Oxides of Carbon

## SECTION V – TRANSPORTATION INFORMATION

DOT Proper Shipping Name: Smokeless Powder (wetted)
Hazard Class: 1.3C
UN No. UN0161
Packing Group: II

## SECTION VI - DISPOSAL CONSIDERATIONS

Disposal must be in accordance with federal, state and local regulations. Burn in open burning ground in accordance with regulatory requirements. It may also be burned in an incinerator approved for explosives.

## DISCLAIMER

The information contained in this MSDS (Material Safety Data Sheet) is based upon available constituent data for the components of **Propellant** and is believed to be correct. However, as this information has been obtained from various sources, including the manufacturers of its components and independent laboratories, it is provided herein without warranty or representation that it is complete, accurate and can be relied upon. Explo Systems, Inc. has not attempted to conceal in any manner the deleterious aspects of this product, and makes no warranty as such. Explo Systems, Inc. cannot anticipate nor control the many situations in which this product or this information may be used; there is no guarantee that the health and safety precautions suggested herein will be proper under all conditions. It is the sole responsibility of each user of the product to determine and comply with the requirements of all applicable laws and regulations regarding its use. This information is given solely for the purposes of safety to persons and property. Any other use of this information is expressly prohibited.

## AUTHOR

This MSDS was prepared by: Ferris Callihan, PE - Director Support Technology - Explo Systems, Inc. - 1600 Java Road - Minden, LA 71055 - Tel 318 382 8700 - E-mail: fcallihan@explosystems.com

U.S. Department
of Transportation

Pipeline and Hazardous
Materials Safety Administration

East Building, PHH – 32
1200 New Jersey Avenue, Southeast
Washington, D.C. 20590

The US Department of Transportation
Competent Authority for the United States

## CLASSIFICATION OF EXPLOSIVES
## FIRST REVISION

Based upon a request by Explo Systems Inc., 1600 Java Road, Minden, LA 71055, United States the following items are classed in accordance with Section 173.56, Title 49, Code of Federal Regulations (49 CFR). A copy of your application, all supporting documentation and a copy of this approval must be retained and made available to DOT upon request.

**U.N. PROPER SHIPPING NAME AND NUMBER:**
Powder, smokeless, UN0161

**U.N. CLASSIFICATION CODE**: 1.3C

| **REFERENCE NUMBER** | **PRODUCT DESIGNATION/PART NUMBER** |
|---|---|
| EX2010040603 | Reclaimed M6 Propellant |

**NOTES:** This classification is only valid when the smokeless powder has been tested and found to have sufficient residual stabilizers present per US Army Safety Bulletin: "Inspection of Supplies and Equipment, Ammunition Surveillance Procedures" (SB 742-1). The following packaging methods are assigned:
Packaging Method A: Inner Packaging - Not necessary. Outer Packaging – UN 1G fiberdrum, each containing not more than one hundred and forty (140) pounds of smokeless propellant.
Packaging Method B: Inner Packaging: Flexible static-resistant reinforced plastic cloth and strapping lifting bag, each containing not more than eight hundred and eighty (880) pounds of smokeless propellant. Outer Packaging - UN 4G heavy-wall fiberboard box with a volumetric capacity of 119 gallons or less. (see 49 CFR Section 171.8 Definition for "Non-bulk packaging")

**DATED:** 05/05/2011

Harpreet S Singh

For Dr. Magdy El-Sibaie
Associate Administrator for Hazardous Materials Safety

Tracking No: 2011040848



019826

EXP_001460

Load 16

2862

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND85K070598** | **D533 / M6 propellant** |
| Date of analysis: | **Date:25 AUG 2010** |

| Other Information | Sample Data | | Solvent |
|---|---|---|---|
| M6 Propellant | #1 | 0.5000 g 100 ml | ACN |

| Standards (ERG-006) | | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 2.177 | 146.5 | 1423.9 | 0.972 |
| 2,4-DNDPA | 50.0 | 5.001 | 961.7 | 0 | 0.000 |
| 2,2' DNDPA | 50.0 | 7.038 | 2567.5 | 14670.5 | 0.000 |
| 2,4' DNDPA | 50.0 | 9.931 | 938.5 | 0 | 0.000 |
| 4NDPA | 50.0 | 11.434 | 1325.8 | 0 | 0.000 |
| 2NDPA | 50.0 | 12.813 | 1809.7 | 0 | 0.000 |
| DPA | 200.0 | 14.19 | 4886.9 | 403.2 | 0.033 |
| N-NitrosoDPA | 75.0 | 15.18 | 1296.7 | 0 | 0.000 |

1.005

| Avg. % Stabilizer for Lot | **1.005** |
|---|---|

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| **Analyst** Kisha Dickerson | Avg. Tot. Stabilizers **1.00** % |
|---|---|
| Analyst Signature | Stable YES \| Unstable |
| Lab. Supervisor Signature | Comments **CATEGORY: A** |
| | Actions to be Taken |

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND84C070331** | **D533 / M6 propellant** |
| Date of analysis: | **Date:21 SEP 2010** |

Other Information
M6 Propellant

| Sample Data | | | Solvent |
|---|---|---|---|
| #1 | 0.5000 g | 100 ml | ACN |

| Standards (ERG-006) | | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 2.168 | 128.5 | 113.7 | 0.088 |
| 2,4-DNDPA | 50.0 | 5.033 | 432 | 217.6 | 0.050 |
| 2,2' DNDPA | 50.0 | 7.206 | 1480.6 | 820.7 | 0.000 |
| 2,4' DNDPA | 50.0 | 10.409 | 485.4 | 222.7 | 0.046 |
| 4NDPA | 50.0 | 12.024 | 1113.3 | 522 | 0.047 |
| 2NDPA | 50.0 | 13.489 | 784 | 396.3 | 0.051 |
| DPA | 200.0 | 14.97 | 2121.4 | 1130.5 | 0.213 |
| N-NitrosoDPA | 75.0 | 16.167 | 463.9 | 299.3 | 0.000 |

| | |
|---|---|
| | 0.495 |
| Avg. % Stabilizer for Lot | **0.495** |

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | |
|---|---|
| **Analyst** Kisha Dickerson | Avg. Tot. Stabilizers **0.50** % |
| Analyst Signature | Stable YES \| Unstable |
| Lab. Supervisor Signature | Comments<br>**CATEGORY: A** |
| | Actions to be Taken |

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND84K070448** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 1 Mar 2012** |

| Other Information | Sample Data | | Solvent |
|---|---|---|---|
| M6 Propellant | #1 | 0.50 g 100 ml | ACN |

| Standards (ERG-006) | | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 0.872 | 13.8 | 97.7 | 0.708 |
| 2,4-DNDPA | 50.0 | 3.42 | 982.9 | 0 | 0.000 |
| 2,2' DNDPA | 50.0 | 5.182 | 2038.4 | 23346 | 0.000 |
| 2,4' DNDPA | 50.0 | 7.465 | 1060.4 | 0 | 0.000 |
| 4NDPA | 50.0 | 8.991 | 1708.9 | 47.8 | 0.003 |
| 2NDPA | 50.0 | 10.17 | 3062.7 | 91.8 | 0.003 |
| DPA | 200.0 | 11.707 | 6061.6 | 816.4 | 0.054 |
| N-NitrosoDPA | 75.0 | 12.518 | 1461.9 | 0 | 0.000 |

| | |
|---|---|
| | 0.768 |
| Avg. % Stabilizer for Lot | **0.768** |

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | |
|---|---|
| **Analyst** Takisha Dickerson | Avg. Tot. Stabilizers **0.77** % |
| Analyst Signature | Stable YES / Unstable |
| | Comments **CATEGORY: A** |
| Lab. Supervisor Signature | |
| | Actions to be Taken |

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND83F070274** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 27 JULY 2011** |

| Other Information | Sample Data | | Solvent |
|---|---|---|---|
| M6 Propellant | #1 | 0.50 g 100 ml | ACN |

| Standards (ERG-006) | | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 0.694 | 112.8 | 622.1 | 0.552 |
| 2,4-DNDPA | 50.0 | 3.477 | 942.8 | 0 | 0.000 |
| 2,2' DNDPA | 50.0 | 5.339 | 77.4 | 22209 | 0.000 |
| 2,4' DNDPA | 50.0 | 7.842 | 1020.3 | 0 | 0.000 |
| 4NDPA | 50.0 | 9.392 | 1634.2 | 48.5 | 0.003 |
| 2NDPA | 50.0 | 10.693 | 2956.2 | 98.3 | 0.003 |
| DPA | 200.0 | 12.201 | 5630.5 | 451.4 | 0.032 |
| N-NitrosoDPA | 75.0 | 13.103 | 1385.2 | 0 | 0.000 |

| | |
|---|---|
| | 0.590 |
| Avg. % Stabilizer for Lot | **0.590** |

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | |
|---|---|
| **Analyst** Takisha Dickerson | Avg. Tot. Stabilizers **0.59** % |
| Analyst Signature | Stable YES / Unstable |
| Lab. Supervisor Signature | Comments **CATEGORY: A** |
| | Actions to be Taken |

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND82E070115** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 2 SEPTEMBER 2** |

Other Information
M6 Propellant

| Sample Data | | | Solvent |
|---|---|---|---|
| #1 | 0.50 g | 100 ml | ACN |

| Standards (ERG-006) | | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 0.631 | 119.7 | 513.1 | 0.429 |
| 2,4-DNDPA | 50.0 | 3.438 | 959.4 | 17.4 | 0.002 |
| 2,2' DNDPA | 50.0 | 5.235 | 1727.8 | 25268 | 0.000 |
| 2,4' DNDPA | 50.0 | 7.619 | 1043.1 | 0 | 0.000 |
| 4NDPA | 50.0 | 9.163 | 1669.9 | 77.7 | 0.005 |
| 2NDPA | 50.0 | 10.427 | 3002.4 | 153.6 | 0.005 |
| DPA | 200.0 | 11.959 | 5688.4 | 920.8 | 0.065 |
| N-NitrosoDPA | 75.0 | 12.823 | 1409.6 | 0 | 0.000 |

0.505

| Avg. % Stabilizer for Lot | **0.505** |
|---|---|

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | |
|---|---|
| **Analyst** KISHA DICKERSON | Avg. Tot. Stabilizers **0.50** % |
| Analyst Signature | Stable YES \| Unstable |
| Lab. Supervisor Signature | Comments **CATEGORY: A** |
| | Actions to be Taken |

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND80M070011** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 22 March 2012** |

| Other Information | Sample Data | | Solvent |
|---|---|---|---|
| M6 Propellant | #1 | 0.50 g 100 ml | ACN |

| | Standards (ERG-006) | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 0.897 | 14.6 | 40.4 | 0.277 |
| 2,4-DNDPA | 50.0 | 3.327 | 870.9 | 0 | 0.000 |
| 2,2' DNDPA | 50.0 | 5.054 | 688.7 | 29012 | 0.000 |
| 2,4' DNDPA | 50.0 | 7.295 | 945.9 | 0 | 0.000 |
| 4NDPA | 50.0 | 8.792 | 1528.5 | 144 | 0.009 |
| 2NDPA | 50.0 | 10.019 | 2755.3 | 103.4 | 0.004 |
| DPA | 200.0 | 11.357 | 5392.9 | 588.9 | 0.044 |
| N-NitrosoDPA | 75.0 | 12.286 | 1332.2 | 0 | 0.000 |

| | | |
|---|---|---|
| | | 0.334 |
| Avg. % Stabilizer for Lot | | **0.334** |

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | |
|---|---|
| **Analyst** Takisha Dickerson | Avg. Tot. Stabilizers **0.33** % |
| Analyst Signature | Stable YES \| Unstable |
| | Comments |
| Lab. Supervisor Signature | **CATEGORY:** **A** |
| | Actions to be Taken |

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND80M070009** | **D533 / M6 propellant** |
| Date of analysis: | **Date:20 SEP 2010** |

| Other Information | Sample Data | | Solvent |
|---|---|---|---|
| M6 Propellant | #1 | 0.5000 g 100 ml | ACN |

| Standards (ERG-006) | | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 2.113 | 241.3 | 1503.9 | 0.623 |
| 2,4-DNDPA | 50.0 | 4.997 | 1505.8 | 0 | 0.000 |
| 2,2' DNDPA | 50.0 | 7.178 | 3394.6 | 16988.6 | 0.000 |
| 2,4' DNDPA | 50.0 | 10.355 | 947.6 | 0 | 0.000 |
| 4NDPA | 50.0 | 11.977 | 1346.1 | 0 | 0.000 |
| 2NDPA | 50.0 | 13.451 | 1788.2 | 0 | 0.000 |
| DPA | 200.0 | 14.881 | 5045.5 | 586 | 0.046 |
| N-NitrosoDPA | 75.0 | 16.02 | 1339.6 | 0 | 0.000 |
| | | | | | 0.670 |
| | | | Avg. % Stabilizer for Lot | | **0.670** |

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | |
|---|---|
| **Analyst** Kisha Dickerson | Avg. Tot. Stabilizers **0.67** % |
| Analyst Signature | Stable YES \| Unstable |
| Lab. Supervisor Signature | Comments **CATEGORY: A** |
| | Actions to be Taken |

CONTAINS HAZARDOUS MATERIALS

# STRAIGHT BILL OF LADING

**NOT NEGOTIABLE** Load 17

RECEIVED, subject to the classification and tariffs in effect on the date of the issue of this Original Bill of Lading.
The property described below, in apparent good order, except as noted (contents and condition of contents of packages unknown) consigned, end destined as indicated below, which said carrier (the word carrier being understood throughout this contract meaning any person or corporation in possession of the property under the contract) agrees to curry to its usual place of delivery of said destination. It on its route, otherwise to deliver to another carrier on the route to said destination. It is mutually agreed, as to each of all or any of said property over all or any portion of said route to destination, and as to each party at any time interested in all or any of said property, that every service lobe performed hereunder shall be subject to all the terms and conditions of the Uniform Domestic Straight Bill of Lading Set forth (t) in Uniform Freight Classification in effect on the date hereof, It this is a rail or rail-water shipment, or (2) in the applicable motor carrier classification or tariff it this is a motor carrier shipment.

Shipper hereby certifies that he is familiar with all the terms and conditions of the said bill of lading, set forth in the classification or tariff which governs the transportation of this shipment, and the sold terms and conditions are hereby agreed to by the shipper and accept for himself and his assigns.

Shipper: Explo Systems, Inc.
1600 Java Road
Minden, LA 71055

Shipper's No. 2863

Shipping Date 3/17/13

At

Purchase Order No.

By RRUK

Freight Charges: Collect _____ Prepaid XXX

Location No. 1607

(Mail or Street Address of Consignee — For purposes of notification only)

Consigned to AUSTIN POWDER CO

Fed Lic. 5-AR-103-20-5E-00139 Exp. Date 5/1/15

Destination 7-LL-10 BLANDY RD State

State Lic. Exp. Date

County EAST CAMDEN AR

Customer No.

Route

Charge Account of 1-870-574-0580 EX 302

Customer P.O. No.

Rel. No.

| SHIPPED No. of PKGS | SHIPPED No. of UNITS | PROPER SHIPPING NAME AND HAZARD CLASS | RETURNED No. of PKGS | RETURNED No. of UNITS | EMERGENCY RESPONSE PROCEDURE GUIDE NO. | EXEMPTION ~~DOT-E~~ | HM | Placards Applied to Railcar or Motor Vehicle |
|---|---|---|---|---|---|---|---|---|
| 252/1G | 42PT | UN0161, Powder, Smokeless, 1.3C, PG II | | | #112 | 2011040603 | X | EXPLOSIVES 1.3 |
| | | | | | | | | |
| | | | | | | | | |
| | | Monica Kelly | | | | | | Truck No. 7306 |
| | | Monica Kelly | | | | | | Trailer No. 1810031 |
| | | | | | | | | Mileage |
| | | ENTERED 3/28/13 | | | | | | Total 252 1G FD @ 140 LBS EA Packages |
| | | | | | | | | Gross Weight # 39,000 |
| | | Seal # | | | | | | Net Explosive Weight |
| | | 7083997/7083998 | | | | | | 35,280 |

RECEIVED 17AT30 MAR 21 2013 AUSTIN POWDER COMPANY EAST CAMDEN PLANT

This is to certify that the above-named materials are properly classified, described, packaged, marked, and labeled and are in proper condition for transportation, according to the applicable regulations of the Department of Transportation.

Signature [signature]

Invoice No. _____

FOR CHEMICAL EMERGENCY, SPILL, LEAK, FIRE, EXPOSURE OR ACCIDENT CALL CHEMTREC — DAY OR NIGHT
IN THE USA CALL 800-424-9300 IN CANADA (ERP #2-0040) 800-561-3636 ELSEWHERE CALL (703) 527-3887 CCN644589

Permanent Address of Shipper:
**Explo Systems, Inc.**
1600 Java Road
Minden, Louisiana 71055
(318) 382-8700

Per _____

DOT Hazardous Material Handling Number _____
Local Federal Explosives License No. 5-LA-119-20-1A-00057
(Shipper)

I have been offered placards identifying the shipment as Specified in 49CFR Subpart F of Part 172. I have received the above goods in apparent good order and condition.

Received By [signature] Date 5-17-13
☐ CONSIGNEE ☐ CARRIER

By _____ Date _____
AUTHORIZED RECEIVER

CONTAINS HAZARDOUS MATERIALS

Agent must detach and retain this Shipping Order

019835

EXP_001469

Load 17

AUSTIN POWDER PACKING LIST

SHIPMENT DATE 3-17-13

B/L# 2863 TRL 1810031

M-6

IND82E-070115 5 PT
IND86F-070620 2 PTS
IND82E-070434 2 PTS
IND85E-070522 1 PT
IND87B-070678 1 PT
IND89F-071043 7 PTS
IND85B-070509 2 PTS
IND82H-070166 1 PT
IND88H-070966 1 PT
IND85C-070512 4 PTS
IND81K-070070 1 PT
IND89L-Y70298 1 PT
IND87A-Y70677 1 PT
IND83F-070276 1 PT
IND87H-070720 1 PT
IND88J-070970 1 PT
IND87J-070849 4 PTS
IND84H-070443 1 PT
IND82H-070166 5 PTS

42 PTS WITH 6 FB @140 LBS PER DRUM

TOTAL 35,280 LBS

LIONEL KOONS

EXPLO SYSTEMS INC

# MOTOR VEHICLE INSPECTION (TRANSPORTING HAZARDOUS MATERIALS)

*(Read Instructions before completing this form.)*

This form applies to all vehicles which must be marked or placarded in accordance with Title 49 CFR

1. BILL OF LADING/TRANSPORTATION CONTROL NUMBER: 2803

| SECTION 1 - DOCUMENTATION | ORIGIN a. | DESTINATION b. |
|---|---|---|
| 2. CARRIER/GOVERNMENT ORGANIZATION | RRVR | |
| 3. DATE/TIME OF INSPECTION | 3/17/13 | |
| 4. LOCATION OF INSPECTION | EXDO SYSTEMS INC | |
| 5. OPERATOR(S) NAME(S) | PEDRO THOMAS | |
| 6. OPERATOR(S) LICENSE NUMBER(S) | P320 625 49060 PA | |
| 7. MEDICAL EXAMINER'S CERTIFICATE* | 2/25/15 | |

| 8. (X if satisfactory at origin) | | | | | | 9. CVSA DECAL DISPLAYED ON COMMERCIAL EQUIPMENT* | YES | NO |
|---|---|---|---|---|---|---|---|---|
| a. MILITARY HAZMAT ENDORSEMENT | | d. ERG OR EQUIVALENT COMMERCIAL: | YES | NO | | a. TRUCK/TRACTOR | | |
| b. VALID LEASE* | | e. DRIVER'S VEHICLE INSPECTION REPORT* | ✓ | | | b. TRAILER | ✓ | |
| c. ROUTE PLAN | ✓ | f. COPY OF 49 CFR PART 397 | | | ✓ | | | |

## SECTION II - MECHANICAL INSPECTION

*All items shall be checked on empty equipment prior to loading. Items with an asterisk shall be checked on all incoming loaded equipment.*

10. TYPE OF VEHICLE(S): TRACTOR / TRAILER / DROM

11. VEHICLE NUMBER(S): TRAC # 7324 / TRL # 1670037

| 12. PART INSPECTED (X as applicable) | ORIGIN (1) SAT | ORIGIN (1) UNSAT | DESTINATION (2) SAT | DESTINATION (2) UNSAT | | ORIGIN (1) SAT | ORIGIN (1) UNSAT | DESTINATION (2) SAT | DESTINATION (2) UNSAT | COMMENTS (3) |
|---|---|---|---|---|---|---|---|---|---|---|
| a. SPARE ELECTRICAL FUSES | | | | | k. EXHAUST SYSTEM | | | | | |
| b. HORN OPERATIVE | | | | | l. BRAKE SYSTEM* | | | | | |
| c. STEERING SYSTEM | | | | | m. SUSPENSION | | | | | |
| d. WINDSHIELD/WIPERS | | | | | n. COUPLING DEVICES | | | | | |
| e. MIRRORS | | | | | o. CARGO SPACE | | | | | |
| f. WARNING EQUIPMENT | | | | | p. LANDING GEAR* | | | | | |
| g. FIRE EXTINGUISHER* | | | | | q. TIRES, WHEELS, RIMS | | | | | |
| h. ELECTRICAL WIRING | | | | | r. TAILGATE/DOORS* | | | | | |
| i. LIGHTS AND REFLECTORS | | | | | s. TARPAULIN* | | | | | |
| j. FUEL SYSTEM* | | | | | t. OTHER (Specify) | | | | | |

13. INSPECTION RESULTS (X one) ACCEPTED ✓ REJECTED

*(If rejected give reason under "Remarks". Equipment will be approved if deficiencies are corrected prior to loading.)*

14. SATELLITE MOTOR SURVEILLANCE SYSTEM: (X one) ACCEPTED N/A REJECTED

15. REMARKS

16. INSPECTOR SIGNATURE (Origin)

17. INSPECTOR SIGNATURE (Destination)

## SECTION III - POST LOADING INSPECTION

This section applies to Commercial and Government/Military vehicles. All items will be checked prior to release of loaded equipment and shall be checked on all incoming loaded equipment.

| | ORIGIN (1) SAT | ORIGIN (1) UNSAT | DESTINATION (2) SAT | DESTINATION (2) UNSAT | COMMENTS (3) |
|---|---|---|---|---|---|
| 18. LOADED IAW APPLICABLE SEGREGATION/COMPATIBILITY TABLE OF 49 CFR | | | | | |
| 19. LOAD PROPERLY SECURED TO PREVENT MOVEMENT | | | | | |
| 20. SEALS APPLIED TO CLOSED VEHICLE; TARPAULIN APPLIED ON OPEN EQUIPMENT | | | | | |
| 21. PROPER PLACARDS APPLIED | | | | | |
| 22. SHIPPING PAPERS/DD FORM 836 FOR GOVERNMENT VEHICLE SHIPMENTS | N/A | | | | |
| 23. COPY OF DD FORM 626 FOR DRIVER | | | | | |
| 24. SHIPPED UNDER DOT SPECIAL PERMIT 868 | N/A | | | | |

25. INSPECTOR SIGNATURE (Origin)

26. DRIVER(S) SIGNATURE (Origin)

27. INSPECTOR SIGNATURE (Destination)

28. DRIVER(S) SIGNATURE (Destination)

Explo Systems, Inc.
1600 Java Road
Minden, LA 71055

# MATERIAL SAFETY DATA SHEET

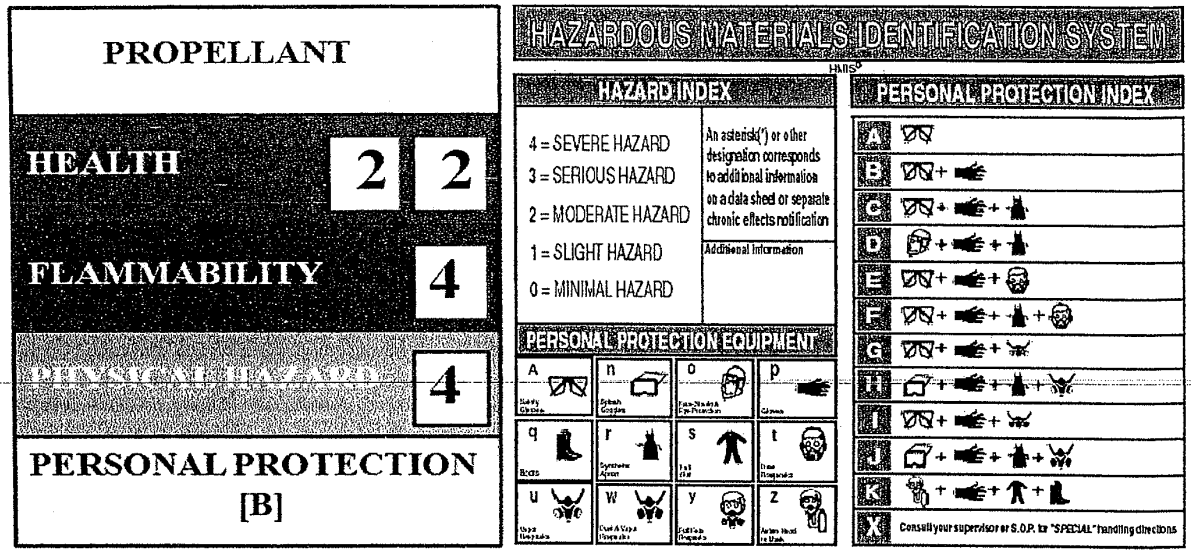
## PROPELLANT (Wetted)

## SECTION I - PRODUCT IDENTIFICATION

PRODUCT NAME: Propellant, Explosive, Solid, Wetted
Technical Information Phone No.: 318.382.8700
For Chemical Emergency (Spill, Fire, Exposure or Accident) call CHEMTREC day or night. Within the US and Canada: +1 800-424-9300. Outside the US and Canada: +1 703-527-3887 (collect calls accepted).

| Ingredient | CAS No. | Wt. % | OSHA PEL<br>ACGIH TLV<br>EPA RQ (if defined)<br>DOT RQ (if defined) |
|---|---|---|---|
| Dibutyl Phthalate | 84-74-2 | 3.00 | OSHA PEL 5 mg/m$^3$<br>ACGIH TLV 5 mg/m$^3$<br>EPA RQ 10 lbs<br>DOT RQ 10 lbs |
| Diphenylamine | 122-39-4 | 1.00 | OSHA PEL 10 mg/m$^3$<br>ACGIH TLV 10 mg/m$^3$<br>EPA RQ (none defined)<br>DOT RQ (none defined) |
| Potassium Sulfate | 7778-80-5 | 2.00 | OSHA PEL none published<br>ACGIH TLV none published<br>EPA RQ (none defined)<br>DOT RQ (none defined) |
| Nitrocellulose (flammable solid) | -- | 87.00 | OSHA PEL none published<br>ACGIH TLV none published<br>EPA RQ (none defined)<br>DOT RQ (none defined) |
| Dinitrotoluene | 25321-14-6 | 10.00 | OSHA PEL 10 mg/m$^3$<br>ACGIH TLV 10 mg/m$^3$<br>EPA RQ 10 lbs<br>DOT RQ 10 lbs |

## SECTION II - HAZARDS IDENTIFICATION




Routes of Entry: Inhalation; Skin; Ingestion
Carcinogenicity: None
First Aid Measures: EYES - Immediately flush with copious amount of water (low pressure) for 15 minutes, remove contact lenses; call physician. SKIN - Wash with soap and running water. INGESTION - Contact physician immediately. INHALATION - Remove to fresh air. Treat irritation symptomatically; call physician.
Firefighting Measures: Self-oxidizing, deluge with water. Will not be able to extinguish unless large quantity of water is used in very short time. Use NIOSH/MSHA approved SCBA and full protective equipment; evacuate area.
Unusual Fire/Explosion Hazard: Easily ignited, highly combustible; protect from fire and sparks and extreme heat.
Autoignition: 383°F (195°C)
Hazardous Combustion Products: Oxides of Carbon
Accidental Release Measures: SPILL - Clean immediately with soft (horsehair) brush and conductive rubber or plastic shovel. Use brass or other non-sparking tools and utensils. DO NOT hammer or otherwise cause impact forces to spilled material (explosion or autoignition could occur with impact force being applied).

## SECTION III - HANDLING AND STORAGE

Precautions: Avoid prolonged temperature above 125°F (50°C). Normal storage conditions should be 75°F (21°C) and 50% Humidity. Storage must conform to local, state and federal regulations, specifically: 29 CFR OSHA 1910.109; 27 CFR BATFE 55 subpart K.
Other Special Precautions: Flammable Solid…Keep away from heat, sparks, open flame…Keep containers closed…use with adequate ventilation.
Ventilation: Local and general ventilation necessary to keep air concentration below TLV's.
Personal Protective Equipment: Safety Glasses, Cotton or Leather Gloves, Fire Resistant Coveralls.

## SECTION IV - PHYSICAL AND CHEMICAL PROPERTIES

Specific Gravity: 1.496
Evaporation Rate: <1 (Butylacetate = 1)
Solubility in Water: negligible
Appearance and Odor: Hard Cylinder Perforated, Smooth, Greenish Yellow. Odorless.
Materials to Avoid: Oxides of Nitrogen and Carbon.

Conditions to Avoid: Open Flame, Sparks, Heat, Direct Sunlight.
Hazardous Decomposition Products: Oxides of Carbon

## SECTION V – TRANSPORTATION INFORMATION

DOT Proper Shipping Name: Smokeless Powder (wetted)
Hazard Class: 1.3C
UN No. UN0161
Packing Group: II

## SECTION VI - DISPOSAL CONSIDERATIONS

Disposal must be in accordance with federal, state and local regulations. Burn in open burning ground in accordance with regulatory requirements. It may also be burned in an incinerator approved for explosives.

## DISCLAIMER

The information contained in this MSDS (Material Safety Data Sheet) is based upon available constituent data for the components of **Propellant** and is believed to be correct. However, as this information has been obtained from various sources, including the manufacturers of its components and independent laboratories, it is provided herein without warranty or representation that it is complete, accurate and can be relied upon. Explo Systems, Inc. has not attempted to conceal in any manner the deleterious aspects of this product, and makes no warranty as such. Explo Systems, Inc. cannot anticipate nor control the many situations in which this product or this information may be used; there is no guarantee that the health and safety precautions suggested herein will be proper under all conditions. It is the sole responsibility of each user of the product to determine and comply with the requirements of all applicable laws and regulations regarding its use. This information is given solely for the purposes of safety to persons and property. Any other use of this information is expressly prohibited.

## AUTHOR

This MSDS was prepared by: Ferris Callihan, PE - Director Support Technology - Explo Systems, Inc. - 1600 Java Road - Minden, LA 71055 - Tel 318 382 8700 - E-mail: fcallihan@explosystems.com

U.S. Department
of Transportation

Pipeline and Hazardous
Materials Safety Administration

East Building, PHH – 32
1200 New Jersey Avenue, Southeast
Washington, D.C. 20590

The US Department of Transportation
Competent Authority for the United States

## CLASSIFICATION OF EXPLOSIVES
## FIRST REVISION

Based upon a request by Explo Systems Inc., 1600 Java Road, Minden, LA 71055, United States the following items are classed in accordance with Section 173.56, Title 49, Code of Federal Regulations (49 CFR). A copy of your application, all supporting documentation and a copy of this approval must be retained and made available to DOT upon request.

**U.N. PROPER SHIPPING NAME AND NUMBER:**
Powder, smokeless, UN0161

**U.N. CLASSIFICATION CODE**: 1.3C

| **REFERENCE NUMBER** | **PRODUCT DESIGNATION/PART NUMBER** |
|---|---|
| EX2010040603 | Reclaimed M6 Propellant |

**NOTES:** This classification is only valid when the smokeless powder has been tested and found to have sufficient residual stabilizers present per US Army Safety Bulletin: "Inspection of Supplies and Equipment, Ammunition Surveillance Procedures" (SB 742-1). The following packaging methods are assigned:
Packaging Method A: Inner Packaging - Not necessary. Outer Packaging – UN 1G fiberdrum, each containing not more than one hundred and forty (140) pounds of smokeless propellant.
Packaging Method B: Inner Packaging: Flexible static-resistant reinforced plastic cloth and strapping lifting bag, each containing not more than eight hundred and eighty (880) pounds of smokeless propellant. Outer Packaging - UN 4G heavy-wall fiberboard box with a volumetric capacity of 119 gallons or less. (see 49 CFR Section 171.8 Definition for "Non-bulk packaging")

**DATED:** 05/05/2011

Harpreet S Singh

For Dr. Magdy El-Sibaie
Associate Administrator for Hazardous Materials Safety

Tracking No: 2011040848

17
2863

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND88H070966** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 29 JULY 2011** |

| Other Information | Sample Data | | Solvent |
|---|---|---|---|
| M6 Propellant | #1 | 0.50 g 100 ml | ACN |

| | Standards (ERG-006) | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 0.642 | 125.1 | 600.3 | 0.480 |
| 2,4-DNDPA | 50.0 | 3.455 | 992.3 | 0 | 0.000 |
| 2,2' DNDPA | 50.0 | 5.274 | 125.3 | 27328 | 0.000 |
| 2,4' DNDPA | 50.0 | 7.702 | 1067.4 | 0 | 0.000 |
| 4NDPA | 50.0 | 9.26 | 1688.8 | 88.8 | 0.005 |
| 2NDPA | 50.0 | 10.547 | 3070.1 | 85.2 | 0.003 |
| DPA | 200.0 | 12.08 | 5796.8 | 694.6 | 0.048 |
| N-NitrosoDPA | 75.0 | 12.966 | 1456.1 | 0 | 0.000 |

0.536

Avg. % Stabilizer for Lot **0.536**

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | |
|---|---|
| **Analyst** Kisha Dickerson | Avg. Tot. Stabilizers **0.54** % |
| Analyst Signature | Stable YES / Unstable |
| Lab. Supervisor Signature | Comments **CATEGORY: A** |
| | Actions to be Taken |

Form #159

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND87H070720** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 18 NOV 2011** |

| Other Information | Sample Data | | Solvent |
|---|---|---|---|
| M6 Propellant | #1 | 0.50 g 100 ml | ACN |

| Standards (ERG-006) | | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 0.747 | 327.4 | 1170.4 | 0.357 |
| 2,4-DNDPA | 50.0 | 3.395 | 1731.2 | 21.2 | 0.001 |
| 2,2' DNDPA | 50.0 | 5.173 | 4488.9 | 22467 | 0.000 |
| 2,4' DNDPA | 50.0 | 7.497 | 1903.5 | 0 | 0.000 |
| 4NDPA | 50.0 | 9.01 | 3102.1 | 91.8 | 0.003 |
| 2NDPA | 50.0 | 10.21 | 5531.9 | 144.8 | 0.003 |
| DPA | 200.0 | 11.727 | 11056 | 931.7 | 0.034 |
| N-NitrosoDPA | 75.0 | 12.547 | 2638.3 | 0 | 0.000 |

| | | |
|---|---|---|
| | | 0.398 |
| | Avg. % Stabilizer for Lot | **0.398** |

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | | |
|---|---|---|
| **Analyst** TAKISHA DICKERSON | Avg. Tot. Stabilizers | **0.40** % |
| Analyst Signature | Stable YES | Unstable |
| Lab. Supervisor Signature | Comments **CATEGORY:** **A** | |
| | Actions to be Taken | |

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND87BY70678** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 19 OCTOBER 2011** |

| Other Information | Sample Data | | Solvent |
|---|---|---|---|
| M6 Propellant | #1 | 0.50 g 100 ml | ACN |

| Standards (ERG-006) | | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 0.86 | 108.3 | 465.3 | 0.430 |
| 2,4-DNDPA | 50.0 | 3.439 | 927.1 | 0 | 0.000 |
| 2,2' DNDPA | 50.0 | 5.254 | 682.7 | 22447 | 0.000 |
| 2,4' DNDPA | 50.0 | 7.643 | 998.4 | 0 | 0.000 |
| 4NDPA | 50.0 | 9.185 | 1612.6 | 50 | 0.003 |
| 2NDPA | 50.0 | 10.427 | 2895.4 | 343.7 | 0.012 |
| DPA | 200.0 | 11.954 | 5562.6 | 261.2 | 0.019 |
| N-NitrosoDPA | 75.0 | 12.798 | 1360.9 | 0 | 0.000 |

| | |
|---|---|
| | 0.463 |
| Avg. % Stabilizer for Lot | **0.463** |

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | |
|---|---|
| **Analyst** TAKISHA DICKERSON | Avg. Tot. Stabilizers **0.46** % |
| Analyst Signature | Stable YES \| Unstable |
| Lab. Supervisor Signature | Comments **CATEGORY: A** |
| | Actions to be Taken |

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND85C070512** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 10 AUGUST 2012** |

| Other Information | Sample Data | | Solvent |
|---|---|---|---|
| M6 Propellant | #1 | 0.50 g 100 ml | ACN |

| | Standards (ERG-006) | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 0.882 | 8.8 | 112.9 | 1.283 |
| 2,4-DNDPA | 50.0 | 3.343 | 910.9 | 0 | 0.000 |
| 2,2' DNDPA | 50.0 | 5.034 | 3858.6 | 22576 | 0.000 |
| 2,4' DNDPA | 50.0 | 7.363 | 1013.2 | 0 | 0.000 |
| 4NDPA | 50.0 | 8.784 | 1647.3 | 59.7 | 0.004 |
| 2NDPA | 50.0 | 9.95 | 2919.6 | 95.5 | 0.003 |
| DPA | 200.0 | 11.386 | 5857.1 | 714.1 | 0.049 |
| N-NitrosoDPA | 75.0 | 12.173 | 1371.4 | 0 | 0.000 |

| | | |
|---|---|---|
| | | 1.339 |
| Avg. % Stabilizer for Lot | | **1.339** |

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | | |
|---|---|---|
| **Analyst** Takisha Dickerson | Avg. Tot. Stabilizers | **1.34** % |
| Analyst Signature Dickerson | Stable YES | Unstable |
| | Comments **CATEGORY:** **A** | |
| Lab. Supervisor Signature | | |
| | Actions to be Taken | |

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND83F070276** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 4 Sep 2012** |

| Other Information | Sample Data | | Solvent |
|---|---|---|---|
| M6 Propellant | #1 | 0.50 g 100 ml | ACN |

| | Standards (ERG-006) | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 0.889 | 48.8 | 578.6 | 1.186 |
| 2,4-DNDPA | 50.0 | 3.418 | 914.3 | 0 | 0.000 |
| 2,2' DNDPA | 50.0 | 5.22 | 777.3 | 23990 | 0.000 |
| 2,4' DNDPA | 50.0 | 7.622 | 980.5 | 0 | 0.000 |
| 4NDPA | 50.0 | 9.134 | 1586.8 | 40.6 | 0.003 |
| 2NDPA | 50.0 | 10.417 | 2826.3 | 88.7 | 0.003 |
| DPA | 200.0 | 11.797 | 5671.5 | 812.6 | 0.057 |
| N-NitrosoDPA | 75.0 | 12.757 | 1337.5 | 0 | 0.000 |

| | | |
|---|---|---|
| | | 1.249 |
| Avg. % Stabilizer for Lot | | **1.249** |

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | | | |
|---|---|---|---|
| **Analyst** Mike Kile | | Avg. Tot. Stabilizers | **1.25** % |
| Analyst Signature | | Stable YES | Unstable |
| | | Comments | |
| Lab. Supervisor Signature | | **CATEGORY:** | **A** |
| | | Actions to be Taken | |

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND82E070115** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 2 SEPTEMBER 2(** |

| Other Information | Sample Data | | Solvent |
|---|---|---|---|
| M6 Propellant | #1 | 0.50 g 100 ml | ACN |

| Standards (ERG-006) | | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 0.631 | 119.7 | 513.1 | 0.429 |
| 2,4-DNDPA | 50.0 | 3.438 | 959.4 | 17.4 | 0.002 |
| 2,2' DNDPA | 50.0 | 5.235 | 1727.8 | 25268 | 0.000 |
| 2,4' DNDPA | 50.0 | 7.619 | 1043.1 | 0 | 0.000 |
| 4NDPA | 50.0 | 9.163 | 1669.9 | 77.7 | 0.005 |
| 2NDPA | 50.0 | 10.427 | 3002.4 | 153.6 | 0.005 |
| DPA | 200.0 | 11.959 | 5688.4 | 920.8 | 0.065 |
| N-NitrosoDPA | 75.0 | 12.823 | 1409.6 | 0 | 0.000 |

| | |
|---|---|
| | 0.505 |
| Avg. % Stabilizer for Lot | **0.505** |

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | |
|---|---|
| **Analyst** KISHA DICKERSON | Avg. Tot. Stabilizers **0.50** % |
| Analyst Signature | Stable YES / Unstable |
| Lab. Supervisor Signature | Comments **CATEGORY: A** |
| | Actions to be Taken |

CONTAINS HAZARDOUS MATERIALS

# STRAIGHT BILL OF LADING

**NOT NEGOTIABLE** Load 18

RECEIVED, subject to the classification and tariffs in effect on the date of the issue of this Original Bill of Lading.
The property described below, in apparent good order, except as noted (contents and condition of contents of packages unknown) consigned, and destined as indicated below, which said carrier (the word carrier being understood throughout this contract meaning any person or corporation in possession of the property under the contract) agrees to c to its usual place of delivery of said destination. It on its route, otherwise to deliver to another carrier on the route to said destination. It is mutually agreed, as to each of all or a said property over all or any portion of said route to destination, and as to each party at any time interested in all or any of said property, that every service lobe performed hereunder shall be subject to all the terms and conditions of the Uniform Domestic Straight Bill of Lading Set forth (t) in Uniform Freight Classification in effect on the date hereof, It this is a rail or rail-water shipment, or (2) in the applicable motor carrier classification or tariff it this is a motor carrier shipment.

Shipper hereby certifies that he is familiar with all the terms and conditions of the said bill of lading, set forth in the classification or tariff which governs the transportation of this shipment, and the sold terms and conditions are hereby agreed to by the shipper and accept for himself and his assigns.

Shipper: Explo Systems, Inc.
1600 Java Road
Minden, LA 71055

Shipper's No. 2860

Shipping Date 3/14/13

At

Purchase Order No.

By RRWR/AATCO

Freight Charges: Collect _____ Prepaid XXX

Location No. 2420/1607

(Mail or Street Address of Consignee — For purposes of notification only)

Consigned to AUSTIN POWDER CO

Fed Lic. 5-AT2-103-20-5E-00139

Exp. Date 5/1/15

Destination 7-20-10 BLANDY RD

State

State Lic.

Exp. Date

County EAST CAMDEN AR

Customer No.

Route

Charge Account of 1-870-574-8560

Customer P.O. No.

Rel. No.

| SHIPPED No. of PKGS | SHIPPED No. of UNITS | PROPER SHIPPING NAME AND HAZARD CLASS | RETURNED No. of PKGS | RETURNED No. of UNITS | EMERGENCY RESPONSE PROCEDURE GUIDE NO. | EXEMPTION ~~DOT-E~~ | HM | Placards Applied to Railcar or Motor Vehicle |
|---|---|---|---|---|---|---|---|---|
| 252/1G | 42 PT | UN0161, Powder, Smokeless, 1.3C, PG II | | | #112 | 2010040603 | X | EXPLOSIVES 1.3 |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | Truck No. 7306 |
| | | | | | | | | Trailer No. 17749 |
| | | | | | | | | Mileage |
| | | | | | | | | Total 252 1G FD @ 140 LBS EA Packages |
| | | | | | | | | Gross Weight # 39.000 |
| | | Seal # | | | | | | Net Explosive Weight |
| | | 7083991 / 7083992 | | | | | | 35.280 |

ENTERED 3/21/13 MWG

RECEIVED MAR 21 2013 17AT30 AUSTIN POWDER COMPANY EAST CAMDEN PLANT

This is to certify that the above-named materials are properly classified, described, packaged, marked, and labeled and are in proper condition for transportation, according to the applicable regulations of the Department of Transportation.

Signature [signature]

Invoice No. _____

FOR CHEMICAL EMERGENCY, SPILL, LEAK, FIRE, EXPOSURE OR ACCIDENT CALL CHEMTREC — DAY OR NIGHT
IN THE USA CALL 800-424-9300 IN CANADA (ERP #2-0040) 800-561-3636 ELSEWHERE CALL (703) 527-3887 CCN 644589

Permanent Address of Shipper:
**Explo Systems, Inc.**
1600 Java Road
Minden, Louisiana 71055
(318) 382-8700

Per [signature]

DOT Hazardous Material Handling Number _____
Local Federal Explosives License No. 5-LA-119-20-1A-00057
(Shipper)

I have been offered placards identifying the shipment as Specified in 49CFR Subpart F of Part 172. I have received the above goods in apparent good order and condition.

Received By [signature] Date 3-14-13
☐ CONSIGNEE ☐ CARRIER

By _____ Date _____
AUTHORIZED RECEIVER

CONTAINS HAZARDOUS MATERIALS

Agent must detach and retain this Shipping Order

019849

EXP_001483

AUSTIN POWDER PACKING LIST

SHIPMENT DATE

B/L# 2860 TRL 17749

M-6

IND84C-070331 8 PTS
IND81D-070019 1 PT
IND82A-070101 2 PTS
IND83F-070274 6 PTS
IND84G-070326 3 PTS
IND86M-070673 3 PTS
IND81F-070024 1 PT
IND81B-070013 2 PTS
IND81E-070022 2 PTS
IND86F-070620 1 PT
IND81D-070020 1 PT
IND82E-070114 1 PT
IND88D-070716 5 PTS
IND88H-070966 3 PTS
IND82H-070166 2 PTS
IND88A-070891 1 PT

42 PTS WITH 6 FB @140 LBS PER DRUM

TOTAL 35,280 LBS

LIONEL KOONS

EXPLO SYSTEMS INC

**CONTAINS HAZARDOUS MATERIALS**

# STRAIGHT BILL OF LADING — NOT NEGOTIABLE

RECEIVED, subject to the classification and tariffs in effect on the date of the issue of this Original Bill of Lading.
The property described below, in apparent good order, except as noted (contents and condition of contents of packages unknown) consigned, end destined as indicated below, which said carrier (the word carrier being understood throughout this contract meaning any person or corporation in possession of the property under the contract) agrees to cur to its usual place of delivery of said destination. It on its route, otherwise to deliver to another carrier on the route to said destination. It is mutually agreed, as to each of all or any said property over all or any portion of said route to destination, and as to each party at any time interested in all or any of said property, that every service lobe performed hereunder shall be subject to all the terms and conditions of the Uniform Domestic Straight Bill of Lading Set forth (t) in Uniform Freight Classification in effect on the date hereof, It this is a rail or rail-water shipment, or (2) in the applicable motor carrier classification or tariff it this is a motor carrier shipment.

Shipper hereby certifies that he is familiar with all the terms and conditions of the said bill of lading, set forth in the classification or tariff which governs the transportation of this shipment, and the sold terms and conditions are hereby agreed to by the shipper and accept for himself and his assigns.

Shipper: Explo Systems, Inc.
1600 Java Road
Minden, LA 71055

Shipper's No. 2860

Shipping Date 3/14/13

At

Purchase Order No.

By ROAD/TRUCK Freight Charges: Collect _____ Prepaid XXX Location No. 2420/1607

(Mail or Street Address of Consignee — For purposes of notification only)

Consigned to AUSTIN POWDER CO

Fed Lic. 5-AR-103-20-5E-00139 Exp. Date 5/1/15

Destination 7-26-10 BLAKELY RD

State

State Lic.

Exp. Date

County EAST CHAMBERS AR

Customer No.

Route

Charge Account of 1-870-574-8560

Customer P.O. No.

Rel. No.

| SHIPPED No. of PKGS | SHIPPED No. of UNITS | PROPER SHIPPING NAME AND HAZARD CLASS | RETURNED No. of PKGS | RETURNED No. of UNITS | EMERGENCY RESPONSE PROCEDURE GUIDE NO. | EXEMPTION ~~DOT-E~~ | H M | Placards Applied to Railcar or Motor Vehicle |
|---|---|---|---|---|---|---|---|---|
| 252/16 | 42 PT | UN0161, Powder, Smokeless, 1.3C, PG II | | | #112 | 20ND040603 | X | EXPLOSIVES 1.3 |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | Truck No. 7306 |
| | | | | | | | | Trailer No. 17749 |
| | | | | | | | | Mileage |
| | | | | | | | | Total 252 16 PD @ 140 LBS Packages |
| | | | | | | | | Gross Weight # 39.000 |
| | | Seal # 7083941 / 7083942 | | | | | | Net Explosive Weight 35.280 |

This is to certify that the above-named materials are properly classified, described, packaged, marked, and labeled and are in proper condition for transportation, according to the applicable regulations of the Department of Transportation.

Signature _____ Invoice No. _____

FOR CHEMICAL EMERGENCY, SPILL, LEAK, FIRE, EXPOSURE OR ACCIDENT CALL CHEMTREC — DAY OR NIGHT
IN THE USA CALL 800-424-9300 IN CANADA (ERP #2-0040) 800-561-3636 ELSEWHERE CALL (703) 527-3887 CCN644589

Permanent Address of Shipper:
**Explo Systems, Inc.**
1600 Java Road
Minden, Louisiana 71055
(318) 382-8700

Per _____

DOT Hazardous Material Handling Number _____
Local Federal Explosives License No. 5-LA-119-20-1A-00057
(Shipper)

I have been offered placards identifying the shipment as Specified in 49CFR Subpart F of Part 172. I have received the above goods in apparent good order and conditio

Received By _____ Date 3-14-13
☐ CONSIGNEE ☐ CARRIER

By _____ Date _____
AUTHORIZED RECEIVER

Explo Systems, Inc.
1600 Java Road
Minden, LA 71055

# MATERIAL SAFETY DATA SHEET

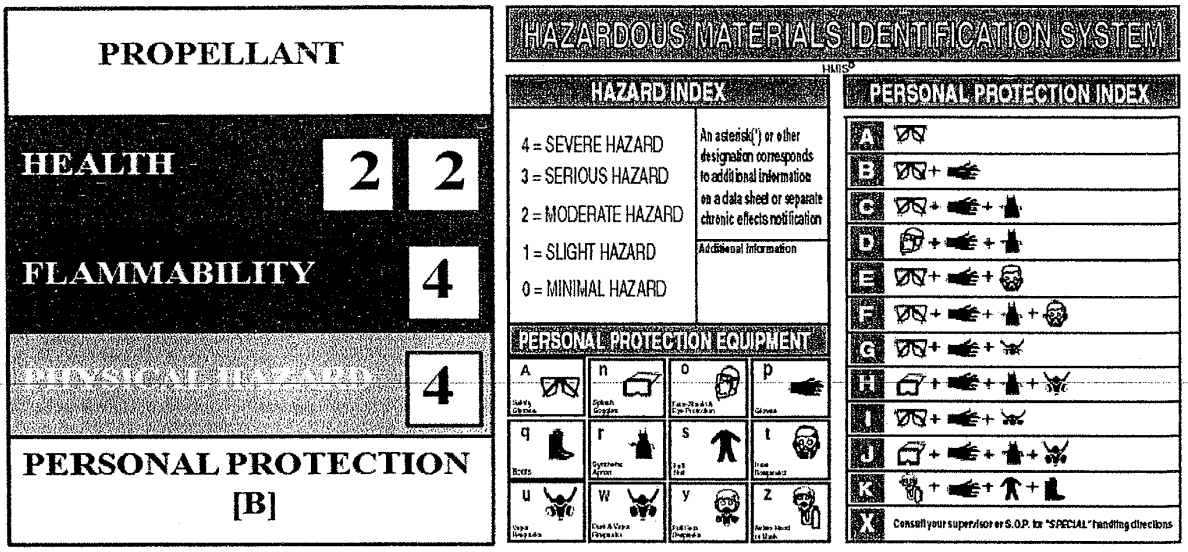
## PROPELLANT (Wetted)

## SECTION I - PRODUCT IDENTIFICATION

PRODUCT NAME: Propellant, Explosive, Solid, Wetted
Technical Information Phone No.: 318.382.8700
For Chemical Emergency (Spill, Fire, Exposure or Accident) call CHEMTREC day or night. Within the US and Canada: +1 800-424-9300. Outside the US and Canada: +1 703-527-3887 (collect calls accepted).

| **Ingredient** | **CAS No.** | **Wt. %** | **OSHA PEL**<br>**ACGIH TLV**<br>**EPA RQ (if defined)**<br>**DOT RQ (if defined)** |
|---|---|---|---|
| Dibutyl Phthalate | 84-74-2 | 3.00 | OSHA PEL 5 mg/m$^3$<br>ACGIH TLV 5 mg/m$^3$<br>EPA RQ 10 lbs<br>DOT RQ 10 lbs |
| Diphenylamine | 122-39-4 | 1.00 | OSHA PEL 10 mg/m$^3$<br>ACGIH TLV 10 mg/m$^3$<br>EPA RQ (none defined)<br>DOT RQ (none defined) |
| Potassium Sulfate | 7778-80-5 | 2.00 | OSHA PEL none published<br>ACGIH TLV none published<br>EPA RQ (none defined)<br>DOT RQ (none defined) |
| Nitrocellulose (flammable solid) | -- | 87.00 | OSHA PEL none published<br>ACGIH TLV none published<br>EPA RQ (none defined)<br>DOT RQ (none defined) |
| Dinitrotoluene | 25321-14-6 | 10.00 | OSHA PEL 10 mg/m$^3$<br>ACGIH TLV 10 mg/m$^3$<br>EPA RQ 10 lbs<br>DOT RQ 10 lbs |

## SECTION II - HAZARDS IDENTIFICATION




Routes of Entry: Inhalation; Skin; Ingestion
Carcinogenicity: None
First Aid Measures: EYES - Immediately flush with copious amount of water (low pressure) for 15 minutes, remove contact lenses; call physician. SKIN - Wash with soap and running water. INGESTION - Contact physician immediately. INHALATION - Remove to fresh air. Treat irritation symptomatically; call physician.
Firefighting Measures: Self-oxidizing, deluge with water. Will not be able to extinguish unless large quantity of water is used in very short time. Use NIOSH/MSHA approved SCBA and full protective equipment; evacuate area.
Unusual Fire/Explosion Hazard: Easily ignited, highly combustible; protect from fire and sparks and extreme heat.
Autoignition: 383°F (195°C)
Hazardous Combustion Products: Oxides of Carbon
Accidental Release Measures: SPILL - Clean immediately with soft (horsehair) brush and conductive rubber or plastic shovel. Use brass or other non-sparking tools and utensils. DO NOT hammer or otherwise cause impact forces to spilled material (explosion or autoignition could occur with impact force being applied).

## SECTION III - HANDLING AND STORAGE

Precautions: Avoid prolonged temperature above 125°F (50°C). Normal storage conditions should be 75°F (21°C) and 50% Humidity. Storage must conform to local, state and federal regulations, specifically: 29 CFR OSHA 1910.109; 27 CFR BATFE 55 subpart K.
Other Special Precautions: Flammable Solid…Keep away from heat, sparks, open flame…Keep containers closed…use with adequate ventilation.
Ventilation: Local and general ventilation necessary to keep air concentration below TLV's.
Personal Protective Equipment: Safety Glasses, Cotton or Leather Gloves, Fire Resistant Coveralls.

## SECTION IV - PHYSICAL AND CHEMICAL PROPERTIES

Specific Gravity: 1.496
Evaporation Rate: <1 (Butylacetate = 1)
Solubility in Water: negligible
Appearance and Odor: Hard Cylinder Perforated, Smooth, Greenish Yellow. Odorless.
Materials to Avoid: Oxides of Nitrogen and Carbon.

Conditions to Avoid: Open Flame, Sparks, Heat, Direct Sunlight.
Hazardous Decomposition Products: Oxides of Carbon

## SECTION V – TRANSPORTATION INFORMATION

DOT Proper Shipping Name: Smokeless Powder (wetted)
Hazard Class: 1.3C
UN No. UN0161
Packing Group: II

## SECTION VI - DISPOSAL CONSIDERATIONS

Disposal must be in accordance with federal, state and local regulations. Burn in open burning ground in accordance with regulatory requirements. It may also be burned in an incinerator approved for explosives.

## DISCLAIMER

The information contained in this MSDS (Material Safety Data Sheet) is based upon available constituent data for the components of **Propellant** and is believed to be correct. However, as this information has been obtained from various sources, including the manufacturers of its components and independent laboratories, it is provided herein without warranty or representation that it is complete, accurate and can be relied upon. Explo Systems, Inc. has not attempted to conceal in any manner the deleterious aspects of this product, and makes no warranty as such. Explo Systems, Inc. cannot anticipate nor control the many situations in which this product or this information may be used; there is no guarantee that the health and safety precautions suggested herein will be proper under all conditions. It is the sole responsibility of each user of the product to determine and comply with the requirements of all applicable laws and regulations regarding its use. This information is given solely for the purposes of safety to persons and property. Any other use of this information is expressly prohibited.

## AUTHOR

This MSDS was prepared by: Ferris Callihan, PE - Director Support Technology - Explo Systems, Inc. - 1600 Java Road - Minden, LA 71055 - Tel 318 382 8700 - E-mail: fcallihan@explosystems.com

Lot 18

2860

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND88H070966** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 29 JULY 2011** |

| Other Information | Sample Data | | Solvent |
|---|---|---|---|
| M6 Propellant | #1 | 0.50 g 100 ml | ACN |

| Standards (ERG-006) | | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 0.642 | 125.1 | 600.3 | 0.480 |
| 2,4-DNDPA | 50.0 | 3.455 | 992.3 | 0 | 0.000 |
| 2,2' DNDPA | 50.0 | 5.274 | 125.3 | 27328 | 0.000 |
| 2,4' DNDPA | 50.0 | 7.702 | 1067.4 | 0 | 0.000 |
| 4NDPA | 50.0 | 9.26 | 1688.8 | 88.8 | 0.005 |
| 2NDPA | 50.0 | 10.547 | 3070.1 | 85.2 | 0.003 |
| DPA | 200.0 | 12.08 | 5796.8 | 694.6 | 0.048 |
| N-NitrosoDPA | 75.0 | 12.966 | 1456.1 | 0 | 0.000 |

0.536

| Avg. % Stabilizer for Lot | **0.536** |
|---|---|

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| **Analyst** Kisha Dickerson | Avg. Tot. Stabilizers **0.54** % |
|---|---|
| Analyst Signature | Stable YES / Unstable |
| Lab. Supervisor Signature | Comments **CATEGORY: A** |
| | Actions to be Taken |

Form #158

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND88A070891** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 10 NOV 2011** |

| Other Information | Sample Data | | | Solvent |
|---|---|---|---|---|
| M6 Propellant | #1 | 0.50 g | 100 ml | ACN |

| Standards (ERG-006) | | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 0.754 | 194.4 | 1458.4 | 0.750 |
| 2,4-DNDPA | 50.0 | 3.382 | 1272.7 | 25.7 | 0.002 |
| 2,2' DNDPA | 50.0 | 5.139 | 1982.5 | 27828 | 0.000 |
| 2,4' DNDPA | 50.0 | 7.414 | 1387.8 | 0 | 0.000 |
| 4NDPA | 50.0 | 8.918 | 2254.3 | 114.7 | 0.005 |
| 2NDPA | 50.0 | 10.088 | 4040.6 | 189.5 | 0.005 |
| DPA | 200.0 | 11.608 | 7993.7 | 1179.9 | 0.059 |
| N-NitrosoDPA | 75.0 | 12.407 | 1919.6 | 0 | 0.000 |

0.821

| Avg. % Stabilizer for Lot | **0.821** |
|---|---|

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| **Analyst** TAKISHA DICKERSON | Avg. Tot. Stabilizers **0.82** % | |
|---|---|---|
| Analyst Signature | Stable YES | Unstable |
| | Comments | |
| Lab. Supervisor Signature | **CATEGORY:** **A** | |
| | Actions to be Taken | |

Form #150

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND86M070673** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 7 FEB 2012** |

| Other Information | Sample Data | | Solvent |
|---|---|---|---|
| M6 Propellant | #1 | 0.50 g 100 ml | ACN |

| Standards (ERG-006) | | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 0.863 | 50.1 | 452.6 | 0.903 |
| 2,4-DNDPA | 50.0 | 3.336 | 893.6 | 0 | 0.000 |
| 2,2' DNDPA | 50.0 | 5.03 | 726.8 | 22299 | 0.000 |
| 2,4' DNDPA | 50.0 | 7.182 | 1225.5 | 0 | 0.000 |
| 4NDPA | 50.0 | 8.642 | 1532.1 | 67.5 | 0.004 |
| 2NDPA | 50.0 | 9.759 | 2784.7 | 120.3 | 0.004 |
| DPA | 200.0 | 11.235 | 5480.9 | 727.3 | 0.053 |
| N-NitrosoDPA | 75.0 | 11.979 | 1363.1 | 0 | 0.000 |
| | | | | | 0.965 |
| | | Avg. % Stabilizer for Lot | | | **0.965** |

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | |
|---|---|
| **Analyst** TAKISHA DICKERSON | Avg. Tot. Stabilizers **0.97** % |
| Analyst Signature | Stable YES / Unstable |
| | Comments **CATEGORY: A** |
| Lab. Supervisor Signature | |
| | Actions to be Taken |

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND84G070326** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 3 MAY 2012** |

| Other Information | Sample Data | | Solvent |
|---|---|---|---|
| M6 Propellant | #1 | 0.50 g 100 ml | ACN |

| Standards (ERG-006) | | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 0.867 | 104.4 | 324.4 | 0.311 |
| 2,4-DNDPA | 50.0 | 3.335 | 1105.6 | 0 | 0.000 |
| 2,2' DNDPA | 50.0 | 5.007 | 4986.7 | 23068 | 0.000 |
| 2,4' DNDPA | 50.0 | 7.137 | 1206.9 | 0 | 0.000 |
| 4NDPA | 50.0 | 8.593 | 1969.2 | 87.1 | 0.004 |
| 2NDPA | 50.0 | 9.688 | 3527.8 | 151.4 | 0.004 |
| DPA | 200.0 | 11.153 | 7041.6 | 785.8 | 0.045 |
| N-NitrosoDPA | 75.0 | 11.897 | 1704.5 | | 0.000 |

| | |
|---|---|
| | 0.364 |
| Avg. % Stabilizer for Lot | **0.364** |

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | |
|---|---|
| **Analyst** Takisha Dickerson | Avg. Tot. Stabilizers **0.36** % |
| Analyst Signature | Stable YES / Unstable |
| | Comments **CATEGORY: A** |
| Lab. Supervisor Signature | |
| | Actions to be Taken |

Form #158

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND84C070331** | **D533 / M6 propellant** |
| Date of analysis: | **Date:21 SEP 2010** |

| Other Information | Sample Data | | Solvent |
|---|---|---|---|
| M6 Propellant | #1 | 0.5000 g 100 ml | ACN |

| Standards (ERG-006) | | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 2.168 | 128.5 | 113.7 | 0.088 |
| 2,4-DNDPA | 50.0 | 5.033 | 432 | 217.6 | 0.050 |
| 2,2' DNDPA | 50.0 | 7.206 | 1480.6 | 820.7 | 0.000 |
| 2,4' DNDPA | 50.0 | 10.409 | 485.4 | 222.7 | 0.046 |
| 4NDPA | 50.0 | 12.024 | 1113.3 | 522 | 0.047 |
| 2NDPA | 50.0 | 13.489 | 784 | 396.3 | 0.051 |
| DPA | 200.0 | 14.97 | 2121.4 | 1130.5 | 0.213 |
| N-NitrosoDPA | 75.0 | 16.167 | 463.9 | 299.3 | 0.000 |

| | | |
|---|---|---|
| | | 0.495 |
| Avg. % Stabilizer for Lot | | **0.495** |

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | | |
|---|---|---|
| **Analyst** Kisha Dickerson | Avg. Tot. Stabilizers | **0.50** % |
| Analyst Signature | Stable YES | Unstable |
| Lab. Supervisor Signature | Comments **CATEGORY:** **A** | |
| | Actions to be Taken | |

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND83F070274** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 27 JULY 2011** |

| Other Information | Sample Data | | Solvent |
|---|---|---|---|
| M6 Propellant | #1 | 0.50 g 100 ml | ACN |

| Standards (ERG-006) | | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 0.694 | 112.8 | 622.1 | 0.552 |
| 2,4-DNDPA | 50.0 | 3.477 | 942.8 | 0 | 0.000 |
| 2,2' DNDPA | 50.0 | 5.339 | 77.4 | 22209 | 0.000 |
| 2,4' DNDPA | 50.0 | 7.842 | 1020.3 | 0 | 0.000 |
| 4NDPA | 50.0 | 9.392 | 1634.2 | 48.5 | 0.003 |
| 2NDPA | 50.0 | 10.693 | 2956.2 | 98.3 | 0.003 |
| DPA | 200.0 | 12.201 | 5630.5 | 451.4 | 0.032 |
| N-NitrosoDPA | 75.0 | 13.103 | 1385.2 | 0 | 0.000 |
| | | | | | 0.590 |
| | | Avg. % Stabilizer for Lot | | | **0.590** |

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | |
|---|---|
| **Analyst** Takisha Dickerson | Avg. Tot. Stabilizers **0.59** % |
| Analyst Signature | Stable YES \| Unstable |
| Lab. Supervisor Signature | Comments **CATEGORY: A** |
| | Actions to be Taken |

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND82E070114** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 22 NOV 2011** |

| Other Information | Sample Data | | Solvent |
|---|---|---|---|
| M6 Propellant | #1 | 0.50 g 100 ml | ACN |

| | Standards (ERG-006) | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 0.753 | 205.4 | 623.3 | 0.303 |
| 2,4-DNDPA | 50.0 | 3.383 | 927.4 | 0 | 0.000 |
| 2,2' DNDPA | 50.0 | 5.127 | 481.8 | 21922 | 0.000 |
| 2,4' DNDPA | 50.0 | 7.38 | 1001.4 | 0 | 0.000 |
| 4NDPA | 50.0 | 8.893 | 1609.3 | 58.6 | 0.004 |
| 2NDPA | 50.0 | 10.053 | 2886.9 | 118 | 0.004 |
| DPA | 200.0 | 11.586 | 5621.7 | 791.2 | 0.056 |
| N-NitrosoDPA | 75.0 | 12.383 | 1361.9 | 0 | 0.000 |

| | | |
|---|---|---|
| | | 0.367 |
| Avg. % Stabilizer for Lot | | **0.367** |

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | | |
|---|---|---|
| **Analyst** TAKISHA DICKERSON | Avg. Tot. Stabilizers | **0.37** % |
| Analyst Signature | Stable YES | Unstable |
| | Comments | |
| Lab. Supervisor Signature | **CATEGORY:** | **A** |
| | Actions to be Taken | |

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND82A070101** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 28 June 2012** |

| Other Information | Sample Data | | | Solvent |
|---|---|---|---|---|
| M6 Propellant | #1 | 0.50 g | 100 ml | ACN |

| Standards (ERG-006) | | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 0.874 | 19.1 | 129.9 | 0.680 |
| 2,4-DNDPA | 50.0 | 3.347 | 961.1 | 0 | 0.000 |
| 2,2' DNDPA | 50.0 | 5.046 | 4032.7 | 23810 | 0.000 |
| 2,4' DNDPA | 50.0 | 6.347 | 22 | 0 | 0.000 |
| 4NDPA | 50.0 | 7.273 | 1080.1 | 0 | 0.000 |
| 2NDPA | 50.0 | 8.74 | 1782.9 | 45.1 | 0.003 |
| DPA | 200.0 | 9.886 | 3122.3 | 81.2 | 0.010 |
| N-NitrosoDPA | 75.0 | 11.353 | 6047.1 | 776.8 | 0.000 |

| | | |
|---|---|---|
| | | 0.693 |
| Avg. % Stabilizer for Lot | | **0.693** |

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | | |
|---|---|---|
| **Analyst** Takisha Dickerson | Avg. Tot. Stabilizers | **0.69** % |
| Analyst Signature | Stable YES | Unstable |
| | Comments | |
| Lab. Supervisor Signature | **CATEGORY:** | **A** |
| | Actions to be Taken | |

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND81D070020** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 10 Feb 2012** |

| Other Information | Sample Data | | Solvent |
|---|---|---|---|
| M6 Propellant | #1 | 0.50 g 100 ml | ACN |

| | Standards (ERG-006) | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 0.868 | 53.7 | 398.1 | 0.741 |
| 2,4-DNDPA | 50.0 | 3.292 | 916.2 | 0 | 0.000 |
| 2,2' DNDPA | 50.0 | 4.936 | 839.4 | 22071 | 0.000 |
| 2,4' DNDPA | 50.0 | 6.943 | 1003.3 | 0 | 0.000 |
| 4NDPA | 50.0 | 8.309 | 1616.5 | 50 | 0.003 |
| 2NDPA | 50.0 | 9.362 | 2912 | 113.3 | 0.004 |
| DPA | 200.0 | 10.749 | 5497.2 | 666 | 0.048 |
| N-NitrosoDPA | 75.0 | 11.362 | 1264.1 | 355.2 | 0.000 |
| | | | | | 0.797 |
| | | | Avg. % Stabilizer for Lot | | **0.797** |

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | |
|---|---|
| **Analyst** Mike Kile | Avg. Tot. Stabilizers **0.80** % |
| Analyst Signature | Stable YES / Unstable |
| Lab. Supervisor Signature | Comments **CATEGORY: A** |
| | Actions to be Taken |

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND81E070022** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 23 AUG 2010** |

| Other Information | Sample Data | | Solvent |
|---|---|---|---|
| M6 Propellant | #1 | 0.5000 g 100 ml | ACN |

| Standards (ERG-006) | | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | | 0 | | |
| 2,4-DNDPA | 50.0 | 4.884 | 715.1 | 0 | 0.000 |
| 2,2' DNDPA | 50.0 | 9.663 | 794.8 | 17278.9 | 2.174 |
| 2,4' DNDPA | 50.0 | 11.213 | 1155.8 | 0 | 0.000 |
| 4NDPA | 50.0 | 11.899 | 750.7 | 0 | 0.000 |
| 2NDPA | 50.0 | 12.536 | 1565 | 0 | 0.000 |
| DPA | 200.0 | 13.934 | 4151.3 | 0 | 0.000 |
| N-NitrosoDPA | 75.0 | 14.875 | 1080.5 | 451.1 | 0.063 |

| | | |
|---|---|---|
| | | 2.237 |
| Avg. % Stabilizer for Lot | | **2.237** |

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | | |
|---|---|---|
| **Analyst** Kisha Dickerson | Avg. Tot. Stabilizers | **2.24** % |
| Analyst Signature | Stable YES | Unstable |
| | Comments | |
| Lab. Supervisor Signature | **CATEGORY:** | **A** |
| | Actions to be Taken | |

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND81F070024** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 9 DEC 2011** |

| Other Information | Sample Data | | Solvent |
|---|---|---|---|
| M6 Propellant | #1 | 0.50 g 100 ml | ACN |

| Standards (ERG-006) | | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 0.748 | 166.8 | 892.3 | 0.535 |
| 2,4-DNDPA | 50.0 | 3.333 | 991.5 | 0 | 0.000 |
| 2,2' DNDPA | 50.0 | 5.039 | 624.7 | 22530 | 0.000 |
| 2,4' DNDPA | 50.0 | 7.221 | 1076.5 | 0 | 0.000 |
| 4NDPA | 50.0 | 8.681 | 1747.7 | 46.9 | 0.003 |
| 2NDPA | 50.0 | 9.803 | 3112 | 109.9 | 0.004 |
| DPA | 200.0 | 11.276 | 5985.4 | 604.1 | 0.040 |
| N-NitrosoDPA | 75.0 | 12.035 | 1482.1 | 0 | 0.000 |

| | | |
|---|---|---|
| | | 0.582 |
| | Avg. % Stabilizer for Lot | **0.582** |

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | | |
|---|---|---|
| **Analyst** TAKISHA DICKERSON | Avg. Tot. Stabilizers | **0.58** % |
| Analyst Signature | Stable YES | Unstable |
| | Comments | |
| Lab. Supervisor Signature | **CATEGORY:** | **A** |
| | Actions to be Taken | |

Form #158

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND81D070019** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 29 MAY 2012** |

| Other Information | Sample Data | | | Solvent |
|---|---|---|---|---|
| M6 Propellant | #1 | 0.50 g | 100 ml | ACN |

| | Standards (ERG-006) | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 0.86 | 235.9 | 525.7 | 0.223 |
| 2,4-DNDPA | 50.0 | 3.398 | 913.2 | 0 | 0.000 |
| 2,2' DNDPA | 50.0 | 5.133 | 1007.2 | 37577 | 0.000 |
| 2,4' DNDPA | 50.0 | 7.409 | 1002.4 | 0 | 0.000 |
| 4NDPA | 50.0 | 8.917 | 1612.8 | 186.9 | 0.012 |
| 2NDPA | 50.0 | 10.112 | 2882.2 | 282.1 | 0.010 |
| DPA | 200.0 | 11.607 | 5642.3 | 917.9 | 0.065 |
| N-NitrosoDPA | 75.0 | 12.414 | 1351.4 | | 0.000 |
| | | | | | 0.309 |
| | | Avg. % Stabilizer for Lot | | | **0.309** |

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | |
|---|---|
| **Analyst** Takisha Dickerson | Avg. Tot. Stabilizers **0.31** % |
| Analyst Signature | Stable YES \| Unstable |
| | Comments **CATEGORY: A** |
| Lab. Supervisor Signature | |
| | Actions to be Taken |

CONTAINS HAZARDOUS MATERIALS

# STRAIGHT BILL OF LADING — NOT NEGOTIABLE

Road 19

RECEIVED, subject to the classification and tariffs in effect on the date of the issue of this Original Bill of Lading.
The property described below, in apparent good order, except as noted (contents and condition of contents of packages unknown) consigned, and destined as indicated below, which carrier (the word carrier being understood throughout this contract meaning any person or corporation in possession of the property under the contract) agrees to curry to its usual place of delivery of said destination. It on its route, otherwise to deliver to another carrier on the route to said destination. It is mutually agreed, as to each of all or any of said property over all or any portion of said route to destination, and as to each party at any time interested in all or any of said property, that every service lobe performed hereunder shall be subject to all the terms and conditions of the Uniform Domestic Straight Bill of Lading Set forth (t) in Uniform Freight Classification in effect on the date hereof, if this is a rail or rail-water shipment, or (2) in the applicable motor carrier classification or tariff if this is a motor carrier shipment.
Shipper hereby certifies that he is familiar with all the terms and conditions of the said bill of lading, set forth in the classification or tariff which governs the transportation of this shipment, and the sold terms and conditions are hereby agreed to by the shipper and accept for himself and his assigns.

Shipper: Explo Systems, Inc.
1600 Java Road
Minden, LA 71055

Shipper's No. 2854

Shipping Date 3/14/13

At

Purchase Order No.

By RIDUK Freight Charges: Collect _____ Prepaid YYCY Location No. 3416

(Mail or Street Address of Consignee — For purposes of notification only)

Consigned to Austin Powder Co
Destination 7-LC-10 13 HANDY RM State
County EAST CARROLL PR.
Route
Charge Account of 1-870-574-0580 Ex 302

Fed Lic. 5-A12-103-20-SE-00139 Exp. Date 5/1/15
State Lic. Exp. Date
Customer No.
Customer P.O. No. Rel. No.

| SHIPPED No. of PKGS | SHIPPED No. of UNITS | PROPER SHIPPING NAME AND HAZARD CLASS | RETURNED No. of PKGS | RETURNED No. of UNITS | EMERGENCY RESPONSE PROCEDURE GUIDE NO. | EXEMPTION - DOT-E | H M | Placards Applied to Railcar or Motor Vehicle |
|---|---|---|---|---|---|---|---|---|
| 252 | 4PT | UN0161, Powder, Smokeless, 1.3C, PG II | | | #112 | 20100010079 | X X | EXPLOSIVES 1.3 |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | Truck No. 6436 |
| | | | | | | | | Trailer No. 7810132 |
| | | | | | | | | Mileage |
| | | W10# 214542 | | | | | | Total 252.16 FD & 140 MS EX# Packages |
| | | | | | | | | Gross Weight # 39.000 |
| | | Seal # 7083979/7083980 | | | | | | Net Explosive Weight 35.280 |

ENTERED 3/21/13 McCully

17AT28 RECEIVED MAR 21 2013 AUSTIN POWDER COMPANY EAST CARROLL PLANT

This is to certify that the above-named materials are properly classified, described, packaged, marked, and labeled and are in proper condition for transportation, according to the applicable regulations of the Department of Transportation.

Signature _____ Invoice No. _____

FOR CHEMICAL EMERGENCY, SPILL, LEAK, FIRE, EXPOSURE OR ACCIDENT CALL CHEMTREC — DAY OR NIGHT
IN THE USA CALL 800-424-9300 IN CANADA (ERP #2-0040) 800-561-3636 ELSEWHERE CALL (703) 527-3887 CN644589

Permanent Address of Shipper:
Explo Systems, Inc.
1600 Java Road
Minden, Louisiana 71055
(318) 382-8700

Per _____

DOT Hazardous Material Handling Number _____
Local Federal Explosives License No. 5-LA-119-20-1A-00057
(Shipper)

I have been offered placards identifying the shipment as Specified in 49CFR Subpart F of Part 172. I have received the above goods in apparent good order and condition.

Received By _____ Date 3-14-13
☐ CONSIGNEE ☐ CARRIER

By _____ Date _____
AUTHORIZED RECEIVER

Agent must detach and retain this Shipping Order

CONTAINS HAZARDOUS MATERIALS

019868

EXP_001502

AUSTIN POWDER PACKING LIST

SHIPMENT DATE ~~12~~ 14 MAR 2013

B/L# 2854 TRL 7810132

M-6

IND82D-070113 14 PTS
IND81D-070015 2 PTS
IND82E-070114 8 PTS
IND85K-070598 2 PTS
IND86M-070673 12 PTS
IND82K-070178 1 PT
IND81G-070061 2 PTS
IND82K-070173 1 PT

42 PTS WITH 6 FB @140 LBS PER DRUM

TOTAL 35,280 LBS

LIONEL KOONS

EXPLO SYSTEMS INC

**Explo Systems, Inc.**
**1600 Java Road**
**Minden, LA 71055**

# MATERIAL SAFETY DATA SHEET

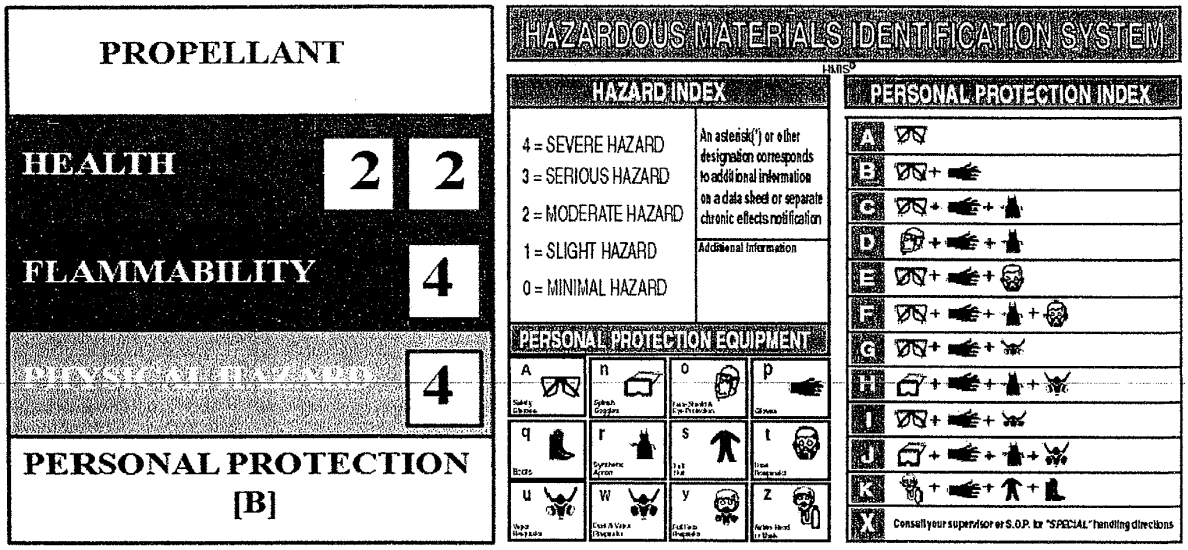
## PROPELLANT (Wetted)

## SECTION I - PRODUCT IDENTIFICATION

PRODUCT NAME: Propellant, Explosive, Solid, Wetted
Technical Information Phone No.: 318 382 8700
For Chemical Emergency (Spill, Fire, Exposure or Accident) call CHEMTREC day or night. Within the US and Canada: +1 800-424-9300. Outside the US and Canada: +1 703-527-3887 (collect calls accepted).

| Ingredient | CAS No. | Wt. % | OSHA PEL<br>ACGIH TLV<br>EPA RQ (if defined)<br>DOT RQ (if defined) |
|---|---|---|---|
| Dibutyl Phthalate | 84-74-2 | 3.00 | OSHA PEL 5 mg/m$^3$<br>ACGIH TLV 5 mg/m$^3$<br>EPA RQ 10 lbs<br>DOT RQ 10 lbs |
| Diphenylamine | 122-39-4 | 1.00 | OSHA PEL 10 mg/m$^3$<br>ACGIH TLV 10 mg/m$^3$<br>EPA RQ (none defined)<br>DOT RQ (none defined) |
| Potassium Sulfate | 7778-80-5 | 2.00 | OSHA PEL none published<br>ACGIH TLV none published<br>EPA RQ (none defined)<br>DOT RQ (none defined) |
| Nitrocellulose (flammable solid) | -- | 87.00 | OSHA PEL none published<br>ACGIH TLV none published<br>EPA RQ (none defined)<br>DOT RQ (none defined) |
| Dinitrotoluene | 25321-14-6 | 10.00 | OSHA PEL 10 mg/m$^3$<br>ACGIH TLV 10 mg/m$^3$<br>EPA RQ 10 lbs<br>DOT RQ 10 lbs |

## SECTION II - HAZARDS IDENTIFICATION




Routes of Entry: Inhalation; Skin; Ingestion
Carcinogenicity: None
First Aid Measures: EYES - Immediately flush with copious amount of water (low pressure) for 15 minutes, remove contact lenses; call physician. SKIN - Wash with soap and running water. INGESTION - Contact physician immediately. INHALATION - Remove to fresh air. Treat irritation symptomatically; call physician.
Firefighting Measures: Self-oxidizing, deluge with water. Will not be able to extinguish unless large quantity of water is used in very short time. Use NIOSH/MSHA approved SCBA and full protective equipment; evacuate area.
Unusual Fire/Explosion Hazard: Easily ignited, highly combustible; protect from fire and sparks and extreme heat.
Autoignition: 383°F (195°C)
Hazardous Combustion Products: Oxides of Carbon
Accidental Release Measures: SPILL - Clean immediately with soft (horsehair) brush and conductive rubber or plastic shovel. Use brass or other non-sparking tools and utensils. DO NOT hammer or otherwise cause impact forces to spilled material (explosion or autoignition could occur with impact force being applied).

## SECTION III - HANDLING AND STORAGE

Precautions: Avoid prolonged temperature above 125°F (50°C). Normal storage conditions should be 75°F (21°C) and 50% Humidity. Storage must conform to local, state and federal regulations, specifically: 29 CFR OSHA 1910.109; 27 CFR BATFE 55 subpart K.
Other Special Precautions: Flammable Solid…Keep away from heat, sparks, open flame…Keep containers closed…use with adequate ventilation.
Ventilation: Local and general ventilation necessary to keep air concentration below TLV's.
Personal Protective Equipment: Safety Glasses, Cotton or Leather Gloves, Fire Resistant Coveralls.

## SECTION IV - PHYSICAL AND CHEMICAL PROPERTIES

Specific Gravity: 1.496
Evaporation Rate: <1 (Butylacetate = 1)
Solubility in Water: negligible
Appearance and Odor: Hard Cylinder Perforated, Smooth, Greenish Yellow. Odorless.
Materials to Avoid: Oxides of Nitrogen and Carbon.

Conditions to Avoid: Open Flame, Sparks, Heat, Direct Sunlight.
Hazardous Decomposition Products: Oxides of Carbon

## SECTION V – TRANSPORTATION INFORMATION

DOT Proper Shipping Name: Smokeless Powder (wetted)
Hazard Class: 1.3C
UN No. UN0161
Packing Group: II

## SECTION VI - DISPOSAL CONSIDERATIONS

Disposal must be in accordance with federal, state and local regulations. Burn in open burning ground in accordance with regulatory requirements. It may also be burned in an incinerator approved for explosives.

## DISCLAIMER

The information contained in this MSDS (Material Safety Data Sheet) is based upon available constituent data for the components of **Propellant** and is believed to be correct. However, as this information has been obtained from various sources, including the manufacturers of its components and independent laboratories, it is provided herein without warranty or representation that it is complete, accurate and can be relied upon. Explo Systems, Inc. has not attempted to conceal in any manner the deleterious aspects of this product, and makes no warranty as such. Explo Systems, Inc. cannot anticipate nor control the many situations in which this product or this information may be used; there is no guarantee that the health and safety precautions suggested herein will be proper under all conditions. It is the sole responsibility of each user of the product to determine and comply with the requirements of all applicable laws and regulations regarding its use. This information is given solely for the purposes of safety to persons and property. Any other use of this information is expressly prohibited.

## AUTHOR

This MSDS was prepared by: Ferris Callihan, PE - Director Support Technology - Explo Systems, Inc. - 1600 Java Road - Minden, LA 71055 - Tel 318 382 8700 - E-mail: fcallihan@explosystems.com

# STRAIGHT BILL OF LADING

# NOT NEGOTIABLE

RECEIVED, subject to the classification and tariffs in effect on the date of the issue of this Original Bill of Lading.
The property described below, in apparent good order, except as noted (contents and condition of contents of packages unknown) consigned, end destined as indicated below, which said carrier (the word carrier being understood throughout this contract meaning any person or corporation in possession of the property under the contract) agrees to curry [illegible]'s usual place of delivery of said destination. It on its route, otherwise to deliver to another carrier on the route to said destination. It is mutually agreed, as to each of all or any of [illegible] property over all or any portion of said route to destination, and as to each party at any time interested in all or any of said property, that every service lobe performed [illegible]under shall be subject to all the terms and conditions of the Uniform Domestic Straight Bill of Lading Set forth (t) in Uniform Freight Classification in effect on the date hereof, It this is a rail or rail-water shipment, or (2) in the applicable motor carrier classification or tariff it this is a motor carrier shipment.

Shipper hereby certifies that he is familiar with all the terms and conditions of the said bill of lading, set forth in the classification or tariff which governs the transportation of this shipment, and the sold terms and conditions are hereby agreed to by the shipper and accept for himself and his assigns.

Shipper: Explo Systems, Inc.
1600 Java Road
Minden, LA 71055

Shipper's No. 2854

Shipping Date 3/14/13

At

Purchase Order No:

By RRUK

Freight Charges: Collect _____ Prepaid XXXX

Location No. 2416

(Mail or Street Address of Consignee — For purposes of notification only)

Consigned to Austin Powder Co

Fed Lic. 5-AR-103-20-5E-00139 Exp. Date 5/1/15

Destination 7-LC-1013 Handy Rd State

State Lic. Exp. Date

County East Camden Ar.

Customer No.

Route

Charge Account of 1-870-574-0580 Ex 302

Customer P.O. No.

Rel. No.

| SHIPPED No. of PKGS | SHIPPED No. of UNITS | PROPER SHIPPING NAME AND HAZARD CLASS | RETURNED No. of PKGS | RETURNED No. of UNITS | EMERGENCY RESPONSE PROCEDURE GUIDE NO. | EXEMPTION ~~DOT-E~~ | H M | Placards Applied to Railcar or Motor Vehicle |
|---|---|---|---|---|---|---|---|---|
| 252/16 | 4LPT | UN0161, Powder, Smokeless, 1.3C, PG II | | | #112 | 20100406 03 | X X | EXPLOSIVES 1.3 |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | Truck No. 6436 |
| | | | | | | | | Trailer No. 7810132 |
| | | | | | | | | Mileage |
| | | W/O# 214542 | | | | | | Total 252 16 FD @ 140 LBS EA Packages |
| | | | | | | | | Gross Weight # 39000 |
| | | Seal # | | | | | | Net Explosive Weight |
| | | 7083979/7083980 | | | | | | 35.280 |

This is to certify that the above-named materials are properly classified, described, packaged, marked, and labeled and are in proper condition for transportation, according to the applicable regulations of the Department of Transportation.

Signature [signature]

Invoice No. _____

FOR CHEMICAL EMERGENCY, SPILL, LEAK, FIRE, EXPOSURE OR ACCIDENT CALL CHEMTREC — DAY OR NIGHT
IN THE USA CALL 800-424-9300 IN CANADA (ERP #2-0040) 800-561-3636 ELSEWHERE CALL (703) 527-3887 CCN644589

Permanent Address of Shipper:
**Explo Systems, Inc.**
1600 Java Road
[illegible]den, Louisiana 71055
[illegible]) 382-8700

Per _____

DOT Hazardous Material Handling Number _____
Local Federal Explosives License No. 5-LA-119-20-1A-00057
(Shipper)

I have been offered placards identifying the shipment as Specified in 49CFR Subpart F of Part 172. I have received the above goods in apparent good order and condition.

Received By [signature] Date 3-14-13
☐ CONSIGNEE ☐ CARRIER

By _____ Date _____
AUTHORIZED RECEIVER

CONTAINS HAZARDOUS MATERIALS

CONTAINS HAZARDOUS MATERIALS

019874

EXP_001508

# MOTOR VEHICLE INSPECTION (TRANSPORTING HAZARDOUS MATERIALS)

*(Read Instructions before completing this form.)*

This form applies to all vehicles which must be marked or placarded in accordance with Title 49 CFR.

1. BILL OF LADING/TRANSPORTATION CONTROL NUMBER: 2854

| SECTION 1 - DOCUMENTATION | ORIGIN a. | DESTINATION b. |
|---|---|---|
| 2. CARRIER/GOVERNMENT ORGANIZATION | REVK | |
| 3. DATE/TIME OF INSPECTION | 3/12/13 | |
| 4. LOCATION OF INSPECTION | EXPLO SYSTEMS INC | |
| 5. OPERATOR(S) NAME(S) | BARNETT, HEATHER | |
| 6. OPERATOR(S) LICENSE NUMBER(S) | R202343009 MO | |
| 7. MEDICAL EXAMINER'S CERTIFICATE* | 1/3/15 | |

8. *(X if satisfactory at origin)*

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| a. MILITARY HAZMAT ENDORSEMENT | / | d. ERG OR EQUIVALENT COMMERCIAL: | / | YES | | NO | |
| b. VALID LEASE* | / | e. DRIVER'S VEHICLE INSPECTION REPORT* | | | | | / |
| c. ROUTE PLAN | / | f. COPY OF 49 CFR PART 397 | | | | | / |

9. CVSA DECAL DISPLAYED ON COMMERCIAL EQUIPMENT*

| | YES | NO |
|---|---|---|
| a. TRUCK/TRACTOR | / | |
| b. TRAILER | / | |

## SECTION II - MECHANICAL INSPECTION

*All items shall be checked on empty equipment prior to loading. Items with an asterisk shall be checked on all incoming loaded equipment.*

10. TYPE OF VEHICLE(S): TRACTOR / TRAILER / DROM

11. VEHICLE NUMBER(S): TRAC #6436 / TRL #781032

| 12. PART INSPECTED (X as applicable) | ORIGIN (1) SAT | ORIGIN (1) UNSAT | DESTINATION (2) SAT | DESTINATION (2) UNSAT | | ORIGIN (1) SAT | ORIGIN (1) UNSAT | DESTINATION (2) SAT | DESTINATION (2) UNSAT | COMMENTS (3) |
|---|---|---|---|---|---|---|---|---|---|---|
| a. SPARE ELECTRICAL FUSES | | | | | k. EXHAUST SYSTEM | | | | | |
| b. HORN OPERATIVE | | | | | l. BRAKE SYSTEM* | | | | | |
| c. STEERING SYSTEM | | | | | m. SUSPENSION | | | | | |
| d. WINDSHIELD/WIPERS | | | | | n. COUPLING DEVICES | | | | | |
| e. MIRRORS | | | | | o. CARGO SPACE | | | | | |
| f. WARNING EQUIPMENT | | | | | p. LANDING GEAR* | | | | | |
| g. FIRE EXTINGUISHER* | | | | | q. TIRES, WHEELS, RIMS | | | | | |
| h. ELECTRICAL WIRING | | | | | r. TAILGATE/DOORS* | | | | | |
| i. LIGHTS AND REFLECTORS | | | | | s. TARPAULIN* | N/A | | | | |
| j. FUEL SYSTEM* | | | | | t. OTHER (Specify) | | | | | |

13. INSPECTION RESULTS (X one) ACCEPTED: / REJECTED:

*(If rejected give reason under "Remarks". Equipment will be approved if deficiencies are corrected prior to loading.)*

14. SATELLITE MOTOR SURVEILLANCE SYSTEM: (X one) ACCEPTED: N/A REJECTED:

15. REMARKS

16. INSPECTOR SIGNATURE *(Origin)*

17. INSPECTOR SIGNATURE *(Destination)*

## SECTION III - POST LOADING INSPECTION

This section applies to Commercial and Government/Military vehicles. All items will be checked prior to release of loaded equipment and shall be checked on all incoming loaded equipment.

| | ORIGIN (1) SAT | ORIGIN (1) UNSAT | DESTINATION (2) SAT | DESTINATION (2) UNSAT | COMMENTS (3) |
|---|---|---|---|---|---|
| 18. LOADED IAW APPLICABLE SEGREGATION/COMPATIBILITY TABLE OF 49 CFR | / | | | | |
| 19. LOAD PROPERLY SECURED TO PREVENT MOVEMENT | / | | | | |
| 20. SEALS APPLIED TO CLOSED VEHICLE; TARPAULIN APPLIED ON OPEN EQUIPMENT | / | | | | |
| 21. PROPER PLACARDS APPLIED | / | | | | |
| 22. SHIPPING PAPERS/DD FORM 836 FOR GOVERNMENT VEHICLE SHIPMENTS | N/A | | | | |
| 23. COPY OF DD FORM 626 FOR DRIVER | / | | | | |
| 24. SHIPPED UNDER DOT SPECIAL PERMIT 868 | N/A | | | | |

25. INSPECTOR SIGNATURE *(Origin)*

26. DRIVER(S) SIGNATURE *(Origin)*: Heather Barnett

27. INSPECTOR SIGNATURE *(Destination)*

28. DRIVER(S) SIGNATURE *(Destination)*

Load 19
2854

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND86M070673** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 7 FEB 2012** |

| Other Information | Sample Data | | Solvent |
|---|---|---|---|
| M6 Propellant | #1 | 0.50 g 100 ml | ACN |

| Standards (ERG-006) | | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 0.863 | 50.1 | 452.6 | 0.903 |
| 2,4-DNDPA | 50.0 | 3.336 | 893.6 | 0 | 0.000 |
| 2,2' DNDPA | 50.0 | 5.03 | 726.8 | 22299 | 0.000 |
| 2,4' DNDPA | 50.0 | 7.182 | 1225.5 | 0 | 0.000 |
| 4NDPA | 50.0 | 8.642 | 1532.1 | 67.5 | 0.004 |
| 2NDPA | 50.0 | 9.759 | 2784.7 | 120.3 | 0.004 |
| DPA | 200.0 | 11.235 | 5480.9 | 727.3 | 0.053 |
| N-NitrosoDPA | 75.0 | 11.979 | 1363.1 | 0 | 0.000 |

0.965

| Avg. % Stabilizer for Lot | **0.965** |
|---|---|

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| **Analyst** TAKISHA DICKERSON | Avg. Tot. Stabilizers **0.97** % |
|---|---|
| Analyst Signature | Stable YES / Unstable |
| Lab. Supervisor Signature | Comments **CATEGORY: A** |
| | Actions to be Taken |

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND85K070598** | **D533 / M6 propellant** |
| Date of analysis: | **Date:25 AUG 2010** |

| Other Information | Sample Data | | Solvent |
|---|---|---|---|
| M6 Propellant | #1 | 0.5000 g 100 ml | ACN |

| Standards (ERG-006) | | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 2.177 | 146.5 | 1423.9 | 0.972 |
| 2,4-DNDPA | 50.0 | 5.001 | 961.7 | 0 | 0.000 |
| 2,2' DNDPA | 50.0 | 7.038 | 2567.5 | 14670.5 | 0.000 |
| 2,4' DNDPA | 50.0 | 9.931 | 938.5 | 0 | 0.000 |
| 4NDPA | 50.0 | 11.434 | 1325.8 | 0 | 0.000 |
| 2NDPA | 50.0 | 12.813 | 1809.7 | 0 | 0.000 |
| DPA | 200.0 | 14.19 | 4886.9 | 403.2 | 0.033 |
| N-NitrosoDPA | 75.0 | 15.18 | 1296.7 | 0 | 0.000 |

1.005

| Avg. % Stabilizer for Lot | **1.005** |
|---|---|

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| **Analyst** Kisha Dickerson | Avg. Tot. Stabilizers **1.00** % | |
|---|---|---|
| Analyst Signature | Stable YES | Unstable |
| | Comments **CATEGORY: A** | |
| Lab. Supervisor Signature | | |
| | Actions to be Taken | |

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND82K070173** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 21 Apr 2011** |

| Other Information | Sample Data | | Solvent |
|---|---|---|---|
| M6 Propellant | #1 | 0.5000 g 100 ml | ACN |

| | Standards (ERG-006) | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 4.152 | 1065.2 | 3146.2 | 0.295 |
| 2,4-DNDPA | 50.0 | 9.483 | 1128.5 | 28956.1 | 2.566 |
| 2,2' DNDPA | 50.0 | 11.075 | 1789.9 | 196.4 | 0.000 |
| 2,4' DNDPA | 50.0 | 11.744 | 1596.2 | 254 | 0.016 |
| 4NDPA | 50.0 | 12.553 | 2329 | 0 | 0.000 |
| 2NDPA | 50.0 | 14.006 | 5766.8 | 251.9 | 0.004 |
| DPA | 200.0 | 15.107 | 1617.9 | 612.3 | 0.151 |
| N-NitrosoDPA | 75.0 | 18.991 | 2304.9 | 398.1 | 0.000 |

| | | |
|---|---|---|
| | | 3.033 |
| Avg. % Stabilizer for Lot | | **3.033** |

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | | |
|---|---|---|
| **Analyst** Kisha Dickerson | Avg. Tot. Stabilizers | **3.03** % |
| Analyst Signature | Stable YES | Unstable |
| | Comments **CATEGORY:** **A** | |
| Lab. Supervisor Signature | | |
| | Actions to be Taken | |

Form #158

Original Print Date:07/19/2010

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND82E070114** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 22 NOV 2011** |

| Other Information | Sample Data | | Solvent |
|---|---|---|---|
| M6 Propellant | #1 | 0.50 g 100 ml | ACN |

| | Standards (ERG-006) | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 0.753 | 205.4 | 623.3 | 0.303 |
| 2,4-DNDPA | 50.0 | 3.383 | 927.4 | 0 | 0.000 |
| 2,2' DNDPA | 50.0 | 5.127 | 481.8 | 21922 | 0.000 |
| 2,4' DNDPA | 50.0 | 7.38 | 1001.4 | 0 | 0.000 |
| 4NDPA | 50.0 | 8.893 | 1609.3 | 58.6 | 0.004 |
| 2NDPA | 50.0 | 10.053 | 2886.9 | 118 | 0.004 |
| DPA | 200.0 | 11.586 | 5621.7 | 791.2 | 0.056 |
| N-NitrosoDPA | 75.0 | 12.383 | 1361.9 | 0 | 0.000 |

0.367

| Avg. % Stabilizer for Lot | **0.367** |
|---|---|

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | |
|---|---|
| **Analyst** TAKISHA DICKERSON | Avg. Tot. Stabilizers **0.37** % |
| Analyst Signature | Stable YES / Unstable |
| | Comments **CATEGORY: A** |
| Lab. Supervisor Signature | |
| | Actions to be Taken |

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND82D070113** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 6 JAN 2012** |

| Other Information | Sample Data | | Solvent |
|---|---|---|---|
| M6 Propellant | #1 | 0.50 g 100 ml | ACN |

| | Standards (ERG-006) | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 0.65 | 119.1 | 328.4 | 0.276 |
| 2,4-DNDPA | 50.0 | 3.304 | 1019.8 | 16 | 0.002 |
| 2,2' DNDPA | 50.0 | 4.943 | 1734.6 | 21955 | 0.000 |
| 2,4' DNDPA | 50.0 | 7.018 | 1103.9 | 0 | 0.000 |
| 4NDPA | 50.0 | 8.439 | 1782.5 | 66.8 | 0.004 |
| 2NDPA | 50.0 | 9.513 | 3182.1 | 143.1 | 0.004 |
| DPA | 200.0 | 10.956 | 6219.8 | 790.9 | 0.051 |
| N-NitrosoDPA | 75.0 | 11.669 | 1532.4 | 0 | 0.000 |

| | | |
|---|---|---|
| | | 0.336 |
| Avg. % Stabilizer for Lot | | **0.336** |

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | | | |
|---|---|---|---|
| **Analyst** | TAKISHA DICKERSON | Avg. Tot. Stabilizers | **0.34** % |
| Analyst Signature | | Stable YES | Unstable |
| Lab. Supervisor Signature | | Comments **CATEGORY:** | **A** |
| | | Actions to be Taken | |

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND81G070061** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 12 JULY 2011** |

| Other Information | Sample Data | | Solvent |
|---|---|---|---|
| M6 Propellant | #1 | 0.50 g 100 ml | ACN |

| Standards (ERG-006) | | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 0.71 | 111 | 358.1 | 0.323 |
| 2,4-DNDPA | 50.0 | 3.475 | 1001 | 79.1 | 0.008 |
| 2,2' DNDPA | 50.0 | 5.325 | 95 | 18335 | 0.000 |
| 2,4' DNDPA | 50.0 | 7.791 | 1061.3 | 83.2 | 0.008 |
| 4NDPA | 50.0 | 9.345 | 1700.8 | 167.7 | 0.010 |
| 2NDPA | 50.0 | 10.629 | 3041.2 | 330.5 | 0.011 |
| DPA | 200.0 | 12.152 | 5943.4 | 913.3 | 0.061 |
| N-NitrosoDPA | 75.0 | 13.034 | 1443.1 | 111.8 | 0.000 |

0.421

| Avg. % Stabilizer for Lot | **0.421** |
|---|---|

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | |
|---|---|
| **Analyst** Mike Kile | Avg. Tot. Stabilizers **0.42** % |
| Analyst Signature | Stable YES / Unstable |
| Lab. Supervisor Signature | Comments **CATEGORY: A** |
| | Actions to be Taken |

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND81D070015** | **D533 / M6 propellant** |
| Date of analysis: | **Date:20 OCT 2010** |

Other Information
M6 Propellant

| Sample Data | | | Solvent |
|---|---|---|---|
| #1 | 0.5000 g | 100 ml | ACN |

| Standards (ERG-006) | | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 5.024 | 281.6 | 2363.4 | 0.839 |
| 2,4-DNDPA | 50.0 | 10.59 | 329 | 0 | 0.000 |
| 2,2' DNDPA | 50.0 | 12.176 | 376.1 | 0 | 0.000 |
| 2,4' DNDPA | 50.0 | 12.67 | 275.3 | 35.7 | 0.013 |
| 4NDPA | 50.0 | 13.632 | 664.1 | 0 | 0.000 |
| 2NDPA | 50.0 | 14.943 | 1788.8 | 34.8 | 0.002 |
| DPA | 200.0 | 16.114 | 286 | 0 | 0.000 |
| N-NitrosoDPA | 75.0 | 19.917 | 329.9 | 158.8 | 0.000 |

0.854

Avg. % Stabilizer for Lot **0.854**

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | |
|---|---|
| **Analyst** Kisha Dickerson | Avg. Tot. Stabilizers **0.85** % |
| Analyst Signature | Stable YES / Unstable |
| | Comments **CATEGORY: A** |
| Lab. Supervisor Signature | |
| | Actions to be Taken |

CONTAINS HAZARDOUS MATERIALS

# STRAIGHT BILL OF LADING

**NOT NEGOTIABLE** Load 20

RECEIVED, subject to the classification and tariffs in effect on the date of the issue of this Original Bill of Lading.
The property described below, in apparent good order, except as noted (contents and condition of contents of packages unknown) consigned, end destined as indicated below, which said carrier (the word carrier being understood throughout this contract meaning any person or corporation in possession of the property under the contract) agrees to curry as usual place of delivery of said destination. It on its route, otherwise to deliver to another carrier on the route to said destination. It is mutually agreed, as to each of all or any of said property over all or any portion of said route to destination, and as to each party at any time interested in all or any of said property, that every service lobe performed hereunder shall be subject to all the terms and conditions of the Uniform Domestic Straight Bill of Lading Set forth (t) in Uniform Freight Classification in effect on the date hereof, It this is a rail or rail-water shipment, or (2) in the applicable motor carrier classification or tariff it this is a motor carrier shipment.
Shipper hereby certifies that he is familiar with all the terms and conditions of the said bill of lading, set forth in the classification or tariff which governs the transportation of this shipment, and the sold terms and conditions are hereby agreed to by the shipper and accept for himself and his assigns.

Shipper: Explo Systems, Inc.
1600 Java Road
Minden, LA 71055

Shipper's No. 2874

Shipping Date 3/22/13

At

Purchase Order No.

By [illegible] Freight Charges: Collect _____ Prepaid [illegible] Location No. 2478

(Mail or Street Address of Consignee — For purposes of notification only)

Consigned to [illegible] Fed Lic. [illegible] Exp. Date 5/1/15

Destination [illegible] State State Lic. Exp. Date

County East Camden [illegible] Customer No.

Route

Charge Account of [illegible] Customer P.O. No. Rel. No.

| SHIPPED No. of PKGS | SHIPPED No. of UNITS | PROPER SHIPPING NAME AND HAZARD CLASS | RETURNED No. of PKGS | RETURNED No. of UNITS | EMERGENCY RESPONSE PROCEDURE GUIDE NO. | EXEMPTION DOT-E | H M | Placards Applied to Railcar or Motor Vehicle |
|---|---|---|---|---|---|---|---|---|
| | | UN0161, Powder, Smokeless, 1.3C, PG II | | | #112 | | | EXPLOSIVES 1.3 |
| | | | | | | | | |
| | | [illegible] | | | | | | |
| | | [illegible] | | | | | | Truck No. |
| | | | | | | | | Trailer No. |
| | | [illegible] | | | | | | Mileage |
| | | | | | | | | Total [illegible] Packages |
| | | | | | | | | Gross Weight # [illegible] |
| | | Seal | | | | | | Net Explosive Weight |
| | | 7083821/7083822 | | | | | | [illegible] |

ENTERED 03/22/13 [illegible]

RECEIVED 17AT30 MAR 22 2013 AUSTIN POWDER COMPANY EAST CAMDEN PLANT

This is to certify that the above-named materials are properly classified, described, packaged, marked, and labeled and are in proper condition for transportation, according to the applicable regulations of the Department of Transportation.

Signature [illegible] Invoice No. _____

FOR CHEMICAL EMERGENCY, SPILL, LEAK, FIRE, EXPOSURE OR ACCIDENT CALL CHEMTREC — DAY OR NIGHT
IN THE USA CALL 800-424-9300 IN CANADA (ERP #2-0040) 800-561-3636 ELSEWHERE CALL (703) 527-3887 [illegible]

Permanent Address of Shipper:
**Explo Systems, Inc.**
1600 Java Road
[illegible]den, Louisiana 71055
[illegible]) 382-8700

Per _____

DOT Hazardous Material Handling Number _____
Local Federal Explosives License No. 5-LA-119-20-1A-00057
(Shipper)

I have been offered placards identifying the shipment as Specified in 49CFR Subpart F of Part 172. I have received the above goods in apparent good order and condition.

Received By [illegible] Date [illegible]
☐ CONSIGNEE ☐ CARRIER

By _____ Date _____
AUTHORIZED RECEIVER

CONTAINS HAZARDOUS MATERIALS

Agent must detach and retain this Shipping Order

019883

EXP_001517

Ladd 20

AUSTIN POWDER PACKING LIST

SHIPMENT DATE 3-22-13

B/L# 2874 TRL 6810057

M-6

IND81L-070071 4 PTS
IND81D-070019 3 PTS
IND87D-070450 6 PTS
IND85F-070588 1 PT
IND82D-070113 2 PTS
IND83F-070276 1 PT
IND82L-070178 2 PTS
IND82J-070172 1 PT
IND85M-070430 2 PTS
IND83F-070278 5 PTS
IND83F-070274 2 PTS
IND80M-070011 3 PTS
IND86M-070673 6 PTS
IND85K-070598 4 PTS
42 PTS WITH 6 FB @140 LBS PER DRUM

TOTAL 35,280 LBS

LIONEL KOONS

EXPLO SYSTEMS INC

# MOTOR VEHICLE INSPECTION (TRANSPORTING HAZARDOUS MATERIALS)

*(Read Instructions before completing this form.)*

This form applies to all vehicles which must be marked or placarded in accordance with Title 49 CFR.

1. BILL OF LADING/TRANSPORTATION CONTROL NUMBER: 2674

| SECTION 1 - DOCUMENTATION | ORIGIN a. | DESTINATION b. |
|---|---|---|
| 2. CARRIER/GOVERNMENT ORGANIZATION | RRVK | |
| 3. DATE/TIME OF INSPECTION | 3/22/13 | |
| 4. LOCATION OF INSPECTION | EXDO SYSTEMS INC | |
| 5. OPERATOR(S) NAME(S) | BARNETT MEARNS | |
| 6. OPERATOR(S) LICENSE NUMBER(S) | R20234300911 MO | |
| 7. MEDICAL EXAMINER'S CERTIFICATE* | 1-3-15 | |

| 8. (X if satisfactory at origin) | | | | 9. CVSA DECAL DISPLAYED ON COMMERCIAL EQUIPMENT* | YES | NO |
|---|---|---|---|---|---|---|
| a. MILITARY HAZMAT ENDORSEMENT | ✓ | d. ERG OR EQUIVALENT COMMERCIAL: | ✓ YES / NO | | | |
| b. VALID LEASE* | ✓ | e. DRIVER'S VEHICLE INSPECTION REPORT* | | a. TRUCK/TRACTOR | ✓ | |
| c. ROUTE PLAN | ✓ | f. COPY OF 49 CFR PART 397 | | b. TRAILER | ✓ | |

## SECTION II - MECHANICAL INSPECTION

*All items shall be checked on empty equipment prior to loading. Items with an asterisk shall be checked on all incoming loaded equipment.*

10. TYPE OF VEHICLE(S): TRACTOR / TRAILER / DROM

11. VEHICLE NUMBER(S): TRAC # / TRL #

| 12. PART INSPECTED (X as applicable) | ORIGIN (1) SAT | ORIGIN (1) UNSAT | DESTINATION (2) SAT | DESTINATION (2) UNSAT | | ORIGIN (1) SAT | ORIGIN (1) UNSAT | DESTINATION (2) SAT | DESTINATION (2) UNSAT | COMMENTS (3) |
|---|---|---|---|---|---|---|---|---|---|---|
| a. SPARE ELECTRICAL FUSES | | | | | k. EXHAUST SYSTEM | | | | | |
| b. HORN OPERATIVE | | | | | l. BRAKE SYSTEM* | | | | | |
| c. STEERING SYSTEM | | | | | m. SUSPENSION | | | | | |
| d. WINDSHIELD/WIPERS | | | | | n. COUPLING DEVICES | | | | | |
| e. MIRRORS | | | | | o. CARGO SPACE | | | | | |
| f. WARNING EQUIPMENT | | | | | p. LANDING GEAR* | | | | | |
| g. FIRE EXTINGUISHER* | | | | | q. TIRES, WHEELS, RIMS | | | | | |
| h. ELECTRICAL WIRING | | | | | r. TAILGATE/DOORS* | | | | | |
| i. LIGHTS AND REFLECTORS | | | | | s. TARPAULIN* | N/A | | | | |
| j. FUEL SYSTEM* | | | | | t. OTHER (Specify) | | | | | |

13. INSPECTION RESULTS (X one) ACCEPTED ✓ REJECTED

*(If rejected give reason under "Remarks". Equipment will be approved if deficiencies are corrected prior to loading.)*

14. SATELLITE MOTOR SURVEILLANCE SYSTEM: (X one) ACCEPTED N/A REJECTED

15. REMARKS

16. INSPECTOR SIGNATURE *(Origin)*

17. INSPECTOR SIGNATURE *(Destination)*

## SECTION III - POST LOADING INSPECTION

This section applies to Commercial and Government/Military vehicles. All items will be checked prior to release of loaded equipment and shall be checked on all incoming loaded equipment.

| | ORIGIN (1) SAT | ORIGIN (1) UNSAT | DESTINATION (2) SAT | DESTINATION (2) UNSAT | COMMENTS (3) |
|---|---|---|---|---|---|
| 18. LOADED IAW APPLICABLE SEGREGATION/COMPATIBILITY TABLE OF 49 CFR | | | | | |
| 19. LOAD PROPERLY SECURED TO PREVENT MOVEMENT | | | | | |
| 20. SEALS APPLIED TO CLOSED VEHICLE; TARPAULIN APPLIED ON OPEN EQUIPMENT | | | | | |
| 21. PROPER PLACARDS APPLIED | | | | | |
| 22. SHIPPING PAPERS/DD FORM 836 FOR GOVERNMENT VEHICLE SHIPMENTS | N/A | | | | |
| 23. COPY OF DD FORM 626 FOR DRIVER | | | | | |
| 24. SHIPPED UNDER DOT SPECIAL PERMIT 868 | N/A | | | | |

25. INSPECTOR SIGNATURE *(Origin)*

26. DRIVER(S) SIGNATURE *(Origin)*

27. INSPECTOR SIGNATURE *(Destination)*

28. DRIVER(S) SIGNATURE *(Destination)*

Explo Systems, Inc.
1600 Java Road
Minden, LA 71055

# MATERIAL SAFETY DATA SHEET

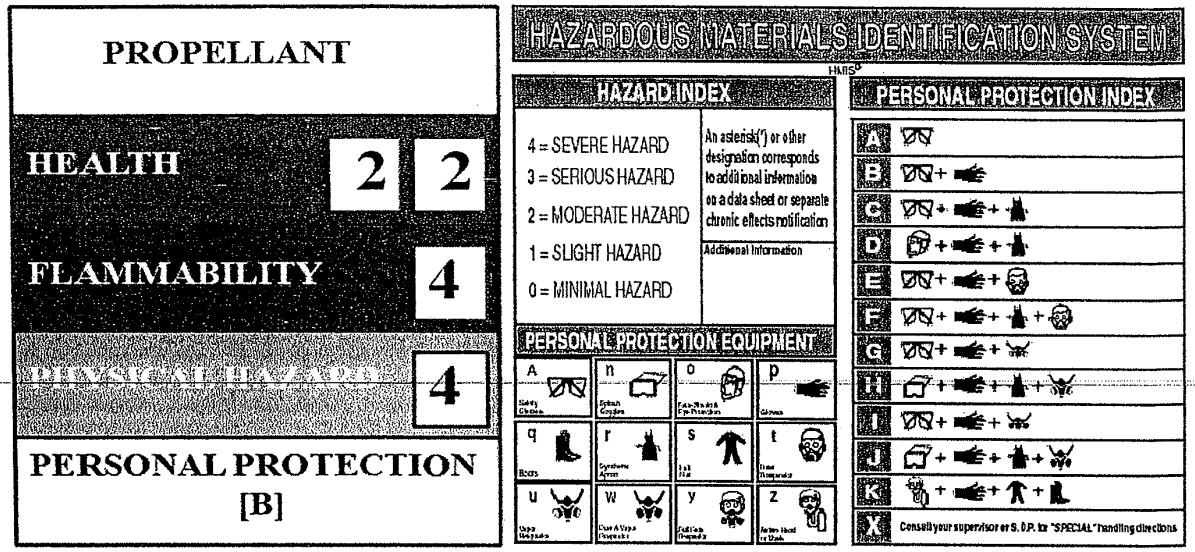
## PROPELLANT (Wetted)

## SECTION I - PRODUCT IDENTIFICATION

PRODUCT NAME: Propellant, Explosive, Solid, Wetted
Technical Information Phone No.: 318.382.8700
For Chemical Emergency (Spill, Fire, Exposure or Accident) call CHEMTREC day or night. Within the US and Canada: +1 800-424-9300. Outside the US and Canada: +1 703-527-3887 (collect calls accepted).

| Ingredient | CAS No. | Wt. % | OSHA PEL<br>ACGIH TLV<br>EPA RQ (if defined)<br>DOT RQ (if defined) |
|---|---|---|---|
| Dibutyl Phthalate | 84-74-2 | 3.00 | OSHA PEL 5 mg/m$^3$<br>ACGIH TLV 5 mg/m$^3$<br>EPA RQ 10 lbs<br>DOT RQ 10 lbs |
| Diphenylamine | 122-39-4 | 1.00 | OSHA PEL 10 mg/m$^3$<br>ACGIH TLV 10 mg/m$^3$<br>EPA RQ (none defined)<br>DOT RQ (none defined) |
| Potassium Sulfate | 7778-80-5 | 2.00 | OSHA PEL none published<br>ACGIH TLV none published<br>EPA RQ (none defined)<br>DOT RQ (none defined) |
| Nitrocellulose (flammable solid) | -- | 87.00 | OSHA PEL none published<br>ACGIH TLV none published<br>EPA RQ (none defined)<br>DOT RQ (none defined) |
| Dinitrotoluene | 25321-14-6 | 10.00 | OSHA PEL 10 mg/m$^3$<br>ACGIH TLV 10 mg/m$^3$<br>EPA RQ 10 lbs<br>DOT RQ 10 lbs |

## SECTION II - HAZARDS IDENTIFICATION




Routes of Entry: Inhalation; Skin; Ingestion
Carcinogenicity: None
First Aid Measures: EYES - Immediately flush with copious amount of water (low pressure) for 15 minutes, remove contact lenses; call physician. SKIN - Wash with soap and running water. INGESTION - Contact physician immediately. INHALATION - Remove to fresh air. Treat irritation symptomatically; call physician.
Firefighting Measures: Self-oxidizing, deluge with water. Will not be able to extinguish unless large quantity of water is used in very short time. Use NIOSH/MSHA approved SCBA and full protective equipment; evacuate area.
Unusual Fire/Explosion Hazard: Easily ignited, highly combustible; protect from fire and sparks and extreme heat.
Autoignition: 383°F (195°C)
Hazardous Combustion Products: Oxides of Carbon
Accidental Release Measures: SPILL - Clean immediately with soft (horsehair) brush and conductive rubber or plastic shovel. Use brass or other non-sparking tools and utensils. DO NOT hammer or otherwise cause impact forces to spilled material (explosion or autoignition could occur with impact force being applied).

## SECTION III - HANDLING AND STORAGE

Precautions: Avoid prolonged temperature above 125°F (50°C). Normal storage conditions should be 75°F (21°C) and 50% Humidity. Storage must conform to local, state and federal regulations, specifically: 29 CFR OSHA 1910.109; 27 CFR BATFE 55 subpart K.
Other Special Precautions: Flammable Solid…Keep away from heat, sparks, open flame…Keep containers closed…use with adequate ventilation.
Ventilation: Local and general ventilation necessary to keep air concentration below TLV's.
Personal Protective Equipment: Safety Glasses, Cotton or Leather Gloves, Fire Resistant Coveralls.

## SECTION IV - PHYSICAL AND CHEMICAL PROPERTIES

Specific Gravity: 1.496
Evaporation Rate: <1 (Butylacetate = 1)
Solubility in Water: negligible
Appearance and Odor: Hard Cylinder Perforated, Smooth, Greenish Yellow. Odorless.
Materials to Avoid: Oxides of Nitrogen and Carbon.

Conditions to Avoid: Open Flame, Sparks, Heat, Direct Sunlight.
Hazardous Decomposition Products: Oxides of Carbon

## SECTION V – TRANSPORTATION INFORMATION

DOT Proper Shipping Name: Smokeless Powder (wetted)
Hazard Class: 1.3C
UN No. UN0161
Packing Group: II

## SECTION VI - DISPOSAL CONSIDERATIONS

Disposal must be in accordance with federal, state and local regulations. Burn in open burning ground in accordance with regulatory requirements. It may also be burned in an incinerator approved for explosives.

## DISCLAIMER

The information contained in this MSDS (Material Safety Data Sheet) is based upon available constituent data for the components of **Propellant** and is believed to be correct. However, as this information has been obtained from various sources, including the manufacturers of its components and independent laboratories, it is provided herein without warranty or representation that it is complete, accurate and can be relied upon. Explo Systems, Inc. has not attempted to conceal in any manner the deleterious aspects of this product, and makes no warranty as such. Explo Systems, Inc. cannot anticipate nor control the many situations in which this product or this information may be used; there is no guarantee that the health and safety precautions suggested herein will be proper under all conditions. It is the sole responsibility of each user of the product to determine and comply with the requirements of all applicable laws and regulations regarding its use. This information is given solely for the purposes of safety to persons and property. Any other use of this information is expressly prohibited.

## AUTHOR

This MSDS was prepared by: Ferris Callihan, PE - Director Support Technology - Explo Systems, Inc. - 1600 Java Road - Minden, LA 71055 - Tel 318 382 8700 - E-mail: fcallihan@explosystems.com

U.S. Department
of Transportation

Pipeline and Hazardous
Materials Safety Administration

East Building, PHH – 32
1200 New Jersey Avenue, Southeast
Washington, D.C. 20590

The US Department of Transportation
Competent Authority for the United States

## CLASSIFICATION OF EXPLOSIVES
## FIRST REVISION

Based upon a request by Explo Systems Inc., 1600 Java Road, Minden, LA 71055, United States the following items are classed in accordance with Section 173.56, Title 49, Code of Federal Regulations (49 CFR). A copy of your application, all supporting documentation and a copy of this approval must be retained and made available to DOT upon request.

**U.N. PROPER SHIPPING NAME AND NUMBER:**
Powder, smokeless, UN0161

**U.N. CLASSIFICATION CODE**: 1.3C

| **REFERENCE NUMBER** | **PRODUCT DESIGNATION/PART NUMBER** |
|---|---|
| EX2010040603 | Reclaimed M6 Propellant |

**NOTES:** This classification is only valid when the smokeless powder has been tested and found to have sufficient residual stabilizers present per US Army Safety Bulletin: "Inspection of Supplies and Equipment, Ammunition Surveillance Procedures" (SB 742-1). The following packaging methods are assigned:
Packaging Method A: Inner Packaging - Not necessary. Outer Packaging – UN 1G fiberdrum, each containing not more than one hundred and forty (140) pounds of smokeless propellant.
Packaging Method B: Inner Packaging: Flexible static-resistant reinforced plastic cloth and strapping lifting bag, each containing not more than eight hundred and eighty (880) pounds of smokeless propellant. Outer Packaging - UN 4G heavy-wall fiberboard box with a volumetric capacity of 119 gallons or less. (see 49 CFR Section 171.8 Definition for "Non-bulk packaging")

**DATED:** 05/05/2011

Harpreet S Singh

For Dr. Magdy El-Sibaie
Associate Administrator for Hazardous Materials Safety



019889

EXP_001523

20
2874

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND87D070450** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 23 AUG 2010** |

| Other Information | Sample Data | | Solvent |
|---|---|---|---|
| M6 Propellant | #1 | 0.5000 g 100 ml | ACN |

| Standards (ERG-006) | | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | | 0 | | |
| 2,4-DNDPA | 50.0 | 4.884 | 715.1 | 0 | 0.000 |
| 2,2' DNDPA | 50.0 | 9.663 | 794.8 | 5124.3 | 0.645 |
| 2,4' DNDPA | 50.0 | 11.213 | 1155.8 | 0 | 0.000 |
| 4NDPA | 50.0 | 11.899 | 750.7 | 0 | 0.000 |
| 2NDPA | 50.0 | 12.536 | 1565 | 0 | 0.000 |
| DPA | 200.0 | 13.934 | 4151.3 | 0 | 0.000 |
| N-NitrosoDPA | 75.0 | 14.875 | 1080.5 | 46.7 | 0.006 |

0.651

| Avg. % Stabilizer for Lot | **0.651** |
|---|---|

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | |
|---|---|
| **Analyst** Kisha Dickerson | Avg. Tot. Stabilizers **0.65** % |
| Analyst Signature | Stable YES / Unstable |
| Lab. Supervisor Signature | Comments **CATEGORY: A** |
| | Actions to be Taken |

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND86M070673** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 7 FEB 2012** |

| Other Information | Sample Data | | Solvent |
|---|---|---|---|
| M6 Propellant | #1 | 0.50 g 100 ml | ACN |

| Standards (ERG-006) | | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 0.863 | 50.1 | 452.6 | 0.903 |
| 2,4-DNDPA | 50.0 | 3.336 | 893.6 | 0 | 0.000 |
| 2,2' DNDPA | 50.0 | 5.03 | 726.8 | 22299 | 0.000 |
| 2,4' DNDPA | 50.0 | 7.182 | 1225.5 | 0 | 0.000 |
| 4NDPA | 50.0 | 8.642 | 1532.1 | 67.5 | 0.004 |
| 2NDPA | 50.0 | 9.759 | 2784.7 | 120.3 | 0.004 |
| DPA | 200.0 | 11.235 | 5480.9 | 727.3 | 0.053 |
| N-NitrosoDPA | 75.0 | 11.979 | 1363.1 | 0 | 0.000 |

| | | |
|---|---|---|
| | | 0.965 |
| Avg. % Stabilizer for Lot | | **0.965** |

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | | |
|---|---|---|
| **Analyst** TAKISHA DICKERSON | Avg. Tot. Stabilizers | **0.97** % |
| Analyst Signature | Stable YES | Unstable |
| | Comments | |
| Lab. Supervisor Signature | **CATEGORY:** | **A** |
| | Actions to be Taken | |

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND85K070598** | **D533 / M6 propellant** |
| Date of analysis: | **Date:25 AUG 2010** |

| Other Information | Sample Data | | Solvent |
|---|---|---|---|
| M6 Propellant | #1 | 0.5000 g 100 ml | ACN |

| Standards (ERG-006) | | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 2.177 | 146.5 | 1423.9 | 0.972 |
| 2,4-DNDPA | 50.0 | 5.001 | 961.7 | 0 | 0.000 |
| 2,2' DNDPA | 50.0 | 7.038 | 2567.5 | 14670.5 | 0.000 |
| 2,4' DNDPA | 50.0 | 9.931 | 938.5 | 0 | 0.000 |
| 4NDPA | 50.0 | 11.434 | 1325.8 | 0 | 0.000 |
| 2NDPA | 50.0 | 12.813 | 1809.7 | 0 | 0.000 |
| DPA | 200.0 | 14.19 | 4886.9 | 403.2 | 0.033 |
| N-NitrosoDPA | 75.0 | 15.18 | 1296.7 | 0 | 0.000 |

| | | |
|---|---|---|
| | | 1.005 |
| Avg. % Stabilizer for Lot | | **1.005** |

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | | |
|---|---|---|
| **Analyst** Kisha Dickerson | Avg. Tot. Stabilizers | **1.00** % |
| Analyst Signature | Stable YES | Unstable |
| Lab. Supervisor Signature | Comments **CATEGORY:** **A** | |
| | Actions to be Taken | |

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND85M070430** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 6 MAY 2011** |

| Other Information | Sample Data | | Solvent |
|---|---|---|---|
| M6 Propellant | #1 | 0.50 g 100 ml | ACN |

| | Standards (ERG-006) | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 0.632 | 62 | 316 | 0.510 |
| 2,4-DNDPA | 50.0 | 3.418 | 951 | 0 | 0.000 |
| 2,2' DNDPA | 50.0 | 5.203 | 137 | 21968 | 0.000 |
| 2,4' DNDPA | 50.0 | 7.572 | 1006 | 0 | 0.000 |
| 4NDPA | 50.0 | 9.106 | 1579 | 76 | 0.005 |
| 2NDPA | 50.0 | 10.347 | 2905 | 107 | 0.004 |
| DPA | 200.0 | 11.88 | 5183 | 374 | 0.029 |
| N-NitrosoDPA | 75.0 | 12.734 | 1382 | 0 | 0.000 |

| | |
|---|---|
| | 0.547 |
| Avg. % Stabilizer for Lot | **0.547** |

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | |
|---|---|
| **Analyst** MIKE KILE | Avg. Tot. Stabilizers **0.55** % |
| Analyst Signature | Stable YES / Unstable |
| Lab. Supervisor Signature | Comments **CATEGORY: A** |
| | Actions to be Taken |

Form #158

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND85F070588** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 20 Dec 2010** |

| Other Information | Sample Data | | Solvent |
|---|---|---|---|
| M6 Propellant | #1 | 0.5000 g 100 ml | ACN |

| Standards (ERG-006) | | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 2.059 | 87.1 | 1411.1 | 1.620 |
| 2,4-DNDPA | 50.0 | 5.198 | 631.9 | 845.8 | 0.134 |
| 2,2' DNDPA | 50.0 | 7.699 | 1074.2 | 15722.5 | 0.000 |
| 2,4' DNDPA | 50.0 | 11.782 | 545 | 0 | 0.000 |
| 4NDPA | 50.0 | 13.513 | 1464.9 | 246.8 | 0.017 |
| 2NDPA | 50.0 | 15.189 | 1011.6 | 0 | 0.000 |
| DPA | 200.0 | 16.638 | 2894.7 | 309.8 | 0.043 |
| N-NitrosoDPA | 75.0 | 18.069 | 720.1 | 0 | 0.000 |

| | | |
|---|---|---|
| | | 1.814 |
| Avg. % Stabilizer for Lot | | **1.814** |

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | |
|---|---|
| **Analyst** Kisha Dickerson | Avg. Tot. Stabilizers **1.81** % |
| Analyst Signature | Stable YES / Unstable |
| | Comments **CATEGORY: A** |
| Lab. Supervisor Signature | |
| | Actions to be Taken |

Form #158

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND83F070274** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 27 JULY 2011** |

| Other Information | Sample Data | | Solvent |
|---|---|---|---|
| M6 Propellant | #1 | 0.50 g 100 ml | ACN |

| | Standards (ERG-006) | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 0.694 | 112.8 | 622.1 | 0.552 |
| 2,4-DNDPA | 50.0 | 3.477 | 942.8 | 0 | 0.000 |
| 2,2' DNDPA | 50.0 | 5.339 | 77.4 | 22209 | 0.000 |
| 2,4' DNDPA | 50.0 | 7.842 | 1020.3 | 0 | 0.000 |
| 4NDPA | 50.0 | 9.392 | 1634.2 | 48.5 | 0.003 |
| 2NDPA | 50.0 | 10.693 | 2956.2 | 98.3 | 0.003 |
| DPA | 200.0 | 12.201 | 5630.5 | 451.4 | 0.032 |
| N-NitrosoDPA | 75.0 | 13.103 | 1385.2 | 0 | 0.000 |
| | | | | | 0.590 |
| | | Avg. % Stabilizer for Lot | | | **0.590** |

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | |
|---|---|
| **Analyst** Takisha Dickerson | Avg. Tot. Stabilizers **0.59** % |
| Analyst Signature | Stable YES \| Unstable |
| Lab. Supervisor Signature | Comments<br>**CATEGORY:** **A** |
| | Actions to be Taken |

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND83F070278** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 11 JULY 2012** |

| Other Information | Sample Data | | Solvent |
|---|---|---|---|
| M6 Propellant | #1 | 0.50 g 100 ml | ACN |

| Standards (ERG-006) | | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 0.803 | 32.3 | 256.2 | 0.793 |
| 2,4-DNDPA | 50.0 | 3.397 | 945.1 | 0 | 0.000 |
| 2,2' DNDPA | 50.0 | 5.155 | 1995.1 | 21574 | 0.000 |
| 2,4' DNDPA | 50.0 | 7.525 | 949.2 | 0 | 0.000 |
| 4NDPA | 50.0 | 9.04 | 1580.4 | 89.7 | 0.006 |
| 2NDPA | 50.0 | 10.278 | 2854 | 35.4 | 0.001 |
| DPA | 200.0 | 11.761 | 5473.7 | 589.5 | 0.043 |
| N-NitrosoDPA | 75.0 | 12.606 | 1672.4 | 0 | 0.000 |

| | 0.843 |
|---|---|
| Avg. % Stabilizer for Lot | **0.843** |

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | |
|---|---|
| **Analyst** Takisha Dickerson | Avg. Tot. Stabilizers **0.84** % |
| Analyst Signature | Stable YES \| Unstable |
| | Comments **CATEGORY: A** |
| Lab. Supervisor Signature | |
| | Actions to be Taken |

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND83F070276** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 4 Sep 2012** |

| Other Information | Sample Data | | Solvent |
|---|---|---|---|
| M6 Propellant | #1 | 0.50 g 100 ml | ACN |

| Standards (ERG-006) | | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 0.889 | 48.8 | 578.6 | 1.186 |
| 2,4-DNDPA | 50.0 | 3.418 | 914.3 | 0 | 0.000 |
| 2,2' DNDPA | 50.0 | 5.22 | 777.3 | 23990 | 0.000 |
| 2,4' DNDPA | 50.0 | 7.622 | 980.5 | 0 | 0.000 |
| 4NDPA | 50.0 | 9.134 | 1586.8 | 40.6 | 0.003 |
| 2NDPA | 50.0 | 10.417 | 2826.3 | 88.7 | 0.003 |
| DPA | 200.0 | 11.797 | 5671.5 | 812.6 | 0.057 |
| N-NitrosoDPA | 75.0 | 12.757 | 1337.5 | 0 | 0.000 |

| | | |
|---|---|---|
| | | 1.249 |
| Avg. % Stabilizer for Lot | | **1.249** |

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | | |
|---|---|---|
| **Analyst** Mike Kile | Avg. Tot. Stabilizers | **1.25** % |
| Analyst Signature | Stable YES | Unstable |
| | Comments | |
| Lab. Supervisor Signature | **CATEGORY:** | **A** |
| | Actions to be Taken | |

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND82J070172** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 15 July 2011** |

| Other Information | Sample Data | | Solvent |
|---|---|---|---|
| M6 Propellant | #1 | 0.50 g 100 ml | ACN |

| | Standards (ERG-006) | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 0.698 | 60 | 276.3 | 0.461 |
| 2,4-DNDPA | 50.0 | 3.469 | 1060.3 | 0 | 0.000 |
| 2,2' DNDPA | 50.0 | 5.327 | 112.7 | 25324 | 0.000 |
| 2,4' DNDPA | 50.0 | 7.82 | 1131.9 | 0 | 0.000 |
| 4NDPA | 50.0 | 9.358 | 1817.5 | 137.4 | 0.008 |
| 2NDPA | 50.0 | 10.643 | 3250 | 121.1 | 0.004 |
| DPA | 200.0 | 12.15 | 6225.1 | 406.2 | 0.026 |
| N-NitrosoDPA | 75.0 | 13.037 | 1551.7 | 0 | 0.000 |

| | | |
|---|---|---|
| | | 0.498 |
| | Avg. % Stabilizer for Lot | **0.498** |

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | |
|---|---|
| **Analyst** Mike Kile | Avg. Tot. Stabilizers **0.50** % |
| Analyst Signature | Stable YES / Unstable |
| Lab. Supervisor Signature | Comments **CATEGORY: A** |
| | Actions to be Taken |

Form #158

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND82L070178** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 1 FEB 2011** |

| Other Information | Sample Data | | Solvent |
|---|---|---|---|
| M6 Propellant | #1 | 0.5000 g | 100 ml ACN |

| | Standards (ERG-006) | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 4.156 | 1116 | 1943.1 | 0.174 |
| 2,4-DNDPA | 50.0 | 9.388 | 1191.2 | 25869.9 | 2.172 |
| 2,2' DNDPA | 50.0 | 10.987 | 1694.7 | 97.6 | 0.000 |
| 2,4' DNDPA | 50.0 | 11.73 | 1272.3 | 145.3 | 0.011 |
| 4NDPA | 50.0 | 12.459 | 2443.3 | 0 | 0.000 |
| 2NDPA | 50.0 | 13.939 | 5852.1 | 388.6 | 0.007 |
| DPA | 200.0 | 15.022 | 1753.1 | 361.4 | 0.082 |
| N-NitrosoDPA | 75.0 | 18.932 | 2535.1 | 365.7 | 0.000 |

| | 2.446 |
|---|---|
| Avg. % Stabilizer for Lot | **2.446** |

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | |
|---|---|
| **Analyst** Mike Kile | Avg. Tot. Stabilizers **2.45** % |
| Analyst Signature | Stable YES \| Unstable |
| | Comments |
| Lab. Supervisor Signature | CATEGORY: A |
| | Actions to be Taken |

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND82D070113** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 6 JAN 2012** |

| Other Information | Sample Data | | Solvent |
|---|---|---|---|
| M6 Propellant | #1 | 0.50 g 100 ml | ACN |

| Standards (ERG-006) | | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 0.65 | 119.1 | 328.4 | 0.276 |
| 2,4-DNDPA | 50.0 | 3.304 | 1019.8 | 16 | 0.002 |
| 2,2' DNDPA | 50.0 | 4.943 | 1734.6 | 21955 | 0.000 |
| 2,4' DNDPA | 50.0 | 7.018 | 1103.9 | 0 | 0.000 |
| 4NDPA | 50.0 | 8.439 | 1782.5 | 66.8 | 0.004 |
| 2NDPA | 50.0 | 9.513 | 3182.1 | 143.1 | 0.004 |
| DPA | 200.0 | 10.956 | 6219.8 | 790.9 | 0.051 |
| N-NitrosoDPA | 75.0 | 11.669 | 1532.4 | 0 | 0.000 |

0.336

| Avg. % Stabilizer for Lot | **0.336** |
|---|---|

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | |
|---|---|
| **Analyst** TAKISHA DICKERSON | Avg. Tot. Stabilizers **0.34** % |
| Analyst Signature | Stable YES / Unstable |
| Lab. Supervisor Signature | Comments **CATEGORY: A** |
| | Actions to be Taken |

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND80M070011** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 22 March 2012** |

| Other Information | Sample Data | | Solvent |
|---|---|---|---|
| M6 Propellant | #1 | 0.50 g 100 ml | ACN |

| Standards (ERG-006) | | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 0.897 | 14.6 | 40.4 | 0.277 |
| 2,4-DNDPA | 50.0 | 3.327 | 870.9 | 0 | 0.000 |
| 2,2' DNDPA | 50.0 | 5.054 | 688.7 | 29012 | 0.000 |
| 2,4' DNDPA | 50.0 | 7.295 | 945.9 | 0 | 0.000 |
| 4NDPA | 50.0 | 8.792 | 1528.5 | 144 | 0.009 |
| 2NDPA | 50.0 | 10.019 | 2755.3 | 103.4 | 0.004 |
| DPA | 200.0 | 11.357 | 5392.9 | 588.9 | 0.044 |
| N-NitrosoDPA | 75.0 | 12.286 | 1332.2 | 0 | 0.000 |
| | | | | | 0.334 |
| | | Avg. % Stabilizer for Lot | | | **0.334** |

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | |
|---|---|
| **Analyst** Takisha Dickerson | Avg. Tot. Stabilizers **0.33** % |
| Analyst Signature | Stable YES / Unstable |
| Lab. Supervisor Signature | Comments **CATEGORY: A** |
| | Actions to be Taken |

CONTAINS HAZARDOUS MATERIALS

# STRAIGHT BILL OF LADING

**NOT NEGOTIABLE** Load 21

RECEIVED, subject to the classification and tariffs in effect on the date of the issue of this Original Bill of Lading.
The property described below, in apparent good order, except as noted (contents and condition of contents of packages unknown) consigned, end destined as indicated below, ch said carrier (the word carrier being understood throughout this contract meaning any person or corporation in possession of the property under the contract) agrees to curry s usual place of delivery of said destination. It on its route, otherwise to deliver to another carrier on the route to said destination. It is mutually agreed, as to each of all or any of said property over all or any portion of said route to destination, and as to each party at any time interested in all or any of said property, that every service lobe performed hereunder shall be subject to all the terms and conditions of the Uniform Domestic Straight Bill of Lading Set forth (t) in Uniform Freight Classification in effect on the date hereof, It this is a rail or rail-water shipment, or (2) in the applicable motor carrier classification or tariff it this is a motor carrier shipment.

Shipper hereby certifies that he is familiar with all the terms and conditions of the said bill of lading, set forth in the classification or tariff which governs the transportation of this shipment, and the sold terms and conditions are hereby agreed to by the shipper and accept for himself and his assigns.

Shipper: Explo Systems, Inc.
1600 Java Road
Minden, LA 71055

Shipper's No. 2875

Shipping Date 3/22/13

At

Purchase Order No.

By RRUK

Freight Charges: Collect _____ Prepaid XX

Location No. 2478

(Mail or Street Address of Consignee — For purposes of notification only)

Consigned to Austin Powder Co

Fed Lic. [illegible] Exp. Date 5/1/15

Destination 7-11-10 Blanchard Rd State

State Lic. Exp. Date

County East Camden Ar

Customer No.

Route

Charge Account of [illegible]

Customer P.O. No. Rel. No.

| SHIPPED No. of PKGS | SHIPPED No. of UNITS | PROPER SHIPPING NAME AND HAZARD CLASS | RETURNED No. of PKGS | RETURNED No. of UNITS | EMERGENCY RESPONSE PROCEDURE GUIDE NO. | EXEMPTION DOT-E | H M | Placards Applied to Railcar or Motor Vehicle |
|---|---|---|---|---|---|---|---|---|
| | | UN0161, Powder, Smokeless, 1.3C, PG II | | | #112 | | | EXPLOSIVES 1.3 |
| | | | | | | | | |
| | | | | | | | | |
| | | [illegible] | | | | | | Truck No. |
| | | [illegible] | | | | | | Trailer No. |
| | | | | | | | | Mileage |
| | | | | | | | | Total [illegible] Packages |
| | | | | | | | | Gross Weight # [illegible] |
| | | [illegible] | | | | | | Net Explosive Weight |
| | | 7083819 - 7 13820 | | | | | | [illegible] |

ENTERED 3/22/13 [illegible]

RECEIVED 6LC08 MAR 22 2013 AUSTIN POWDER COMPANY EAST CAMDEN PLANT

This is to certify that the above-named materials are properly classified, described, packaged, marked, and labeled and are in proper condition for transportation, according to the applicable regulations of the Department of Transportation.

Signature [illegible]

Invoice No. _____

FOR CHEMICAL EMERGENCY, SPILL, LEAK, FIRE, EXPOSURE OR ACCIDENT CALL CHEMTREC — DAY OR NIGHT
IN THE USA CALL 800-424-9300 IN CANADA (ERP #2-0040) 800-561-3636 ELSEWHERE CALL (703) 527-3887

Permanent Address of Shipper:
**Explo Systems, Inc.**
1600 Java Road
den, Louisiana 71055
3) 382-8700

Per _____

DOT Hazardous Material Handling Number _____
Local Federal Explosives License No. 5-LA-119-20-1A-00057
(Shipper)

I have been offered placards identifying the shipment as Specified in 49CFR Subpart F of Part 172. I have received the above goods in apparent good order and condition.

Received By [illegible] Date [illegible]
☐ CONSIGNEE ☐ CARRIER

By _____ Date _____
AUTHORIZED RECEIVER

CONTAINS HAZARDOUS MATERIALS

Agent must detach and retain this Shipping Order

019903

EXP_001537

Load 21

AUSTIN POWDER PACKING LIST

SHIPMENT DATE 3-22-13

B/L# 2875 TRL 17749

M-6

IND85K-070598 2 PTS
IND86M-070673 16 PTS
IND82J-070178 5 PTS
IND80M-070009 3 PTS
IND84A-070323 4 PTS
IND82J-070172 6 PTS
IND86M-070063 1 PT
IND84B-070327 3 PTS
IND82K-070175 2 PTS
42 PTS WITH 6 FB @140 LBS PER DRUM

TOTAL 35,280 LBS

LIONEL KOONS

EXPLO SYSTEMS INC

# MOTOR VEHICLE INSPECTION (TRANSPORTING HAZARDOUS MATERIALS)

*(Read Instructions before completing this form.)*

This form applies to all vehicles which must be marked or placarded in accordance with Title 49 CFR.

1. BILL OF LADING/TRANSPORTATION CONTROL NUMBER: 2875

| SECTION 1 - DOCUMENTATION | ORIGIN a. | DESTINATION b. |
|---|---|---|
| 2. CARRIER/GOVERNMENT ORGANIZATION | RRK | |
| 3. DATE/TIME OF INSPECTION | 3/22/13 | |
| 4. LOCATION OF INSPECTION | EXPLO SYSTEMS INC | |
| 5. OPERATOR(S) NAME(S) | PURSLEY, THOMAS | |
| 6. OPERATOR(S) LICENSE NUMBER(S) | P328 6254 90020 FL | |
| 7. MEDICAL EXAMINER'S CERTIFICATE* | 2/25/15 | |

8. *(X if satisfactory at origin)*

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| a. MILITARY HAZMAT ENDORSEMENT | ✓ | d. ERG OR EQUIVALENT COMMERCIAL: | ✓ | YES | | NO | |
| b. VALID LEASE* | ✓ | e. DRIVER'S VEHICLE INSPECTION REPORT* | | | ✓ | | |
| c. ROUTE PLAN | ✓ | f. COPY OF 49 CFR PART 397 | | | ✓ | | |

9. CVSA DECAL DISPLAYED ON COMMERCIAL EQUIPMENT*

| | YES | NO |
|---|---|---|
| a. TRUCK/TRACTOR | ✓ | |
| b. TRAILER | ✓ | |

## SECTION II - MECHANICAL INSPECTION

*All items shall be checked on empty equipment prior to loading. Items with an asterisk shall be checked on all incoming loaded equipment.*

10. TYPE OF VEHICLE(S): TRACTOR / TRAILER / DROM

11. VEHICLE NUMBER(S): TRAC #7306 / TRL # 17749

| 12. PART INSPECTED (X as applicable) | ORIGIN (1) SAT | ORIGIN (1) UNSAT | DESTINATION (2) SAT | DESTINATION (2) UNSAT | | ORIGIN (1) SAT | ORIGIN (1) UNSAT | DESTINATION (2) SAT | DESTINATION (2) UNSAT | COMMENTS (3) |
|---|---|---|---|---|---|---|---|---|---|---|
| a. SPARE ELECTRICAL FUSES | ✓ | | | | k. EXHAUST SYSTEM | ✓ | | | | |
| b. HORN OPERATIVE | ✓ | | | | l. BRAKE SYSTEM* | ✓ | | | | |
| c. STEERING SYSTEM | ✓ | | | | m. SUSPENSION | ✓ | | | | |
| d. WINDSHIELD/WIPERS | ✓ | | | | n. COUPLING DEVICES | ✓ | | | | |
| e. MIRRORS | ✓ | | | | o. CARGO SPACE | ✓ | | | | |
| f. WARNING EQUIPMENT | ✓ | | | | p. LANDING GEAR* | ✓ | | | | |
| g. FIRE EXTINGUISHER* | ✓ | | | | q. TIRES, WHEELS, RIMS | ✓ | | | | |
| h. ELECTRICAL WIRING | ✓ | | | | r. TAILGATE/DOORS* | ✓ | | | | |
| i. LIGHTS AND REFLECTORS | ✓ | | | | s. TARPAULIN* | N/A | | | | |
| j. FUEL SYSTEM* | ✓ | | | | t. OTHER (Specify) | ✓ | | | | |

13. INSPECTION RESULTS (X one) ACCEPTED ✓ REJECTED

*(If rejected give reason under "Remarks". Equipment will be approved if deficiencies are corrected prior to loading.)*

14. SATELLITE MOTOR SURVEILLANCE SYSTEM: (X one) ACCEPTED N/A REJECTED

15. REMARKS

16. INSPECTOR SIGNATURE *(Origin)*

17. INSPECTOR SIGNATURE *(Destination)*

## SECTION III - POST LOADING INSPECTION

This section applies to Commercial and Government/Military vehicles. All items will be checked prior to release of loaded equipment and shall be checked on all incoming loaded equipment.

| | ORIGIN (1) SAT | ORIGIN (1) UNSAT | DESTINATION (2) SAT | DESTINATION (2) UNSAT | COMMENTS (3) |
|---|---|---|---|---|---|
| 18. LOADED IAW APPLICABLE SEGREGATION/COMPATIBILITY TABLE OF 49 CFR | | | | | |
| 19. LOAD PROPERLY SECURED TO PREVENT MOVEMENT | | | | | |
| 20. SEALS APPLIED TO CLOSED VEHICLE; TARPAULIN APPLIED ON OPEN EQUIPMENT | | | | | |
| 21. PROPER PLACARDS APPLIED | | | | | |
| 22. SHIPPING PAPERS/DD FORM 836 FOR GOVERNMENT VEHICLE SHIPMENTS | N/A | | | | |
| 23. COPY OF DD FORM 626 FOR DRIVER | ( | | | | |
| 24. SHIPPED UNDER DOT SPECIAL PERMIT 868 | N/A | | | | |

25. INSPECTOR SIGNATURE *(Origin)*

26. DRIVER(S) SIGNATURE *(Origin)*

27. INSPECTOR SIGNATURE *(Destination)*

28. DRIVER(S) SIGNATURE *(Destination)*

EXPLO SYSTEMS, INC.

**Explo Systems, Inc.**
**1600 Java Road**
**Minden, LA 71055**

# MATERIAL SAFETY DATA SHEET

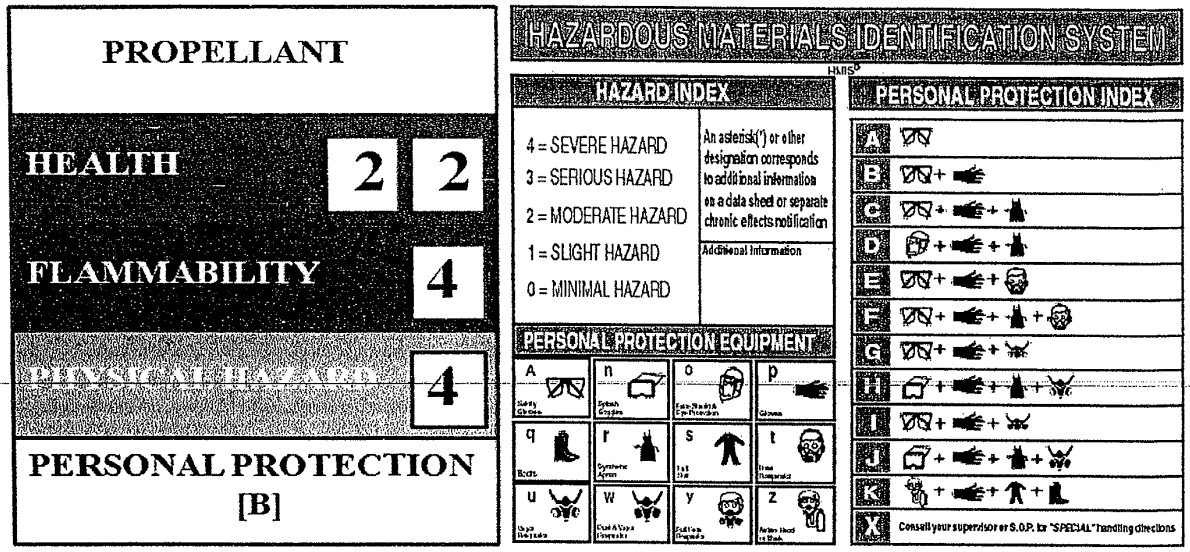
## PROPELLANT (Wetted)

## SECTION I - PRODUCT IDENTIFICATION

PRODUCT NAME: Propellant, Explosive, Solid, Wetted
Technical Information Phone No.: 318.382.8700
For Chemical Emergency (Spill, Fire, Exposure or Accident) call CHEMTREC day or night. Within the US and Canada: +1 800-424-9300. Outside the US and Canada: +1 703-527-3887 (collect calls accepted).

| **Ingredient** | **CAS No.** | **Wt. %** | **OSHA PEL**<br>**ACGIH TLV**<br>**EPA RQ (if defined)**<br>**DOT RQ (if defined)** |
|---|---|---|---|
| Dibutyl Phthalate | 84-74-2 | 3.00 | OSHA PEL 5 $mg/m^3$<br>ACGIH TLV 5 $mg/m^3$<br>EPA RQ 10 lbs<br>DOT RQ 10 lbs |
| Diphenylamine | 122-39-4 | 1.00 | OSHA PEL 10 $mg/m^3$<br>ACGIH TLV 10 $mg/m^3$<br>EPA RQ (none defined)<br>DOT RQ (none defined) |
| Potassium Sulfate | 7778-80-5 | 2.00 | OSHA PEL none published<br>ACGIH TLV none published<br>EPA RQ (none defined)<br>DOT RQ (none defined) |
| Nitrocellulose (flammable solid) | -- | 87.00 | OSHA PEL none published<br>ACGIH TLV none published<br>EPA RQ (none defined)<br>DOT RQ (none defined) |
| Dinitrotoluene | 25321-14-6 | 10.00 | OSHA PEL 10 $mg/m^3$<br>ACGIH TLV 10 $mg/m^3$<br>EPA RQ 10 lbs<br>DOT RQ 10 lbs |

## SECTION II - HAZARDS IDENTIFICATION




Routes of Entry: Inhalation; Skin; Ingestion
Carcinogenicity: None
First Aid Measures: EYES - Immediately flush with copious amount of water (low pressure) for 15 minutes, remove contact lenses; call physician. SKIN - Wash with soap and running water. INGESTION - Contact physician immediately. INHALATION - Remove to fresh air. Treat irritation symptomatically; call physician.
Firefighting Measures: Self-oxidizing, deluge with water. Will not be able to extinguish unless large quantity of water is used in very short time. Use NIOSH/MSHA approved SCBA and full protective equipment; evacuate area.
Unusual Fire/Explosion Hazard: Easily ignited, highly combustible; protect from fire and sparks and extreme heat.
Autoignition: 383°F (195°C)
Hazardous Combustion Products: Oxides of Carbon
Accidental Release Measures: SPILL - Clean immediately with soft (horsehair) brush and conductive rubber or plastic shovel. Use brass or other non-sparking tools and utensils. DO NOT hammer or otherwise cause impact forces to spilled material (explosion or autoignition could occur with impact force being applied).

## SECTION III - HANDLING AND STORAGE

Precautions: Avoid prolonged temperature above 125°F (50°C). Normal storage conditions should be 75°F (21°C) and 50% Humidity. Storage must conform to local, state and federal regulations, specifically: 29 CFR OSHA 1910.109; 27 CFR BATFE 55 subpart K.
Other Special Precautions: Flammable Solid…Keep away from heat, sparks, open flame…Keep containers closed…use with adequate ventilation.
Ventilation: Local and general ventilation necessary to keep air concentration below TLV's.
Personal Protective Equipment: Safety Glasses, Cotton or Leather Gloves, Fire Resistant Coveralls.

## SECTION IV - PHYSICAL AND CHEMICAL PROPERTIES

Specific Gravity: 1.496
Evaporation Rate: <1 (Butylacetate = 1)
Solubility in Water: negligible
Appearance and Odor: Hard Cylinder Perforated, Smooth, Greenish Yellow. Odorless.
Materials to Avoid: Oxides of Nitrogen and Carbon.

Conditions to Avoid: Open Flame, Sparks, Heat, Direct Sunlight.
Hazardous Decomposition Products: Oxides of Carbon

## SECTION V – TRANSPORTATION INFORMATION

DOT Proper Shipping Name: Smokeless Powder (wetted)
Hazard Class: 1.3C
UN No. UN0161
Packing Group: II

## SECTION VI - DISPOSAL CONSIDERATIONS

Disposal must be in accordance with federal, state and local regulations. Burn in open burning ground in accordance with regulatory requirements. It may also be burned in an incinerator approved for explosives.

## DISCLAIMER

The information contained in this MSDS (Material Safety Data Sheet) is based upon available constituent data for the components of **Propellant** and is believed to be correct. However, as this information has been obtained from various sources, including the manufacturers of its components and independent laboratories, it is provided herein without warranty or representation that it is complete, accurate and can be relied upon. Explo Systems, Inc. has not attempted to conceal in any manner the deleterious aspects of this product, and makes no warranty as such. Explo Systems, Inc. cannot anticipate nor control the many situations in which this product or this information may be used; there is no guarantee that the health and safety precautions suggested herein will be proper under all conditions. It is the sole responsibility of each user of the product to determine and comply with the requirements of all applicable laws and regulations regarding its use. This information is given solely for the purposes of safety to persons and property. Any other use of this information is expressly prohibited.

## AUTHOR

This MSDS was prepared by: Ferris Callihan, PE - Director Support Technology - Explo Systems, Inc. - 1600 Java Road - Minden, LA 71055 - Tel 318 382 8700 - E-mail: fcallihan@explosystems.com

U.S. Department
of Transportation

Pipeline and Hazardous
Materials Safety Administration

East Building, PHH – 32
1200 New Jersey Avenue, Southeast
Washington, D.C. 20590

The US Department of Transportation
Competent Authority for the United States

## CLASSIFICATION OF EXPLOSIVES
## FIRST REVISION

Based upon a request by Explo Systems Inc., 1600 Java Road, Minden, LA 71055, United States the following items are classed in accordance with Section 173.56, Title 49, Code of Federal Regulations (49 CFR). A copy of your application, all supporting documentation and a copy of this approval must be retained and made available to DOT upon request.

**U.N. PROPER SHIPPING NAME AND NUMBER:**
Powder, smokeless, UN0161

**U.N. CLASSIFICATION CODE**: 1.3C

| **REFERENCE NUMBER** | **PRODUCT DESIGNATION/PART NUMBER** |
|---|---|
| EX2010040603 | Reclaimed M6 Propellant |

**NOTES:** This classification is only valid when the smokeless powder has been tested and found to have sufficient residual stabilizers present per US Army Safety Bulletin: "Inspection of Supplies and Equipment, Ammunition Surveillance Procedures" (SB 742-1). The following packaging methods are assigned:
Packaging Method A: Inner Packaging - Not necessary. Outer Packaging – UN 1G fiberdrum, each containing not more than one hundred and forty (140) pounds of smokeless propellant.
Packaging Method B: Inner Packaging: Flexible static-resistant reinforced plastic cloth and strapping lifting bag, each containing not more than eight hundred and eighty (880) pounds of smokeless propellant. Outer Packaging - UN 4G heavy-wall fiberboard box with a volumetric capacity of 119 gallons or less. (see 49 CFR Section 171.8 Definition for "Non-bulk packaging")

**DATED:** 05/05/2011

Harpreet S Virgh

For Dr. Magdy El-Sibaie
Associate Administrator for Hazardous Materials Safety

Tracking No: 2011040848

21
2875

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND85K070598** | **D533 / M6 propellant** |
| Date of analysis: | **Date:25 AUG 2010** |

| Other Information | Sample Data | | Solvent |
|---|---|---|---|
| M6 Propellant | #1 | 0.5000 g 100 ml | ACN |

| | Standards (ERG-006) | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 2.177 | 146.5 | 1423.9 | 0.972 |
| 2,4-DNDPA | 50.0 | 5.001 | 961.7 | 0 | 0.000 |
| 2,2' DNDPA | 50.0 | 7.038 | 2567.5 | 14670.5 | 0.000 |
| 2,4' DNDPA | 50.0 | 9.931 | 938.5 | 0 | 0.000 |
| 4NDPA | 50.0 | 11.434 | 1325.8 | 0 | 0.000 |
| 2NDPA | 50.0 | 12.813 | 1809.7 | 0 | 0.000 |
| DPA | 200.0 | 14.19 | 4886.9 | 403.2 | 0.033 |
| N-NitrosoDPA | 75.0 | 15.18 | 1296.7 | 0 | 0.000 |

1.005

| Avg. % Stabilizer for Lot | **1.005** |
|---|---|

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| **Analyst** Kisha Dickerson | Avg. Tot. Stabilizers **1.00** % | |
|---|---|---|
| Analyst Signature | Stable YES | Unstable |
| Lab. Supervisor Signature | Comments **CATEGORY: A** | |
| | Actions to be Taken | |

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND84B070327** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 4 Sep 2012** |

| Other Information | Sample Data | | Solvent |
|---|---|---|---|
| M6 Propellant | #1 | 0.50 g 100 ml | ACN |

| Standards (ERG-006) | | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 0.889 | 48.8 | 501.9 | 1.028 |
| 2,4-DNDPA | 50.0 | 3.418 | 914.3 | 0 | 0.000 |
| 2,2' DNDPA | 50.0 | 5.22 | 777.3 | 23336 | 0.000 |
| 2,4' DNDPA | 50.0 | 7.622 | 980.5 | 0 | 0.000 |
| 4NDPA | 50.0 | 9.134 | 1586.8 | 95.7 | 0.006 |
| 2NDPA | 50.0 | 10.417 | 2826.3 | 104 | 0.004 |
| DPA | 200.0 | 11.797 | 5671.5 | 673.4 | 0.047 |
| N-NitrosoDPA | 75.0 | 12.757 | 1337.5 | 0 | 0.000 |

| | | |
|---|---|---|
| | | 1.086 |
| | Avg. % Stabilizer for Lot | **1.086** |

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | | |
|---|---|---|
| **Analyst** Mike Kile | Avg. Tot. Stabilizers | **1.09** % |
| Analyst Signature | Stable YES | Unstable |
| | Comments | |
| Lab. Supervisor Signature | **CATEGORY:** | **A** |
| | Actions to be Taken | |

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND84A070323** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 21 DEC 2011** |

| Other Information | Sample Data | | Solvent |
|---|---|---|---|
| M6 Propellant | #1 | 0.50 g 100 ml | ACN |

| Standards (ERG-006) | | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 0.67 | 192.9 | 675.2 | 0.350 |
| 2,4-DNDPA | 50.0 | 3.298 | 1077.6 | 0 | 0.000 |
| 2,2' DNDPA | 50.0 | 4.953 | 951.5 | 22469 | 0.000 |
| 2,4' DNDPA | 50.0 | 6.749 | 1136.2 | 0 | 0.000 |
| 4NDPA | 50.0 | 8.218 | 1880.4 | 46.5 | 0.002 |
| 2NDPA | 50.0 | 9.339 | 3292.9 | 89.5 | 0.003 |
| DPA | 200.0 | 10.48 | 6310.2 | 733.6 | 0.047 |
| N-NitrosoDPA | 75.0 | 11.073 | 1512.2 | 0 | 0.000 |

| | | |
|---|---|---|
| | | 0.402 |
| | Avg. % Stabilizer for Lot | **0.402** |

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | | |
|---|---|---|
| **Analyst** TAKISHA DICKERSON | Avg. Tot. Stabilizers | **0.40** % |
| Analyst Signature | Stable YES | Unstable |
| | Comments | |
| Lab. Supervisor Signature | **CATEGORY:** | **A** |
| | Actions to be Taken | |

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND82K070175** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 6 AUG 2010** |

| Other Information | Sample Data | | Solvent |
|---|---|---|---|
| M6 Propellant | #1 | 0.5000 g 100 ml | ACN |

| Standards (ERG-006) | | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | | 1 | 0 | 0.000 |
| 2,4-DNDPA | 50.0 | 4.91 | 382.3 | 5134.1 | 1.343 |
| 2,2' DNDPA | 50.0 | 9.825 | 437 | 0 | 0.000 |
| 2,4' DNDPA | 50.0 | 11.341 | 632.4 | 87.4 | 0.014 |
| 4NDPA | 50.0 | 11.95 | 441.7 | 0 | 0.000 |
| 2NDPA | 50.0 | 12.713 | 827.6 | 192.5 | 0.023 |
| DPA | 200.0 | 14.06 | 2176 | 90.1 | 0.017 |
| N-NitrosoDPA | 75.0 | 14.999 | 558.4 | 254.6 | 0.068 |

1.465

| Avg. % Stabilizer for Lot | **1.465** |
|---|---|

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | |
|---|---|
| **Analyst** Mike Kile | Avg. Tot. Stabilizers **1.46** % |
| Analyst Signature | Stable YES / Unstable |
| Lab. Supervisor Signature | Comments **CATEGORY: A** |
| | Actions to be Taken |

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND82J070172** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 15 July 2011** |

| Other Information | Sample Data | | Solvent |
|---|---|---|---|
| M6 Propellant | #1 | 0.50 g 100 ml | ACN |

| | Standards (ERG-006) | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 0.698 | 60 | 276.3 | 0.461 |
| 2,4-DNDPA | 50.0 | 3.469 | 1060.3 | 0 | 0.000 |
| 2,2' DNDPA | 50.0 | 5.327 | 112.7 | 25324 | 0.000 |
| 2,4' DNDPA | 50.0 | 7.82 | 1131.9 | 0 | 0.000 |
| 4NDPA | 50.0 | 9.358 | 1817.5 | 137.4 | 0.008 |
| 2NDPA | 50.0 | 10.643 | 3250 | 121.1 | 0.004 |
| DPA | 200.0 | 12.15 | 6225.1 | 406.2 | 0.026 |
| N-NitrosoDPA | 75.0 | 13.037 | 1551.7 | 0 | 0.000 |

| | | |
|---|---|---|
| | | 0.498 |
| | Avg. % Stabilizer for Lot | **0.498** |

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | | |
|---|---|---|
| **Analyst** Mike Kile | Avg. Tot. Stabilizers | **0.50** % |
| Analyst Signature | Stable YES | Unstable |
| | Comments | |
| Lab. Supervisor Signature | **CATEGORY:** | **A** |
| | Actions to be Taken | |

Form #159

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND80M070009** | **D533 / M6 propellant** |
| Date of analysis: | **Date:20 SEP 2010** |

| Other Information | Sample Data | | Solvent |
|---|---|---|---|
| M6 Propellant | #1 | 0.5000 g 100 ml | ACN |

| Standards (ERG-006) | | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 2.113 | 241.3 | 1503.9 | 0.623 |
| 2,4-DNDPA | 50.0 | 4.997 | 1505.8 | 0 | 0.000 |
| 2,2' DNDPA | 50.0 | 7.178 | 3394.6 | 16988.6 | 0.000 |
| 2,4' DNDPA | 50.0 | 10.355 | 947.6 | 0 | 0.000 |
| 4NDPA | 50.0 | 11.977 | 1346.1 | 0 | 0.000 |
| 2NDPA | 50.0 | 13.451 | 1788.2 | 0 | 0.000 |
| DPA | 200.0 | 14.881 | 5045.5 | 586 | 0.046 |
| N-NitrosoDPA | 75.0 | 16.02 | 1339.6 | 0 | 0.000 |

| | | |
|---|---|---|
| | | 0.670 |
| | Avg. % Stabilizer for Lot | **0.670** |

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | |
|---|---|
| **Analyst** Kisha Dickerson | Avg. Tot. Stabilizers **0.67** % |
| Analyst Signature | Stable YES \| Unstable |
| | Comments |
| Lab. Supervisor Signature | **CATEGORY: A** |
| | Actions to be Taken |

CONTAINS HAZARDOUS MATERIALS

# STRAIGHT BILL OF LADING — NOT NEGOTIABLE

RECEIVED, subject to the classification and tariffs in effect on the date of the issue of this Original Bill of Lading.
The property described below, in apparent good order, except as noted (contents and condition of contents of packages unknown) consigned, end destined as indicated below, ch said carrier (the word carrier being understood throughout this contract meaning any person or corporation in possession of the property under the contract) agrees to curry .s usual place of delivery of said destination. It on its route, otherwise to deliver to another carrier on the route to said destination. It is mutually agreed, as to each of all or any of said property over all or any portion of said route to destination, and as to each party at any time interested in all or any of said property, that every service lobe performed hereunder shall be subject to all the terms and conditions of the Uniform Domestic Straight Bill of Lading Set forth (t) in Uniform Freight Classification in effect on the date hereof, It this is a rail or rail-water shipment, or (2) in the applicable motor carrier classification or tariff it this is a motor carrier shipment.

Shipper hereby certifies that he is familiar with all the terms and conditions of the said bill of lading, set forth in the classification or tariff which governs the transportation of this shipment, and the sold terms and conditions are hereby agreed to by the shipper and accept for himself and his assigns.

Shipper: Explo Systems, Inc.
1600 Java Road
Minden, LA 71055

Shipper's No. 2876

Shipping Date

At

Purchase Order No.

By

Freight Charges: Collect _____ Prepaid _____

Location No.

(Mail or Street Address of Consignee — For purposes of notification only)

Consigned to

Destination

State

County

Route

Charge Account of

Fed Lic.

Exp. Date

State Lic.

Exp. Date

Customer No.

Customer P.O. No.

Rel. No.

| SHIPPED No. of PKGS | SHIPPED No. of UNITS | PROPER SHIPPING NAME AND HAZARD CLASS | RETURNED No. of PKGS | RETURNED No. of UNITS | EMERGENCY RESPONSE PROCEDURE GUIDE NO. | EXEMPTION DOT-E | H M | Placards Applied to Railcar or Motor Vehicle |
|---|---|---|---|---|---|---|---|---|
| | | UN0161, Powder, Smokeless, 1.3C, PG II | | | #112 | | | EXPLOSIVES 1.3 |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | Truck No. |
| | | | | | | | | Trailer No. |
| | | | | | | | | Mileage |
| | | | | | | | | Total Packages |
| | | | | | | | | Gross Weight # |
| | | | | | | | | Net Explosive Weight |
| | | | | | | | | |

RECEIVED
MAR 25 2013
AUSTIN POWDER COMPANY
EAST CAMDEN PLANT

ENTERED
4/01/13

This is to certify that the above-named materials are properly classified, described, packaged, marked, and labeled and are in proper condition for transportation, according to the applicable regulations of the Department of Transportation.

Signature

Invoice No.

FOR CHEMICAL EMERGENCY, SPILL, LEAK, FIRE, EXPOSURE OR ACCIDENT CALL CHEMTREC — DAY OR NIGHT
IN THE USA CALL 800-424-9300 IN CANADA (ERP #2-0040) 800-561-3636 ELSEWHERE CALL (703) 527-3887

Permanent Address of Shipper:
**Explo Systems, Inc.**
1600 Java Road
Minden, Louisiana 71055
(318) 382-8700

Per

DOT Hazardous Material Handling Number
Local Federal Explosives License No. 5-LA-119-20-1A-00057
(Shipper)

I have been offered placards identifying the shipment as Specified in 49CFR Subpart F of Part 172. I have received the above goods in apparent good order and condition.

Received By Date

❑ CONSIGNEE ❑ CARRIER

By Date

AUTHORIZED RECEIVER

CONTAINS HAZARDOUS MATERIALS

Agent must detach and retain this Shipping Order

019917

EXP_001551

AUSTIN POWDER PACKING LIST

SHIPMENT DATE 3-24-13

B/L# 2876 TRL 6810057

M-6

IND82L-070178 16 PTS
IND86M-070673 12 PTS
IND81B-070013 3 PTS
IND88H-070598 7 PTS
IND82K-070173 1 PT
IND82E-070114 3 PTS

42 PTS WITH 6 FB @140 LBS PER DRUM

TOTAL 35,280 LBS 35,280 lbs.

LIONEL KOONS

EXPLO SYSTEMS INC

AUSTIN POWDER PACKING LIST

SHIPMENT DATE 3-24-13

B/L# 2876 TRL 6810057

M-6

IND82L-070178 16 PTS
IND86M-070673 12 PTS
IND81B-070013 3 PTS
IND88H-070598 7 PTS
IND82K-070173 1 PT
IND82E-070114 3 PTS

42 PTS WITH 6 FB @140 LBS PER DRUM

TOTAL 35,280 LBS

LIONEL KOONS

EXPLO SYSTEMS INC

# MOTOR VEHICLE INSPECTION (TRANSPORTING HAZARDOUS MATERIALS)

*(Read Instructions before completing this form.)*

This form applies to all vehicles which must be marked or placarded in accordance with Title 49 CFR.

1. BILL OF LADING/TRANSPORTATION CONTROL NUMBER: 2874

| SECTION 1 - DOCUMENTATION | ORIGIN a. | DESTINATION b. |
|---|---|---|
| 2. CARRIER/GOVERNMENT ORGANIZATION | RRK | |
| 3. DATE/TIME OF INSPECTION | 3/24/13 | |
| 4. LOCATION OF INSPECTION | EXPLO SYSTEMS INC | |
| 5. OPERATOR(S) NAME(S) | BARNETT, HEATHER | |
| 6. OPERATOR(S) LICENSE NUMBER(S) | 27023432009 TN | |
| 7. MEDICAL EXAMINER'S CERTIFICATE* | 1/3/15 | |

8. *(X if satisfactory at origin)*

| | | | | | |
|---|---|---|---|---|---|
| a. MILITARY HAZMAT ENDORSEMENT | | d. ERG OR EQUIVALENT COMMERCIAL: | ✓ YES | NO | |
| b. VALID LEASE* | | e. DRIVER'S VEHICLE INSPECTION REPORT* | | | |
| c. ROUTE PLAN | ✓ | f. COPY OF 49 CFR PART 397 | | | |

9. CVSA DECAL DISPLAYED ON COMMERCIAL EQUIPMENT*

| | YES | NO |
|---|---|---|
| a. TRUCK/TRACTOR | ✓ | |
| b. TRAILER | | |

## SECTION II - MECHANICAL INSPECTION

*All items shall be checked on empty equipment prior to loading. Items with an asterisk shall be checked on all incoming loaded equipment.*

10. TYPE OF VEHICLE(S): TRACTOR / TRAILER / DROM

11. VEHICLE NUMBER(S): TRAC #6436 / TRL # 681005 7

| 12. PART INSPECTED (X as applicable) | ORIGIN (1) SAT | ORIGIN (1) UNSAT | DESTINATION (2) SAT | DESTINATION (2) UNSAT | | ORIGIN (1) SAT | ORIGIN (1) UNSAT | DESTINATION (2) SAT | DESTINATION (2) UNSAT | COMMENTS (3) |
|---|---|---|---|---|---|---|---|---|---|---|
| a. SPARE ELECTRICAL FUSES | | | | | k. EXHAUST SYSTEM | | | | | |
| b. HORN OPERATIVE | | | | | l. BRAKE SYSTEM* | | | | | |
| c. STEERING SYSTEM | | | | | m. SUSPENSION | | | | | |
| d. WINDSHIELD/WIPERS | | | | | n. COUPLING DEVICES | | | | | |
| e. MIRRORS | | | | | o. CARGO SPACE | | | | | |
| f. WARNING EQUIPMENT | | | | | p. LANDING GEAR* | | | | | |
| g. FIRE EXTINGUISHER* | | | | | q. TIRES, WHEELS, RIMS | | | | | |
| h. ELECTRICAL WIRING | | | | | r. TAILGATE/DOORS* | | | | | |
| i. LIGHTS AND REFLECTORS | | | | | s. TARPAULIN* | N/A | | | | |
| j. FUEL SYSTEM* | | | | | t. OTHER (Specify) | | | | | |

13. INSPECTION RESULTS (X one) ACCEPTED ✓ REJECTED

*(If rejected give reason under "Remarks". Equipment will be approved if deficiencies are corrected prior to loading.)*

14. SATELLITE MOTOR SURVEILLANCE SYSTEM: (X one) ACCEPTED N/A REJECTED

15. REMARKS

16. INSPECTOR SIGNATURE *(Origin)*

17. INSPECTOR SIGNATURE *(Destination)*

## SECTION III - POST LOADING INSPECTION

This section applies to Commercial and Government/Military vehicles. All items will be checked prior to release of loaded equipment and shall be checked on all incoming loaded equipment.

| | ORIGIN (1) SAT | ORIGIN (1) UNSAT | DESTINATION (2) SAT | DESTINATION (2) UNSAT | COMMENTS (3) |
|---|---|---|---|---|---|
| 18. LOADED IAW APPLICABLE SEGREGATION/COMPATIBILITY TABLE OF 49 CFR | | | | | |
| 19. LOAD PROPERLY SECURED TO PREVENT MOVEMENT | | | | | |
| 20. SEALS APPLIED TO CLOSED VEHICLE; TARPAULIN APPLIED ON OPEN EQUIPMENT | | | | | |
| 21. PROPER PLACARDS APPLIED | | | | | |
| 22. SHIPPING PAPERS/DD FORM 836 FOR GOVERNMENT VEHICLE SHIPMENTS | N/A | | | | |
| 23. COPY OF DD FORM 626 FOR DRIVER | | | | | |
| 24. SHIPPED UNDER DOT SPECIAL PERMIT 868 | N/A | | | | |

25. INSPECTOR SIGNATURE *(Origin)*

26. DRIVER(S) SIGNATURE *(Origin)*

27. INSPECTOR SIGNATURE *(Destination)*

28. DRIVER(S) SIGNATURE *(Destination)*

Explo Systems, Inc.
1600 Java Road
Minden, LA 71055

# MATERIAL SAFETY DATA SHEET

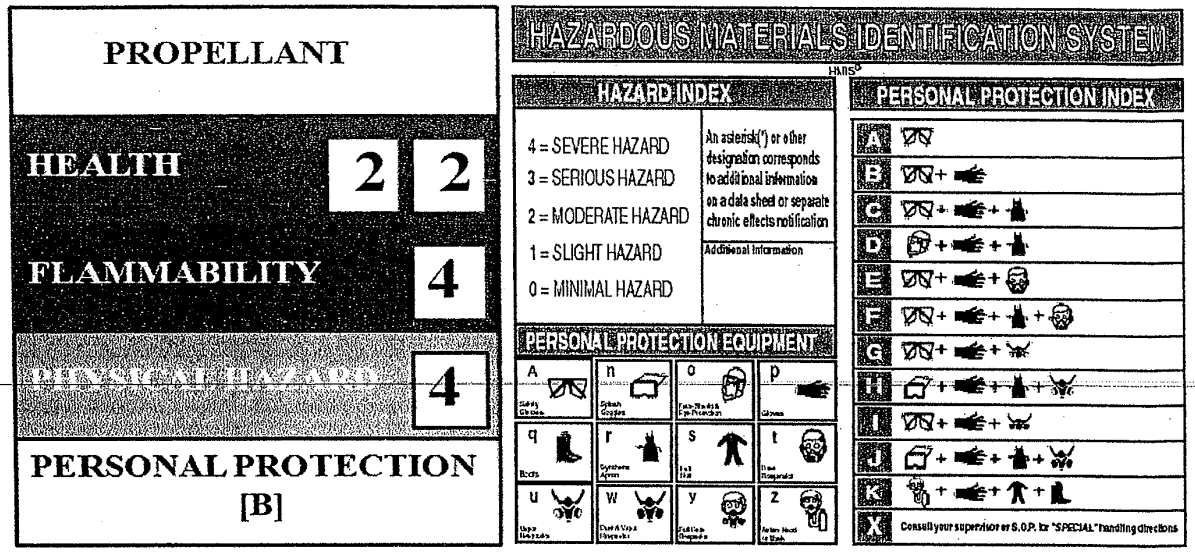
## PROPELLANT (Wetted)

## SECTION I - PRODUCT IDENTIFICATION

PRODUCT NAME: Propellant, Explosive, Solid, Wetted
Technical Information Phone No.: 318.382.8700
For Chemical Emergency (Spill, Fire, Exposure or Accident) call CHEMTREC day or night. Within the US and Canada: +1 800-424-9300. Outside the US and Canada: +1 703-527-3887 (collect calls accepted).

| Ingredient | CAS No. | Wt. % | OSHA PEL<br>ACGIH TLV<br>EPA RQ (if defined)<br>DOT RQ (if defined) |
|---|---|---|---|
| Dibutyl Phthalate | 84-74-2 | 3.00 | OSHA PEL 5 mg/m$^3$<br>ACGIH TLV 5 mg/m$^3$<br>EPA RQ 10 lbs<br>DOT RQ 10 lbs |
| Diphenylamine | 122-39-4 | 1.00 | OSHA PEL 10 mg/m$^3$<br>ACGIH TLV 10 mg/m$^3$<br>EPA RQ (none defined)<br>DOT RQ (none defined) |
| Potassium Sulfate | 7778-80-5 | 2.00 | OSHA PEL none published<br>ACGIH TLV none published<br>EPA RQ (none defined)<br>DOT RQ (none defined) |
| Nitrocellulose (flammable solid) | -- | 87.00 | OSHA PEL none published<br>ACGIH TLV none published<br>EPA RQ (none defined)<br>DOT RQ (none defined) |
| Dinitrotoluene | 25321-14-6 | 10.00 | OSHA PEL 10 mg/m$^3$<br>ACGIH TLV 10 mg/m$^3$<br>EPA RQ 10 lbs<br>DOT RQ 10 lbs |

## SECTION II - HAZARDS IDENTIFICATION




Routes of Entry: Inhalation; Skin; Ingestion
Carcinogenicity: None
First Aid Measures: EYES - Immediately flush with copious amount of water (low pressure) for 15 minutes, remove contact lenses; call physician. SKIN - Wash with soap and running water. INGESTION - Contact physician immediately. INHALATION - Remove to fresh air. Treat irritation symptomatically; call physician.
Firefighting Measures: Self-oxidizing, deluge with water. Will not be able to extinguish unless large quantity of water is used in very short time. Use NIOSH/MSHA approved SCBA and full protective equipment; evacuate area.
Unusual Fire/Explosion Hazard: Easily ignited, highly combustible; protect from fire and sparks and extreme heat.
Autoignition: 383°F (195°C)
Hazardous Combustion Products: Oxides of Carbon
Accidental Release Measures: SPILL - Clean immediately with soft (horsehair) brush and conductive rubber or plastic shovel. Use brass or other non-sparking tools and utensils. DO NOT hammer or otherwise cause impact forces to spilled material (explosion or autoignition could occur with impact force being applied).

## SECTION III - HANDLING AND STORAGE

Precautions: Avoid prolonged temperature above 125°F (50°C). Normal storage conditions should be 75°F (21°C) and 50% Humidity. Storage must conform to local, state and federal regulations, specifically: 29 CFR OSHA 1910.109; 27 CFR BATFE 55 subpart K.
Other Special Precautions: Flammable Solid…Keep away from heat, sparks, open flame…Keep containers closed…use with adequate ventilation.
Ventilation: Local and general ventilation necessary to keep air concentration below TLV's.
Personal Protective Equipment: Safety Glasses, Cotton or Leather Gloves, Fire Resistant Coveralls.

## SECTION IV - PHYSICAL AND CHEMICAL PROPERTIES

Specific Gravity: 1.496
Evaporation Rate: <1 (Butylacetate = 1)
Solubility in Water: negligible
Appearance and Odor: Hard Cylinder Perforated, Smooth, Greenish Yellow. Odorless.
Materials to Avoid: Oxides of Nitrogen and Carbon.

Conditions to Avoid: Open Flame, Sparks, Heat, Direct Sunlight.
Hazardous Decomposition Products: Oxides of Carbon

## SECTION V – TRANSPORTATION INFORMATION

DOT Proper Shipping Name: Smokeless Powder (wetted)
Hazard Class: 1.3C
UN No. UN0161
Packing Group: II

## SECTION VI - DISPOSAL CONSIDERATIONS

Disposal must be in accordance with federal, state and local regulations. Burn in open burning ground in accordance with regulatory requirements. It may also be burned in an incinerator approved for explosives.

## DISCLAIMER

The information contained in this MSDS (Material Safety Data Sheet) is based upon available constituent data for the components of **Propellant** and is believed to be correct. However, as this information has been obtained from various sources, including the manufacturers of its components and independent laboratories, it is provided herein without warranty or representation that it is complete, accurate and can be relied upon. Explo Systems, Inc. has not attempted to conceal in any manner the deleterious aspects of this product, and makes no warranty as such. Explo Systems, Inc. cannot anticipate nor control the many situations in which this product or this information may be used; there is no guarantee that the health and safety precautions suggested herein will be proper under all conditions. It is the sole responsibility of each user of the product to determine and comply with the requirements of all applicable laws and regulations regarding its use. This information is given solely for the purposes of safety to persons and property. Any other use of this information is expressly prohibited.

## AUTHOR

This MSDS was prepared by: Ferris Callihan, PE - Director Support Technology - Explo Systems, Inc. - 1600 Java Road - Minden, LA 71055 - Tel 318 382 8700 - E-mail: fcallihan@explosystems.com

U.S. Department
of Transportation

Pipeline and Hazardous
Materials Safety Administration

East Building, PHH – 32
1200 New Jersey Avenue, Southeast
Washington, D.C. 20590

The US Department of Transportation
Competent Authority for the United States

## CLASSIFICATION OF EXPLOSIVES
## FIRST REVISION

Based upon a request by Explo Systems Inc., 1600 Java Road, Minden, LA 71055, United States the following items are classed in accordance with Section 173.56, Title 49, Code of Federal Regulations (49 CFR). A copy of your application, all supporting documentation and a copy of this approval must be retained and made available to DOT upon request.

**U.N. PROPER SHIPPING NAME AND NUMBER:**
Powder, smokeless, UN0161

**U.N. CLASSIFICATION CODE**: 1.3C

| **REFERENCE NUMBER** | **PRODUCT DESIGNATION/PART NUMBER** |
|---|---|
| EX2010040603 | Reclaimed M6 Propellant |

**NOTES:** This classification is only valid when the smokeless powder has been tested and found to have sufficient residual stabilizers present per US Army Safety Bulletin: "Inspection of Supplies and Equipment, Ammunition Surveillance Procedures" (SB 742-1). The following packaging methods are assigned:
Packaging Method A: Inner Packaging - Not necessary. Outer Packaging – UN 1G fiberdrum, each containing not more than one hundred and forty (140) pounds of smokeless propellant.
Packaging Method B: Inner Packaging: Flexible static-resistant reinforced plastic cloth and strapping lifting bag, each containing not more than eight hundred and eighty (880) pounds of smokeless propellant. Outer Packaging - UN 4G heavy-wall fiberboard box with a volumetric capacity of 119 gallons or less. (see 49 CFR Section 171.8 Definition for "Non-bulk packaging")

**DATED:** 05/05/2011

For Dr. Magdy El-Sibaie
Associate Administrator for Hazardous Materials Safety

Tracking No: 2011040848



019924

EXP_001558

22
2876

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND86M070673** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 7 FEB 2012** |

| Other Information | Sample Data | | Solvent |
|---|---|---|---|
| M6 Propellant | #1 | 0.50 g 100 ml | ACN |

| Standards (ERG-006) | | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 0.863 | 50.1 | 452.6 | 0.903 |
| 2,4-DNDPA | 50.0 | 3.336 | 893.6 | 0 | 0.000 |
| 2,2' DNDPA | 50.0 | 5.03 | 726.8 | 22299 | 0.000 |
| 2,4' DNDPA | 50.0 | 7.182 | 1225.5 | 0 | 0.000 |
| 4NDPA | 50.0 | 8.642 | 1532.1 | 67.5 | 0.004 |
| 2NDPA | 50.0 | 9.759 | 2784.7 | 120.3 | 0.004 |
| DPA | 200.0 | 11.235 | 5480.9 | 727.3 | 0.053 |
| N-NitrosoDPA | 75.0 | 11.979 | 1363.1 | 0 | 0.000 |

0.965

| Avg. % Stabilizer for Lot | **0.965** |
|---|---|

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| **Analyst** TAKISHA DICKERSON | Avg. Tot. Stabilizers **0.97** % | |
|---|---|---|
| Analyst Signature | Stable YES | Unstable |
| | Comments **CATEGORY: A** | |
| Lab. Supervisor Signature | | |
| | Actions to be Taken | |

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND82L070178** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 1 FEB 2011** |

| Other Information | Sample Data | | Solvent |
|---|---|---|---|
| M6 Propellant | #1 | 0.5000 g | 100 ml ACN |

| Standards (ERG-006) | | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 4.156 | 1116 | 1943.1 | 0.174 |
| 2,4-DNDPA | 50.0 | 9.388 | 1191.2 | 25869.9 | 2.172 |
| 2,2' DNDPA | 50.0 | 10.987 | 1694.7 | 97.6 | 0.000 |
| 2,4' DNDPA | 50.0 | 11.73 | 1272.3 | 145.3 | 0.011 |
| 4NDPA | 50.0 | 12.459 | 2443.3 | 0 | 0.000 |
| 2NDPA | 50.0 | 13.939 | 5852.1 | 388.6 | 0.007 |
| DPA | 200.0 | 15.022 | 1753.1 | 361.4 | 0.082 |
| N-NitrosoDPA | 75.0 | 18.932 | 2535.1 | 365.7 | 0.000 |

| | | |
|---|---|---|
| | | 2.446 |
| Avg. % Stabilizer for Lot | | **2.446** |

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | |
|---|---|
| **Analyst** Mike Kile | Avg. Tot. Stabilizers **2.45** % |
| Analyst Signature | Stable YES \| Unstable |
| | Comments |
| Lab. Supervisor Signature | CATEGORY: A |
| | Actions to be Taken |

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND82K070173** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 21 Apr 2011** |

| Other Information | Sample Data | | Solvent |
|---|---|---|---|
| M6 Propellant | #1 | 0.5000 g | 100 ml ACN |

| | Standards (ERG-006) | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 4.152 | 1065.2 | 3146.2 | 0.295 |
| 2,4-DNDPA | 50.0 | 9.483 | 1128.5 | 28956.1 | 2.566 |
| 2,2' DNDPA | 50.0 | 11.075 | 1789.9 | 196.4 | 0.000 |
| 2,4' DNDPA | 50.0 | 11.744 | 1596.2 | 254 | 0.016 |
| 4NDPA | 50.0 | 12.553 | 2329 | 0 | 0.000 |
| 2NDPA | 50.0 | 14.006 | 5766.8 | 251.9 | 0.004 |
| DPA | 200.0 | 15.107 | 1617.9 | 612.3 | 0.151 |
| N-NitrosoDPA | 75.0 | 18.991 | 2304.9 | 398.1 | 0.000 |

| | 3.033 |
|---|---|
| Avg. % Stabilizer for Lot | **3.033** |

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | |
|---|---|
| **Analyst** Kisha Dickerson | Avg. Tot. Stabilizers **3.03** % |
| Analyst Signature | Stable YES \| Unstable |
| Lab. Supervisor Signature | Comments **CATEGORY: A** |
| | Actions to be Taken |

Form #158

Original Print Date:07/19/2010

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND82E070114** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 22 NOV 2011** |

| Other Information | Sample Data | | Solvent |
|---|---|---|---|
| M6 Propellant | #1 | 0.50 g 100 ml | ACN |

| Standards (ERG-006) | | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 0.753 | 205.4 | 623.3 | 0.303 |
| 2,4-DNDPA | 50.0 | 3.383 | 927.4 | 0 | 0.000 |
| 2,2' DNDPA | 50.0 | 5.127 | 481.8 | 21922 | 0.000 |
| 2,4' DNDPA | 50.0 | 7.38 | 1001.4 | 0 | 0.000 |
| 4NDPA | 50.0 | 8.893 | 1609.3 | 58.6 | 0.004 |
| 2NDPA | 50.0 | 10.053 | 2886.9 | 118 | 0.004 |
| DPA | 200.0 | 11.586 | 5621.7 | 791.2 | 0.056 |
| N-NitrosoDPA | 75.0 | 12.383 | 1361.9 | 0 | 0.000 |

| | |
|---|---|
| | 0.367 |
| Avg. % Stabilizer for Lot | **0.367** |

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | |
|---|---|
| **Analyst** TAKISHA DICKERSON | Avg. Tot. Stabilizers **0.37** % |
| Analyst Signature | Stable YES / Unstable |
| Lab. Supervisor Signature | Comments **CATEGORY: A** |
| | Actions to be Taken |

CONTAINS HAZARDOUS MATERIALS

# STRAIGHT BILL OF LADING — NOT NEGOTIABLE

RECEIVED, subject to the classification and tariffs in effect on the date of the issue of this Original Bill of Lading.
The property described below, in apparent good order, except as noted (contents and condition of contents of packages unknown) consigned, and destined as indicated below, which said carrier (the word carrier being understood throughout this contract meaning any person or corporation in possession of the property under the contract) agrees to curry to its usual place of delivery of said destination. It on its route, otherwise to deliver to another carrier on the route to said destination. It is mutually agreed, as to each of all or any of said property over all or any portion of said route to destination, and as to each party at any time interested in all or any of said property, that every service lobe performed hereunder shall be subject to all the terms and conditions of the Uniform Domestic Straight Bill of Lading Set forth (t) in Uniform Freight Classification in effect on the date hereof, It this is a rail or rail-water shipment, or (2) in the applicable motor carrier classification or tariff it this is a motor carrier shipment.

Shipper hereby certifies that he is familiar with all the terms and conditions of the said bill of lading, set forth in the classification or tariff which governs the transportation of this shipment, and the sold terms and conditions are hereby agreed to by the shipper and accept for himself and his assigns.

Shipper: Explo Systems, Inc.
1600 Java Road
Minden, LA 71055

Shipper's No. 2877

Shipping Date 3/24/13

At

Purchase Order No.

By [illegible] Freight Charges: Collect _____ Prepaid XXX Location No. 2467

(Mail or Street Address of Consignee — For purposes of notification only)

Consigned to [illegible] Fed Lic. [illegible] Exp. Date 5/1/15

Destination [illegible] State State Lic. Exp. Date

County [illegible] Customer No.

Route

Charge Account of [illegible] Customer P.O. No. Rel. No.

| SHIPPED No. of PKGS | SHIPPED No. of UNITS | PROPER SHIPPING NAME AND HAZARD CLASS | RETURNED No. of PKGS | RETURNED No. of UNITS | EMERGENCY RESPONSE PROCEDURE GUIDE NO. | EXEMPTION DOT-E | H M | Placards Applied to Railcar or Motor Vehicle |
|---|---|---|---|---|---|---|---|---|
| [illegible] | 42 | UN0161, Powder, Smokeless, 1.3C, PG II | | | #112 | [illegible] | | EXPLOSIVES 1.3 |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | Truck No. 7306 |
| | | | | | | | | Trailer No. 17749 |
| | | | | | | | | Mileage |
| | | | | | | | | Total Packages [illegible] |
| | | | | | | | | Gross Weight # [illegible] |
| | | Seal # | | | | | | Net Explosive Weight |
| | | 708385/708826 | | | | | | [illegible] |

RECEIVED
MAR 25 2013
6108
AUSTIN POWDER COMPANY
EAST CAMDEN PLANT

ENTERED
4/4/13

This is to certify that the above-named materials are properly classified, described, packaged, marked, and labeled and are in proper condition for transportation, according to the applicable regulations of the Department of Transportation.

Signature _____ Invoice No. _____

FOR CHEMICAL EMERGENCY, SPILL, LEAK, FIRE, EXPOSURE OR ACCIDENT CALL CHEMTREC — DAY OR NIGHT
IN THE USA CALL 800-424-9300 IN CANADA (ERP #2-0040) 800-561-3636 ELSEWHERE CALL (703) 527-3887

Permanent Address of Shipper:
**Explo Systems, Inc.**
1600 Java Road
[illegible]den, Louisiana 71055
[illegible]) 382-8700

Per _____

DOT Hazardous Material Handling Number _____
Local Federal Explosives License No. 5-LA-119-20-1A-00057
(Shipper)

I have been offered placards identifying the shipment as Specified in 49CFR Subpart F of Part 172. I have received the above goods in apparent good order and condition.

Received By _____ Date _____
☐ CONSIGNEE ☐ CARRIER

By _____ Date _____
AUTHORIZED RECEIVER

CONTAINS HAZARDOUS MATERIALS

Agent must detach and retain this Shipping Order

CONTAINS HAZARDOUS MATERIALS

019930

EXP_001564

AUSTIN POWDER PACKING LIST

SHIPMENT DATE 3-24-13

B/L# 2877 TRL 17749

M-6

IND82E-070114 2 PTS
IND81A-070020 1 PT
IND84L-070454 2 PTS
IND83F-070276 4 PTS
IND82H-070168 21 PTS
IND81L-070072 2 PTS
IND84F-070587 1 PT
IND85K-070588 7 PTS
IND85C-070512 1 PT
IND84G-070326 1 PT
42 PTS WITH 6 FB @140 LBS PER DRUM

TOTAL 35,280 LBS

35,280

LIONEL KOONS

EXPLO SYSTEMS INC

AUSTIN POWDER PACKING LIST

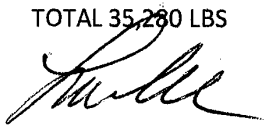
SHIPMENT DATE 3-24-13

B/L# 2877 TRL 17749

M-6

IND82E-070114 2 PTS
IND81A-070020 1 PT
IND84L-070454 2 PTS
IND83F-070276 4 PTS
IND82H-070168 21 PTS
IND81L-070072 2 PTS
IND84F-070587 1 PT
IND85K-070588 7 PTS
IND85C-070512 1 PT
IND84G-070326 1 PT
42 PTS WITH 6 FB @140 LBS PER DRUM

TOTAL 35,280 LBS



LIONEL KOONS

EXPLO SYSTEMS INC

# MOTOR VEHICLE INSPECTION (TRANSPORTING HAZARDOUS MATERIALS)

*(Read Instructions before completing this form.)*

This form applies to all vehicles which must be marked or placarded in accordance with Title 49 CFR.

1. BILL OF LADING/TRANSPORTATION CONTROL NUMBER: 2877

| SECTION 1 - DOCUMENTATION | ORIGIN a. | DESTINATION b. |
|---|---|---|
| 2. CARRIER/GOVERNMENT ORGANIZATION | RRUK | |
| 3. DATE/TIME OF INSPECTION | 2/24/13 | |
| 4. LOCATION OF INSPECTION | EXDIO SYSTEMS INC | |
| 5. OPERATOR(S) NAME(S) | PERDIGO, THOMAS | |
| 6. OPERATOR(S) LICENSE NUMBER(S) | P520825490060 F/L | |
| 7. MEDICAL EXAMINER'S CERTIFICATE* | 2/25/15 | |

| 8. *(X if satisfactory at origin)* | | | | 9. CVSA DECAL DISPLAYED ON COMMERCIAL EQUIPMENT* | YES | NO |
|---|---|---|---|---|---|---|
| a. MILITARY HAZMAT ENDORSEMENT | | d. ERG OR EQUIVALENT COMMERCIAL: | X YES / NO | | | |
| b. VALID LEASE* | | e. DRIVER'S VEHICLE INSPECTION REPORT* | | a. TRUCK/TRACTOR | X | |
| c. ROUTE PLAN | | f. COPY OF 49 CFR PART 397 | | b. TRAILER | X | |

## SECTION II - MECHANICAL INSPECTION

*All items shall be checked on empty equipment prior to loading. Items with an asterisk shall be checked on all incoming loaded equipment.*

10. TYPE OF VEHICLE(S): TRACTOR / TRAILER / DROM

11. VEHICLE NUMBER(S): TRAC #7306 / TRL # 17749

| 12. PART INSPECTED *(X as applicable)* | ORIGIN (1) SAT | ORIGIN (1) UNSAT | DESTINATION (2) SAT | DESTINATION (2) UNSAT | | ORIGIN (1) SAT | ORIGIN (1) UNSAT | DESTINATION (2) SAT | DESTINATION (2) UNSAT | COMMENTS (3) |
|---|---|---|---|---|---|---|---|---|---|---|
| a. SPARE ELECTRICAL FUSES | | | | | k. EXHAUST SYSTEM | | | | | |
| b. HORN OPERATIVE | | | | | l. BRAKE SYSTEM* | | | | | |
| c. STEERING SYSTEM | | | | | m. SUSPENSION | | | | | |
| d. WINDSHIELD/WIPERS | | | | | n. COUPLING DEVICES | | | | | |
| e. MIRRORS | | | | | o. CARGO SPACE | | | | | |
| f. WARNING EQUIPMENT | | | | | p. LANDING GEAR* | | | | | |
| g. FIRE EXTINGUISHER* | | | | | q. TIRES, WHEELS, RIMS | | | | | |
| h. ELECTRICAL WIRING | | | | | r. TAILGATE/DOORS* | | | | | |
| i. LIGHTS AND REFLECTORS | | | | | s. TARPAULIN* | N/A | | | | |
| j. FUEL SYSTEM* | | | | | t. OTHER *(Specify)* | | | | | |

13. INSPECTION RESULTS *(X one)* ACCEPTED X REJECTED

*(If rejected give reason under "Remarks". Equipment will be approved if deficiencies are corrected prior to loading.)*

14. SATELLITE MOTOR SURVEILLANCE SYSTEM: *(X one)* ACCEPTED N/A REJECTED

15. REMARKS

16. INSPECTOR SIGNATURE *(Origin)*

17. INSPECTOR SIGNATURE *(Destination)*

## SECTION III - POST LOADING INSPECTION

This section applies to Commercial and Government/Military vehicles. All items will be checked prior to release of loaded equipment and shall be checked on all incoming loaded equipment.

| | ORIGIN (1) SAT | ORIGIN (1) UNSAT | DESTINATION (2) SAT | DESTINATION (2) UNSAT | COMMENTS (3) |
|---|---|---|---|---|---|
| 18. LOADED IAW APPLICABLE SEGREGATION/COMPATIBILITY TABLE OF 49 CFR | | | | | |
| 19. LOAD PROPERLY SECURED TO PREVENT MOVEMENT | | | | | |
| 20. SEALS APPLIED TO CLOSED VEHICLE; TARPAULIN APPLIED ON OPEN EQUIPMENT | | | | | |
| 21. PROPER PLACARDS APPLIED | | | | | |
| 22. SHIPPING PAPERS/DD FORM 836 FOR GOVERNMENT VEHICLE SHIPMENTS | N/A | | | | |
| 23. COPY OF DD FORM 626 FOR DRIVER | | | | | |
| 24. SHIPPED UNDER DOT SPECIAL PERMIT 868 | N/A | | | | |

25. INSPECTOR SIGNATURE *(Origin)*

26. DRIVER(S) SIGNATURE *(Origin)*

27. INSPECTOR SIGNATURE *(Destination)*

28. DRIVER(S) SIGNATURE *(Destination)*



019933

EXP_001567

Explo Systems, Inc.
1600 Java Road
Minden, LA 71055

# MATERIAL SAFETY DATA SHEET

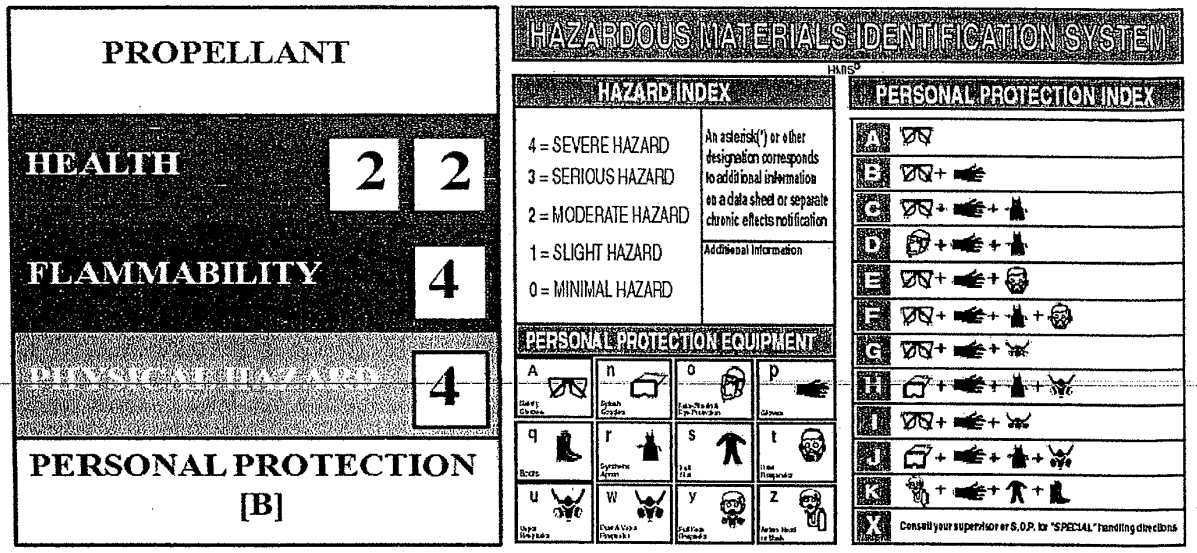
## PROPELLANT (Wetted)

## SECTION I - PRODUCT IDENTIFICATION

PRODUCT NAME: Propellant, Explosive, Solid, Wetted
Technical Information Phone No.: 318.382.8700
For Chemical Emergency (Spill, Fire, Exposure or Accident) call CHEMTREC day or night. Within the US and Canada: +1 800-424-9300. Outside the US and Canada: +1 703-527-3887 (collect calls accepted).

| Ingredient | CAS No. | Wt. % | OSHA PEL<br>ACGIH TLV<br>EPA RQ (if defined)<br>DOT RQ (if defined) |
|---|---|---|---|
| Dibutyl Phthalate | 84-74-2 | 3.00 | OSHA PEL 5 mg/m$^3$<br>ACGIH TLV 5 mg/m$^3$<br>EPA RQ 10 lbs<br>DOT RQ 10 lbs |
| Diphenylamine | 122-39-4 | 1.00 | OSHA PEL 10 mg/m$^3$<br>ACGIH TLV 10 mg/m$^3$<br>EPA RQ (none defined)<br>DOT RQ (none defined) |
| Potassium Sulfate | 7778-80-5 | 2.00 | OSHA PEL none published<br>ACGIH TLV none published<br>EPA RQ (none defined)<br>DOT RQ (none defined) |
| Nitrocellulose (flammable solid) | -- | 87.00 | OSHA PEL none published<br>ACGIH TLV none published<br>EPA RQ (none defined)<br>DOT RQ (none defined) |
| Dinitrotoluene | 25321-14-6 | 10.00 | OSHA PEL 10 mg/m$^3$<br>ACGIH TLV 10 mg/m$^3$<br>EPA RQ 10 lbs<br>DOT RQ 10 lbs |

## SECTION II - HAZARDS IDENTIFICATION




Routes of Entry: Inhalation; Skin; Ingestion
Carcinogenicity: None
First Aid Measures: EYES - Immediately flush with copious amount of water (low pressure) for 15 minutes, remove contact lenses; call physician. SKIN - Wash with soap and running water. INGESTION - Contact physician immediately. INHALATION - Remove to fresh air. Treat irritation symptomatically; call physician.
Firefighting Measures: Self-oxidizing, deluge with water. Will not be able to extinguish unless large quantity of water is used in very short time. Use NIOSH/MSHA approved SCBA and full protective equipment; evacuate area.
Unusual Fire/Explosion Hazard: Easily ignited, highly combustible; protect from fire and sparks and extreme heat.
Autoignition: 383°F (195°C)
Hazardous Combustion Products: Oxides of Carbon
Accidental Release Measures: SPILL - Clean immediately with soft (horsehair) brush and conductive rubber or plastic shovel. Use brass or other non-sparking tools and utensils. DO NOT hammer or otherwise cause impact forces to spilled material (explosion or autoignition could occur with impact force being applied).

## SECTION III - HANDLING AND STORAGE

Precautions: Avoid prolonged temperature above 125°F (50°C). Normal storage conditions should be 75°F (21°C) and 50% Humidity. Storage must conform to local, state and federal regulations, specifically: 29 CFR OSHA 1910.109; 27 CFR BATFE 55 subpart K.
Other Special Precautions: Flammable Solid…Keep away from heat, sparks, open flame…Keep containers closed…use with adequate ventilation.
Ventilation: Local and general ventilation necessary to keep air concentration below TLV's.
Personal Protective Equipment: Safety Glasses, Cotton or Leather Gloves, Fire Resistant Coveralls.

## SECTION IV - PHYSICAL AND CHEMICAL PROPERTIES

Specific Gravity: 1.496
Evaporation Rate: <1 (Butylacetate = 1)
Solubility in Water: negligible
Appearance and Odor: Hard Cylinder Perforated, Smooth, Greenish Yellow. Odorless.
Materials to Avoid: Oxides of Nitrogen and Carbon.

Conditions to Avoid: Open Flame, Sparks, Heat, Direct Sunlight.
Hazardous Decomposition Products: Oxides of Carbon

## SECTION V – TRANSPORTATION INFORMATION

DOT Proper Shipping Name: Smokeless Powder (wetted)
Hazard Class: 1.3C
UN No. UN0161
Packing Group: II

## SECTION VI - DISPOSAL CONSIDERATIONS

Disposal must be in accordance with federal, state and local regulations. Burn in open burning ground in accordance with regulatory requirements. It may also be burned in an incinerator approved for explosives.

## DISCLAIMER

The information contained in this MSDS (Material Safety Data Sheet) is based upon available constituent data for the components of **Propellant** and is believed to be correct. However, as this information has been obtained from various sources, including the manufacturers of its components and independent laboratories, it is provided herein without warranty or representation that it is complete, accurate and can be relied upon. Explo Systems, Inc. has not attempted to conceal in any manner the deleterious aspects of this product, and makes no warranty as such. Explo Systems, Inc. cannot anticipate nor control the many situations in which this product or this information may be used; there is no guarantee that the health and safety precautions suggested herein will be proper under all conditions. It is the sole responsibility of each user of the product to determine and comply with the requirements of all applicable laws and regulations regarding its use. This information is given solely for the purposes of safety to persons and property. Any other use of this information is expressly prohibited.

## AUTHOR

This MSDS was prepared by: Ferris Callihan, PE - Director Support Technology - Explo Systems, Inc. - 1600 Java Road - Minden, LA 71055 - Tel 318 382 8700 - E-mail: fcallihan@explosystems.com

U.S. Department
of Transportation

Pipeline and Hazardous
Materials Safety Administration

East Building, PHH – 32
1200 New Jersey Avenue, Southeast
Washington, D.C. 20590

The US Department of Transportation
Competent Authority for the United States

## CLASSIFICATION OF EXPLOSIVES
## FIRST REVISION

Based upon a request by Explo Systems Inc., 1600 Java Road, Minden, LA 71055, United States the following items are classed in accordance with Section 173.56, Title 49, Code of Federal Regulations (49 CFR). A copy of your application, all supporting documentation and a copy of this approval must be retained and made available to DOT upon request.

**U.N. PROPER SHIPPING NAME AND NUMBER:**
Powder, smokeless, UN0161

**U.N. CLASSIFICATION CODE**: 1.3C

| REFERENCE NUMBER | PRODUCT DESIGNATION/PART NUMBER |
|---|---|
| EX2010040603 | Reclaimed M6 Propellant |

**NOTES:** This classification is only valid when the smokeless powder has been tested and found to have sufficient residual stabilizers present per US Army Safety Bulletin: "Inspection of Supplies and Equipment, Ammunition Surveillance Procedures" (SB 742-1). The following packaging methods are assigned:
Packaging Method A: Inner Packaging - Not necessary. Outer Packaging – UN 1G fiberdrum, each containing not more than one hundred and forty (140) pounds of smokeless propellant.
Packaging Method B: Inner Packaging: Flexible static-resistant reinforced plastic cloth and strapping lifting bag, each containing not more than eight hundred and eighty (880) pounds of smokeless propellant. Outer Packaging - UN 4G heavy-wall fiberboard box with a volumetric capacity of 119 gallons or less. (see 49 CFR Section 171.8 Definition for "Non-bulk packaging")

**DATED:** 05/05/2011

Harpreet S Virdi

For Dr. Magdy El-Sibaie
Associate Administrator for Hazardous Materials Safety

Tracking No: 2011040848

23
2877

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND85C070512** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 10 AUGUST 2012** |

| Other Information | Sample Data | | Solvent |
|---|---|---|---|
| M6 Propellant | #1 | 0.50 g 100 ml | ACN |

| | Standards (ERG-006) | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 0.882 | 8.8 | 112.9 | 1.283 |
| 2,4-DNDPA | 50.0 | 3.343 | 910.9 | 0 | 0.000 |
| 2,2' DNDPA | 50.0 | 5.034 | 3858.6 | 22576 | 0.000 |
| 2,4' DNDPA | 50.0 | 7.363 | 1013.2 | 0 | 0.000 |
| 4NDPA | 50.0 | 8.784 | 1647.3 | 59.7 | 0.004 |
| 2NDPA | 50.0 | 9.95 | 2919.6 | 95.5 | 0.003 |
| DPA | 200.0 | 11.386 | 5857.1 | 714.1 | 0.049 |
| N-NitrosoDPA | 75.0 | 12.173 | 1371.4 | 0 | 0.000 |
| | | | | | 1.339 |
| | | Avg. % Stabilizer for Lot | | | **1.339** |

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | |
|---|---|
| **Analyst** Takisha Dickerson | Avg. Tot. Stabilizers **1.34** % |
| Analyst Signature Dickerson | Stable YES / Unstable |
| Lab. Supervisor Signature | Comments **CATEGORY: A** |
| | Actions to be Taken |

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND84G070326** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 3 MAY 2012** |

| Other Information | Sample Data | | Solvent |
|---|---|---|---|
| M6 Propellant | #1 | 0.50 g 100 ml | ACN |

| Standards (ERG-006) | | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 0.867 | 104.4 | 324.4 | 0.311 |
| 2,4-DNDPA | 50.0 | 3.335 | 1105.6 | 0 | 0.000 |
| 2,2' DNDPA | 50.0 | 5.007 | 4986.7 | 23068 | 0.000 |
| 2,4' DNDPA | 50.0 | 7.137 | 1206.9 | 0 | 0.000 |
| 4NDPA | 50.0 | 8.593 | 1969.2 | 87.1 | 0.004 |
| 2NDPA | 50.0 | 9.688 | 3527.8 | 151.4 | 0.004 |
| DPA | 200.0 | 11.153 | 7041.6 | 785.8 | 0.045 |
| N-NitrosoDPA | 75.0 | 11.897 | 1704.5 | | 0.000 |

| | | |
|---|---|---|
| | | 0.364 |
| Avg. % Stabilizer for Lot | | **0.364** |

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | | |
|---|---|---|
| **Analyst** Takisha Dickerson | Avg. Tot. Stabilizers | **0.36** % |
| Analyst Signature | Stable YES | Unstable |
| | Comments | |
| Lab. Supervisor Signature | **CATEGORY:** | **A** |
| | Actions to be Taken | |

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND84L070454** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 4 MAY 2012** |

| Other Information | Sample Data | | Solvent |
|---|---|---|---|
| M6 Propellant | #1 | 0.50 g 100 ml | ACN |

| Standards (ERG-006) | | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 0.867 | 83.7 | 400.6 | 0.479 |
| 2,4-DNDPA | 50.0 | 3.338 | 1156.5 | 0 | 0.000 |
| 2,2' DNDPA | 50.0 | 5.017 | 5373.7 | 23342 | 0.000 |
| 2,4' DNDPA | 50.0 | 7.147 | 1263.8 | 0 | 0.000 |
| 4NDPA | 50.0 | 8.595 | 2061.4 | 48.3 | 0.002 |
| 2NDPA | 50.0 | 9.687 | 3694.9 | 94.1 | 0.003 |
| DPA | 200.0 | 11.119 | 7683.7 | 721.2 | 0.038 |
| N-NitrosoDPA | 75.0 | 11.99 | 2133.1 | | 0.000 |

| | 0.521 |
|---|---|
| Avg. % Stabilizer for Lot | **0.521** |

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | |
|---|---|
| **Analyst** Takisha Dickerson | Avg. Tot. Stabilizers **0.52** % |
| Analyst Signature | Stable YES \| Unstable |
| Lab. Supervisor Signature | Comments **CATEGORY: A** |
| | Actions to be Taken |

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND83F070276** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 4 Sep 2012** |

| Other Information | Sample Data | | Solvent |
|---|---|---|---|
| M6 Propellant | #1 | 0.50 g 100 ml | ACN |

| Standards (ERG-006) | | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 0.889 | 48.8 | 578.6 | 1.186 |
| 2,4-DNDPA | 50.0 | 3.418 | 914.3 | 0 | 0.000 |
| 2,2' DNDPA | 50.0 | 5.22 | 777.3 | 23990 | 0.000 |
| 2,4' DNDPA | 50.0 | 7.622 | 980.5 | 0 | 0.000 |
| 4NDPA | 50.0 | 9.134 | 1586.8 | 40.6 | 0.003 |
| 2NDPA | 50.0 | 10.417 | 2826.3 | 88.7 | 0.003 |
| DPA | 200.0 | 11.797 | 5671.5 | 812.6 | 0.057 |
| N-NitrosoDPA | 75.0 | 12.757 | 1337.5 | 0 | 0.000 |

| | | |
|---|---|---|
| | | 1.249 |
| Avg. % Stabilizer for Lot | | **1.249** |

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | | |
|---|---|---|
| **Analyst** Mike Kile | Avg. Tot. Stabilizers | **1.25** % |
| Analyst Signature | Stable YES | Unstable |
| | Comments | |
| Lab. Supervisor Signature | **CATEGORY:** | **A** |
| | Actions to be Taken | |

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND82H070168** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 1 FEB 2011** |

| Other Information | Sample Data | | Solvent |
|---|---|---|---|
| M6 Propellant | #1 | 0.5000 g 100 ml | ACN |

| Standards (ERG-006) | | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 4.156 | 1116 | 2540.4 | 0.228 |
| 2,4-DNDPA | 50.0 | 9.388 | 1191.2 | 31231.4 | 2.622 |
| 2,2' DNDPA | 50.0 | 10.987 | 1694.7 | 51.5 | 0.000 |
| 2,4' DNDPA | 50.0 | 11.73 | 1272.3 | 143.2 | 0.011 |
| 4NDPA | 50.0 | 12.459 | 2443.3 | 0 | 0.000 |
| 2NDPA | 50.0 | 13.939 | 5852.1 | 838.5 | 0.014 |
| DPA | 200.0 | 15.022 | 1753.1 | 0 | 0.000 |
| N-NitrosoDPA | 75.0 | 18.932 | 2535.1 | 985.4 | 0.000 |

| | | |
|---|---|---|
| | | 2.875 |
| Avg. % Stabilizer for Lot | | **2.875** |

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | | |
|---|---|---|
| **Analyst** Mike Kile | Avg. Tot. Stabilizers | **2.88** % |
| Analyst Signature | Stable YES | Unstable |
| | Comments | |
| Lab. Supervisor Signature | **CATEGORY:** | **A** |
| | Actions to be Taken | |

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND82E070114** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 22 NOV 2011** |

Other Information
M6 Propellant

| Sample Data | | | Solvent |
|---|---|---|---|
| #1 | 0.50 g | 100 ml | ACN |

| Standards (ERG-006) | | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 0.753 | 205.4 | 623.3 | 0.303 |
| 2,4-DNDPA | 50.0 | 3.383 | 927.4 | 0 | 0.000 |
| 2,2' DNDPA | 50.0 | 5.127 | 481.8 | 21922 | 0.000 |
| 2,4' DNDPA | 50.0 | 7.38 | 1001.4 | 0 | 0.000 |
| 4NDPA | 50.0 | 8.893 | 1609.3 | 58.6 | 0.004 |
| 2NDPA | 50.0 | 10.053 | 2886.9 | 118 | 0.004 |
| DPA | 200.0 | 11.586 | 5621.7 | 791.2 | 0.056 |
| N-NitrosoDPA | 75.0 | 12.383 | 1361.9 | 0 | 0.000 |

0.367

| Avg. % Stabilizer for Lot | **0.367** |
|---|---|

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | |
|---|---|
| **Analyst** TAKISHA DICKERSON | Avg. Tot. Stabilizers **0.37** % |
| Analyst Signature | Stable YES \| Unstable |
| Lab. Supervisor Signature | Comments **CATEGORY: A** |
| | Actions to be Taken |

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND81L070072** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 29 MAY 2012** |

| Other Information | Sample Data | | Solvent |
|---|---|---|---|
| M6 Propellant | #1 | 0.50 g 100 ml | ACN |

| Standards (ERG-006) | | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 0.86 | 235.9 | 624.2 | 0.265 |
| 2,4-DNDPA | 50.0 | 3.398 | 913.2 | 0 | 0.000 |
| 2,2' DNDPA | 50.0 | 5.133 | 1007.2 | 37338 | 0.000 |
| 2,4' DNDPA | 50.0 | 7.409 | 1002.4 | 0 | 0.000 |
| 4NDPA | 50.0 | 8.917 | 1612.8 | 156.8 | 0.010 |
| 2NDPA | 50.0 | 10.112 | 2882.2 | 297.6 | 0.010 |
| DPA | 200.0 | 11.607 | 5642.3 | 1100.9 | 0.078 |
| N-NitrosoDPA | 75.0 | 12.414 | 1351.4 | | 0.000 |

| | | |
|---|---|---|
| | | 0.363 |
| | Avg. % Stabilizer for Lot | **0.363** |

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | |
|---|---|
| **Analyst** Takisha Dickerson | Avg. Tot. Stabilizers **0.36** % |
| Analyst Signature | Stable YES / Unstable |
| Lab. Supervisor Signature | Comments **CATEGORY: A** |
| | Actions to be Taken |

CONTAINS HAZARDOUS MATERIALS

# STRAIGHT BILL OF LADING — NOT NEGOTIABLE

RECEIVED, subject to the classification and tariffs in effect on the date of the issue of this Original Bill of Lading.
The property described below, in apparent good order, except as noted (contents and condition of contents of packages unknown) consigned, end destined as indicated below, which said carrier (the word carrier being understood throughout this contract meaning any person or corporation in possession of the property under the contract) agrees to curry to its usual place of delivery of said destination. It on its route, otherwise to deliver to another carrier on the route to said destination. It is mutually agreed, as to each of all or any of said property over all or any portion of said route to destination, and as to each party at any time interested in all or any of said property, that every service lobe performed hereunder shall be subject to all the terms and conditions of the Uniform Domestic Straight Bill of Lading Set forth (t) in Uniform Freight Classification in effect on the date hereof, It this is a rail or rail-water shipment, or (2) in the applicable motor carrier classification or tariff it this is a motor carrier shipment.

Shipper hereby certifies that he is familiar with all the terms and conditions of the said bill of lading, set forth in the classification or tariff which governs the transportation of this shipment, and the sold terms and conditions are hereby agreed to by the shipper and accept for himself and his assigns.

Shipper: Explo Systems, Inc.
1600 Java Road
Minden, LA 71055

Shipper's No. 2878

Shipping Date 3/26/13

At

Purchase Order No.

By RRUK

Freight Charges: Collect _____ Prepaid XXX

Location No. 24716/3321

(Mail or Street Address of Consignee — For purposes of notification only)

Consigned to Austin Powder Co

Destination Tyler to Bryan, TX

State

County East Camden, AR

Route

Charge Account of 1820 SW 34th St Frnt

Fed Lic. 5-AR-103-20-1A-00139

Exp. Date 5/1/15

State Lic.

Exp. Date

Customer No.

Customer P.O. No.

Rel. No.

| SHIPPED No. of PKGS | SHIPPED No. of UNITS | PROPER SHIPPING NAME AND HAZARD CLASS | RETURNED No. of PKGS | RETURNED No. of UNITS | EMERGENCY RESPONSE PROCEDURE GUIDE NO. | EXEMPTION DOT-E | H M | Placards Applied to Railcar or Motor Vehicle |
|---|---|---|---|---|---|---|---|---|
| | | UN0161, Powder, Smokeless, 1.3C, PG II | | | #112 | | | EXPLOSIVES 1.3 |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | Truck No. |
| | | | | | | | | Trailer No. |
| | | | | | | | | Mileage |
| | | | | | | | | Total Packages |
| | | | | | | | | Gross Weight # |
| | | | | | | | | Net Explosive Weight |
| | | 708307, 708338 | | | | | | 35,180 |

ENTERED 4/8/13 gmc

RECEIVED MAR 26 2013 6068 AUSTIN POWDER COMPANY EAST CAMDEN PLANT

This is to certify that the above-named materials are properly classified, described, packaged, marked, and labeled and are in proper condition for transportation, according to the applicable regulations of the Department of Transportation.

Signature _____ Invoice No. _____

FOR CHEMICAL EMERGENCY, SPILL, LEAK, FIRE, EXPOSURE OR ACCIDENT CALL CHEMTREC — DAY OR NIGHT
IN THE USA CALL 800-424-9300 IN CANADA (ERP #2-0040) 800-561-3636 ELSEWHERE CALL (703) 527-3887

Permanent Address of Shipper:
**Explo Systems, Inc.**
1600 Java Road
den, Louisiana 71055
8) 382-8700

Per _____

DOT Hazardous Material Handling Number _____
Local Federal Explosives License No. 5-LA-119-20-1A-00057
(Shipper)

I have been offered placards identifying the shipment as Specified in 49CFR Subpart F of Part 172. I have received the above goods in apparent good order and condition.

Received By _____ Date 3-25-13
☐ CONSIGNEE ☐ CARRIER

By _____ Date _____
AUTHORIZED RECEIVER

CONTAINS HAZARDOUS MATERIALS

Agent must detach and retain this Shipping Order

019946

EXP_001580

AUSTIN POWDER PACKING LIST

SHIPMENT DATE 3-25-13

B/L# 2878 TRL 7810099

M-6

| | |
|---|---|
| IND84G-070326 | 1 PT |
| IND83F-070276 | 2 PTS |
| IND84A-070323 | 3 PTS |
| IND82L-070178 | 2 PTS |
| IND82H-070168 | 3 PTS |
| IND83H-070287 | 1 PT |
| IND82K-070175 | 1 PT |
| IND81D-070015 | 17 PTS |
| IND86E-070616 | 12 PTS |

42 PTS WITH 6 FB @140 LBS PER DRUM

TOTAL 35,280 LBS

LIONEL KOONS

EXPLO SYSTEMS INC

# MOTOR VEHICLE INSPECTION (TRANSPORTING HAZARDOUS MATERIALS)

*(Read Instructions before completing this form.)*

This form applies to all vehicles which must be marked or placarded in accordance with Title 49 CFR.

1. BILL OF LADING/TRANSPORTATION CONTROL NUMBER: 2878

| SECTION 1 - DOCUMENTATION | ORIGIN a. | DESTINATION b. |
|---|---|---|
| 2. CARRIER/GOVERNMENT ORGANIZATION | RRUR | |
| 3. DATE/TIME OF INSPECTION | 3/25/13 | |
| 4. LOCATION OF INSPECTION | EXPLO SYSTEMS INC | |
| 5. OPERATOR(S) NAME(S) | BARNETT, HERMAN | |
| 6. OPERATOR(S) LICENSE NUMBER(S) | R202343009 ME | |
| 7. MEDICAL EXAMINER'S CERTIFICATE* | 1-3-15 | |

8. *(X if satisfactory at origin)*

| | | | | | |
|---|---|---|---|---|---|
| a. MILITARY HAZMAT ENDORSEMENT | ✓ | d. ERG OR EQUIVALENT COMMERCIAL: | ✓ YES | NO | |
| b. VALID LEASE* | ✓ | e. DRIVER'S VEHICLE INSPECTION REPORT* | | | ✓ |
| c. ROUTE PLAN | ✓ | f. COPY OF 49 CFR PART 397 | | | |

9. CVSA DECAL DISPLAYED ON COMMERCIAL EQUIPMENT*

| | YES | NO |
|---|---|---|
| a. TRUCK/TRACTOR | ✓ | |
| b. TRAILER | | |

## SECTION II - MECHANICAL INSPECTION

*All items shall be checked on empty equipment prior to loading. Items with an asterisk shall be checked on all incoming loaded equipment.*

10. TYPE OF VEHICLE(S): TRACTOR / TRAILER / DROM

11. VEHICLE NUMBER(S): TRAC # 6436 / TRL # 7810059

| 12. PART INSPECTED (X as applicable) | ORIGIN (1) SAT | ORIGIN (1) UNSAT | DESTINATION (2) SAT | DESTINATION (2) UNSAT | | ORIGIN (1) SAT | ORIGIN (1) UNSAT | DESTINATION (2) SAT | DESTINATION (2) UNSAT | COMMENTS (3) |
|---|---|---|---|---|---|---|---|---|---|---|
| a. SPARE ELECTRICAL FUSES | | | | | k. EXHAUST SYSTEM | | | | | |
| b. HORN OPERATIVE | | | | | l. BRAKE SYSTEM* | | | | | |
| c. STEERING SYSTEM | | | | | m. SUSPENSION | | | | | |
| d. WINDSHIELD/WIPERS | | | | | n. COUPLING DEVICES | | | | | |
| e. MIRRORS | | | | | o. CARGO SPACE | | | | | |
| f. WARNING EQUIPMENT | | | | | p. LANDING GEAR* | | | | | |
| g. FIRE EXTINGUISHER* | | | | | q. TIRES, WHEELS, RIMS | | | | | |
| h. ELECTRICAL WIRING | | | | | r. TAILGATE/DOORS* | | | | | |
| i. LIGHTS AND REFLECTORS | | | | | s. TARPAULIN* | | | | | |
| j. FUEL SYSTEM* | | | | | t. OTHER (Specify) | | | | | |

13. INSPECTION RESULTS (X one) ACCEPTED ✓ REJECTED

*(If rejected give reason under "Remarks". Equipment will be approved if deficiencies are corrected prior to loading.)*

14. SATELLITE MOTOR SURVEILLANCE SYSTEM: (X one) ACCEPTED N/A REJECTED

15. REMARKS

16. INSPECTOR SIGNATURE *(Origin)*

17. INSPECTOR SIGNATURE *(Destination)*

## SECTION III - POST LOADING INSPECTION

This section applies to Commercial and Government/Military vehicles. All items will be checked prior to release of loaded equipment and shall be checked on all incoming loaded equipment.

| | ORIGIN (1) SAT | ORIGIN (1) UNSAT | DESTINATION (2) SAT | DESTINATION (2) UNSAT | COMMENTS (3) |
|---|---|---|---|---|---|
| 18. LOADED IAW APPLICABLE SEGREGATION/COMPATIBILITY TABLE OF 49 CFR | | | | | |
| 19. LOAD PROPERLY SECURED TO PREVENT MOVEMENT | | | | | |
| 20. SEALS APPLIED TO CLOSED VEHICLE; TARPAULIN APPLIED ON OPEN EQUIPMENT | | | | | |
| 21. PROPER PLACARDS APPLIED | | | | | |
| 22. SHIPPING PAPERS/DD FORM 836 FOR GOVERNMENT VEHICLE SHIPMENTS | N/A | | | | |
| 23. COPY OF DD FORM 626 FOR DRIVER | | | | | |
| 24. SHIPPED UNDER DOT SPECIAL PERMIT 868 | N/A | | | | |

25. INSPECTOR SIGNATURE *(Origin)*

26. DRIVER(S) SIGNATURE *(Origin)*

27. INSPECTOR SIGNATURE *(Destination)*

28. DRIVER(S) SIGNATURE *(Destination)*

DD FORM 836, MAR 2007 — PREVIOUS EDITIONS OBSOLETE

019948

EXP_001582

Explo Systems, Inc.
1600 Java Road
Minden, LA 71055

# MATERIAL SAFETY DATA SHEET

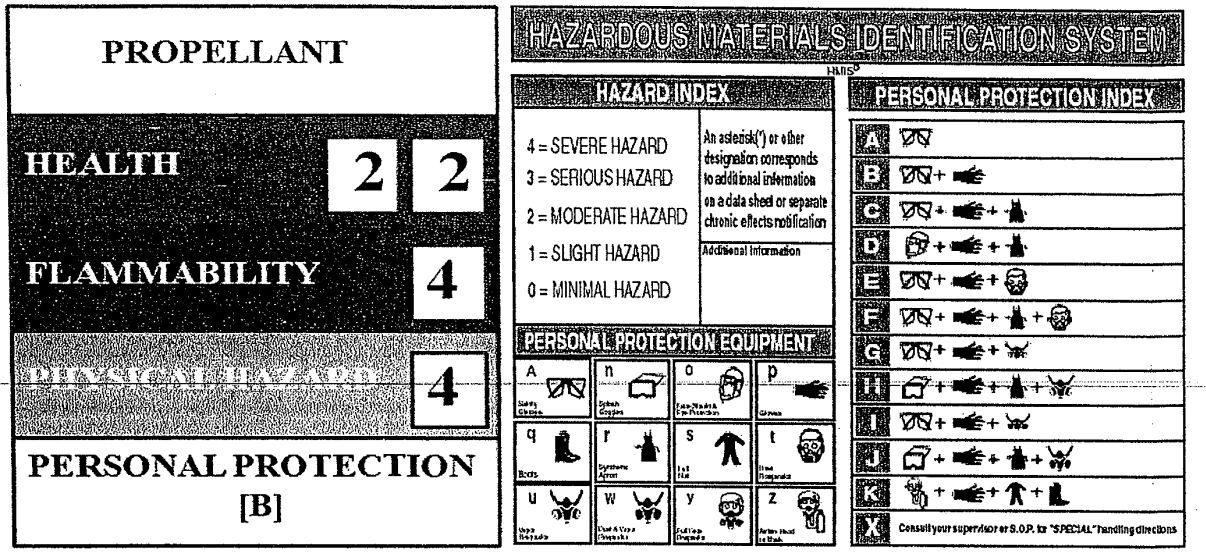
## PROPELLANT (Wetted)

## SECTION I - PRODUCT IDENTIFICATION

PRODUCT NAME: Propellant, Explosive, Solid, Wetted
Technical Information Phone No.: 318.382.8700
For Chemical Emergency (Spill, Fire, Exposure or Accident) call CHEMTREC day or night. Within the US and Canada: +1 800-424-9300. Outside the US and Canada: +1 703-527-3887 (collect calls accepted).

| Ingredient | CAS No. | Wt. % | OSHA PEL<br>ACGIH TLV<br>EPA RQ (if defined)<br>DOT RQ (if defined) |
|---|---|---|---|
| Dibutyl Phthalate | 84-74-2 | 3.00 | OSHA PEL 5 mg/m$^3$<br>ACGIH TLV 5 mg/m$^3$<br>EPA RQ 10 lbs<br>DOT RQ 10 lbs |
| Diphenylamine | 122-39-4 | 1.00 | OSHA PEL 10 mg/m$^3$<br>ACGIH TLV 10 mg/m$^3$<br>EPA RQ (none defined)<br>DOT RQ (none defined) |
| Potassium Sulfate | 7778-80-5 | 2.00 | OSHA PEL none published<br>ACGIH TLV none published<br>EPA RQ (none defined)<br>DOT RQ (none defined) |
| Nitrocellulose (flammable solid) | -- | 87.00 | OSHA PEL none published<br>ACGIH TLV none published<br>EPA RQ (none defined)<br>DOT RQ (none defined) |
| Dinitrotoluene | 25321-14-6 | 10.00 | OSHA PEL 10 mg/m$^3$<br>ACGIH TLV 10 mg/m$^3$<br>EPA RQ 10 lbs<br>DOT RQ 10 lbs |

## SECTION II - HAZARDS IDENTIFICATION




Routes of Entry: Inhalation; Skin; Ingestion
Carcinogenicity: None
First Aid Measures: EYES - Immediately flush with copious amount of water (low pressure) for 15 minutes, remove contact lenses; call physician. SKIN - Wash with soap and running water. INGESTION - Contact physician immediately. INHALATION - Remove to fresh air. Treat irritation symptomatically; call physician.
Firefighting Measures: Self-oxidizing, deluge with water. Will not be able to extinguish unless large quantity of water is used in very short time. Use NIOSH/MSHA approved SCBA and full protective equipment; evacuate area.
Unusual Fire/Explosion Hazard: Easily ignited, highly combustible; protect from fire and sparks and extreme heat.
Autoignition: 383°F (195°C)
Hazardous Combustion Products: Oxides of Carbon
Accidental Release Measures: SPILL - Clean immediately with soft (horsehair) brush and conductive rubber or plastic shovel. Use brass or other non-sparking tools and utensils. DO NOT hammer or otherwise cause impact forces to spilled material (explosion or autoignition could occur with impact force being applied).

## SECTION III - HANDLING AND STORAGE

Precautions: Avoid prolonged temperature above 125°F (50°C). Normal storage conditions should be 75°F (21°C) and 50% Humidity. Storage must conform to local, state and federal regulations, specifically: 29 CFR OSHA 1910.109; 27 CFR BATFE 55 subpart K.
Other Special Precautions: Flammable Solid…Keep away from heat, sparks, open flame…Keep containers closed…use with adequate ventilation.
Ventilation: Local and general ventilation necessary to keep air concentration below TLV's.
Personal Protective Equipment: Safety Glasses, Cotton or Leather Gloves, Fire Resistant Coveralls.

## SECTION IV - PHYSICAL AND CHEMICAL PROPERTIES

Specific Gravity: 1.496
Evaporation Rate: <1 (Butylacetate = 1)
Solubility in Water: negligible
Appearance and Odor: Hard Cylinder Perforated, Smooth, Greenish Yellow. Odorless.
Materials to Avoid: Oxides of Nitrogen and Carbon.

Conditions to Avoid: Open Flame, Sparks, Heat, Direct Sunlight.
Hazardous Decomposition Products: Oxides of Carbon

## SECTION V – TRANSPORTATION INFORMATION

DOT Proper Shipping Name: Smokeless Powder (wetted)
Hazard Class: 1.3C
UN No. UN0161
Packing Group: II

## SECTION VI - DISPOSAL CONSIDERATIONS

Disposal must be in accordance with federal, state and local regulations. Burn in open burning ground in accordance with regulatory requirements. It may also be burned in an incinerator approved for explosives.

## DISCLAIMER

The information contained in this MSDS (Material Safety Data Sheet) is based upon available constituent data for the components of **Propellant** and is believed to be correct. However, as this information has been obtained from various sources, including the manufacturers of its components and independent laboratories, it is provided herein without warranty or representation that it is complete, accurate and can be relied upon. Explo Systems, Inc. has not attempted to conceal in any manner the deleterious aspects of this product, and makes no warranty as such. Explo Systems, Inc. cannot anticipate nor control the many situations in which this product or this information may be used; there is no guarantee that the health and safety precautions suggested herein will be proper under all conditions. It is the sole responsibility of each user of the product to determine and comply with the requirements of all applicable laws and regulations regarding its use. This information is given solely for the purposes of safety to persons and property. Any other use of this information is expressly prohibited.

## AUTHOR

This MSDS was prepared by: Ferris Callihan, PE - Director Support Technology - Explo Systems, Inc. - 1600 Java Road - Minden, LA 71055 - Tel 318 382 8700 - E-mail: fcallihan@explosystems.com

U.S. Department
of Transportation

Pipeline and Hazardous
Materials Safety Administration

East Building, PHH – 32
1200 New Jersey Avenue, Southeast
Washington, D.C. 20590

The US Department of Transportation
Competent Authority for the United States

## CLASSIFICATION OF EXPLOSIVES
## FIRST REVISION

Based upon a request by Explo Systems Inc., 1600 Java Road, Minden, LA 71055, United States the following items are classed in accordance with Section 173.56, Title 49, Code of Federal Regulations (49 CFR). A copy of your application, all supporting documentation and a copy of this approval must be retained and made available to DOT upon request.

**U.N. PROPER SHIPPING NAME AND NUMBER:**
Powder, smokeless, UN0161

**U.N. CLASSIFICATION CODE**: 1.3C

| REFERENCE NUMBER | PRODUCT DESIGNATION/PART NUMBER |
|---|---|
| EX2010040603 | Reclaimed M6 Propellant |

**NOTES:** This classification is only valid when the smokeless powder has been tested and found to have sufficient residual stabilizers present per US Army Safety Bulletin: "Inspection of Supplies and Equipment, Ammunition Surveillance Procedures" (SB 742-1). The following packaging methods are assigned:
Packaging Method A: Inner Packaging - Not necessary. Outer Packaging – UN 1G fiberdrum, each containing not more than one hundred and forty (140) pounds of smokeless propellant.
Packaging Method B: Inner Packaging: Flexible static-resistant reinforced plastic cloth and strapping lifting bag, each containing not more than eight hundred and eighty (880) pounds of smokeless propellant. Outer Packaging - UN 4G heavy-wall fiberboard box with a volumetric capacity of 119 gallons or less. (see 49 CFR Section 171.8 Definition for "Non-bulk packaging")

**DATED:** 05/05/2011

Harpreet Singh

For Dr. Magdy El-Sibaie
Associate Administrator for Hazardous Materials Safety

Tracking No: 2011040848

24
2878

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND86E070616** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 19 NOV 2010** |

| Other Information | Sample Data | | Solvent |
|---|---|---|---|
| M6 Propellant | #1 | 0.5000 g 100 ml | ACN |

| | Standards (ERG-006) | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 2.068 | 135.8 | 654.4 | 0.482 |
| 2,4-DNDPA | 50.0 | 5.182 | 717.3 | 0 | 0.000 |
| 2,2' DNDPA | 50.0 | 7.635 | 736.3 | 13022.2 | 0.000 |
| 2,4' DNDPA | 50.0 | 11.713 | 779 | 0 | 0.000 |
| 4NDPA | 50.0 | 13.454 | 462.4 | 0 | 0.000 |
| 2NDPA | 50.0 | 15.161 | 1164.1 | 0 | 0.000 |
| DPA | 200.0 | 16.583 | 4078.5 | 221.2 | 0.022 |
| N-NitrosoDPA | 75.0 | 18.033 | 1011.7 | 0 | 0.000 |

0.504

| Avg. % Stabilizer for Lot | **0.504** |
|---|---|

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | |
|---|---|
| **Analyst** Kisha Dickerson | Avg. Tot. Stabilizers **0.50** % |
| Analyst Signature | Stable YES / Unstable |
| Lab. Supervisor Signature | Comments **CATEGORY: A** |
| | Actions to be Taken |

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND84G070326** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 3 MAY 2012** |

| Other Information | Sample Data | | Solvent |
|---|---|---|---|
| M6 Propellant | #1 | 0.50 g 100 ml | ACN |

| Standards (ERG-006) | | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 0.867 | 104.4 | 324.4 | 0.311 |
| 2,4-DNDPA | 50.0 | 3.335 | 1105.6 | 0 | 0.000 |
| 2,2' DNDPA | 50.0 | 5.007 | 4986.7 | 23068 | 0.000 |
| 2,4' DNDPA | 50.0 | 7.137 | 1206.9 | 0 | 0.000 |
| 4NDPA | 50.0 | 8.593 | 1969.2 | 87.1 | 0.004 |
| 2NDPA | 50.0 | 9.688 | 3527.8 | 151.4 | 0.004 |
| DPA | 200.0 | 11.153 | 7041.6 | 785.8 | 0.045 |
| N-NitrosoDPA | 75.0 | 11.897 | 1704.5 | | 0.000 |

| | | |
|---|---|---|
| | | 0.364 |
| Avg. % Stabilizer for Lot | | **0.364** |

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | |
|---|---|
| **Analyst** Takisha Dickerson | Avg. Tot. Stabilizers **0.36** % |
| Analyst Signature | Stable YES / Unstable |
| | Comments **CATEGORY: A** |
| Lab. Supervisor Signature | |
| | Actions to be Taken |

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND84A070323** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 21 DEC 2011** |

| Other Information | Sample Data | | Solvent |
|---|---|---|---|
| M6 Propellant | #1 | 0.50 g 100 ml | ACN |

| Standards (ERG-006) | | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 0.67 | 192.9 | 675.2 | 0.350 |
| 2,4-DNDPA | 50.0 | 3.298 | 1077.6 | 0 | 0.000 |
| 2,2' DNDPA | 50.0 | 4.953 | 951.5 | 22469 | 0.000 |
| 2,4' DNDPA | 50.0 | 6.749 | 1136.2 | 0 | 0.000 |
| 4NDPA | 50.0 | 8.218 | 1880.4 | 46.5 | 0.002 |
| 2NDPA | 50.0 | 9.339 | 3292.9 | 89.5 | 0.003 |
| DPA | 200.0 | 10.48 | 6310.2 | 733.6 | 0.047 |
| N-NitrosoDPA | 75.0 | 11.073 | 1512.2 | 0 | 0.000 |

| | | |
|---|---|---|
| | | 0.402 |
| Avg. % Stabilizer for Lot | | **0.402** |

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | |
|---|---|
| **Analyst** TAKISHA DICKERSON | Avg. Tot. Stabilizers **0.40** % |
| Analyst Signature | Stable YES / Unstable |
| Lab. Supervisor Signature | Comments **CATEGORY: A** |
| | Actions to be Taken |

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND83F070276** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 4 Sep 2012** |

| Other Information | Sample Data | | Solvent |
|---|---|---|---|
| M6 Propellant | #1 | 0.50 g 100 ml | ACN |

| | Standards (ERG-006) | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 0.889 | 48.8 | 578.6 | 1.186 |
| 2,4-DNDPA | 50.0 | 3.418 | 914.3 | 0 | 0.000 |
| 2,2' DNDPA | 50.0 | 5.22 | 777.3 | 23990 | 0.000 |
| 2,4' DNDPA | 50.0 | 7.622 | 980.5 | 0 | 0.000 |
| 4NDPA | 50.0 | 9.134 | 1586.8 | 40.6 | 0.003 |
| 2NDPA | 50.0 | 10.417 | 2826.3 | 88.7 | 0.003 |
| DPA | 200.0 | 11.797 | 5671.5 | 812.6 | 0.057 |
| N-NitrosoDPA | 75.0 | 12.757 | 1337.5 | 0 | 0.000 |

1.249

Avg. % Stabilizer for Lot **1.249**

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | |
|---|---|
| **Analyst** Mike Kile | Avg. Tot. Stabilizers **1.25** % |
| Analyst Signature | Stable YES / Unstable |
| Lab. Supervisor Signature | Comments **CATEGORY: A** |
| | Actions to be Taken |

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND82H070168** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 1 FEB 2011** |

Other Information
M6 Propellant

| Sample Data | | | Solvent |
|---|---|---|---|
| #1 | 0.5000 g | 100 ml | ACN |

| Standards (ERG-006) | | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 4.156 | 1116 | 2540.4 | 0.228 |
| 2,4-DNDPA | 50.0 | 9.388 | 1191.2 | 31231.4 | 2.622 |
| 2,2' DNDPA | 50.0 | 10.987 | 1694.7 | 51.5 | 0.000 |
| 2,4' DNDPA | 50.0 | 11.73 | 1272.3 | 143.2 | 0.011 |
| 4NDPA | 50.0 | 12.459 | 2443.3 | 0 | 0.000 |
| 2NDPA | 50.0 | 13.939 | 5852.1 | 838.5 | 0.014 |
| DPA | 200.0 | 15.022 | 1753.1 | 0 | 0.000 |
| N-NitrosoDPA | 75.0 | 18.932 | 2535.1 | 985.4 | 0.000 |

2.875

| Avg. % Stabilizer for Lot | **2.875** |
|---|---|

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | |
|---|---|
| **Analyst** Mike Kile | Avg. Tot. Stabilizers **2.88** % |
| Analyst Signature | Stable YES / Unstable |
| Lab. Supervisor Signature | Comments<br>**CATEGORY: A** |
| | Actions to be Taken |

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND82K070175** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 6 AUG 2010** |

Other Information
M6 Propellant

| Sample Data | | | Solvent |
|---|---|---|---|
| #1 | 0.5000 g | 100 ml | ACN |

| Standards (ERG-006) | | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | | 1 | 0 | 0.000 |
| 2,4-DNDPA | 50.0 | 4.91 | 382.3 | 5134.1 | 1.343 |
| 2,2' DNDPA | 50.0 | 9.825 | 437 | 0 | 0.000 |
| 2,4' DNDPA | 50.0 | 11.341 | 632.4 | 87.4 | 0.014 |
| 4NDPA | 50.0 | 11.95 | 441.7 | 0 | 0.000 |
| 2NDPA | 50.0 | 12.713 | 827.6 | 192.5 | 0.023 |
| DPA | 200.0 | 14.06 | 2176 | 90.1 | 0.017 |
| N-NitrosoDPA | 75.0 | 14.999 | 558.4 | 254.6 | 0.068 |

| | | |
|---|---|---|
| | | 1.465 |
| | Avg. % Stabilizer for Lot | **1.465** |

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | |
|---|---|
| **Analyst** Mike Kile | Avg. Tot. Stabilizers **1.46** % |
| Analyst Signature | Stable YES / Unstable |
| Lab. Supervisor Signature | Comments **CATEGORY: A** |
| | Actions to be Taken |

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND82L070178** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 1 FEB 2011** |

| Other Information | Sample Data | | Solvent |
|---|---|---|---|
| M6 Propellant | #1 | 0.5000 g 100 ml | ACN |

| | Standards (ERG-006) | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 4.156 | 1116 | 1943.1 | 0.174 |
| 2,4-DNDPA | 50.0 | 9.388 | 1191.2 | 25869.9 | 2.172 |
| 2,2' DNDPA | 50.0 | 10.987 | 1694.7 | 97.6 | 0.000 |
| 2,4' DNDPA | 50.0 | 11.73 | 1272.3 | 145.3 | 0.011 |
| 4NDPA | 50.0 | 12.459 | 2443.3 | 0 | 0.000 |
| 2NDPA | 50.0 | 13.939 | 5852.1 | 388.6 | 0.007 |
| DPA | 200.0 | 15.022 | 1753.1 | 361.4 | 0.082 |
| N-NitrosoDPA | 75.0 | 18.932 | 2535.1 | 365.7 | 0.000 |

| | 2.446 |
|---|---|
| Avg. % Stabilizer for Lot | **2.446** |

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | |
|---|---|
| **Analyst** Mike Kile | Avg. Tot. Stabilizers **2.45** % |
| Analyst Signature | Stable YES \| Unstable |
| | Comments CATEGORY: A |
| Lab. Supervisor Signature | |
| | Actions to be Taken |

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND81D070015** | **D533 / M6 propellant** |
| Date of analysis: | **Date:20 OCT 2010** |

| Other Information | Sample Data | | Solvent |
|---|---|---|---|
| M6 Propellant | #1 | 0.5000 g 100 ml | ACN |

| | Standards (ERG-006) | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 5.024 | 281.6 | 2363.4 | 0.839 |
| 2,4-DNDPA | 50.0 | 10.59 | 329 | 0 | 0.000 |
| 2,2' DNDPA | 50.0 | 12.176 | 376.1 | 0 | 0.000 |
| 2,4' DNDPA | 50.0 | 12.67 | 275.3 | 35.7 | 0.013 |
| 4NDPA | 50.0 | 13.632 | 664.1 | 0 | 0.000 |
| 2NDPA | 50.0 | 14.943 | 1788.8 | 34.8 | 0.002 |
| DPA | 200.0 | 16.114 | 286 | 0 | 0.000 |
| N-NitrosoDPA | 75.0 | 19.917 | 329.9 | 158.8 | 0.000 |

| | | |
|---|---|---|
| | | 0.854 |
| Avg. % Stabilizer for Lot | | **0.854** |

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | | | |
|---|---|---|---|
| **Analyst** | Kisha Dickerson | Avg. Tot. Stabilizers | **0.85** % |
| Analyst Signature | | Stable YES | Unstable |
| Lab. Supervisor Signature | | Comments **CATEGORY:** | **A** |
| | | Actions to be Taken | |

CONTAINS HAZARDOUS MATERIALS

# STRAIGHT BILL OF LADING — NOT NEGOTIABLE

RECEIVED, subject to the classification and tariffs in effect on the date of the issue of this Original Bill of Lading.
The property described below, in apparent good order, except as noted (contents and condition of contents of packages unknown) consigned, and destined as indicated below, ch said carrier (the word carrier being understood throughout this contract meaning any person or corporation in possession of the property under the contract) agrees to curry s usual place of delivery of said destination. It on its route, otherwise to deliver to another carrier on the route to said destination. It is mutually agreed, as to each of all or any of said property over all or any portion of said route to destination, and as to each party at any time interested n all or any of said property, that every service lobe performed hereunder shall be subject to all the terms and conditions of the Uniform Domestic Straight Bill of Lading Set forth (t) in Uniform Freight Classification in effect on the date hereof, It this is a rail or rail-water shipment, or (2) in the applicable motor carrier classification or tariff it this is a motor carrier shipment.
Shipper hereby certifies that he is familiar with all the terms and conditions of the said bill of lading, set forth in the classification or tariff which governs the transportation of this shipment, and the sold terms and conditions are hereby agreed to by the shipper and accept for himself and his assigns.

Shipper: Explo Systems, Inc.
1600 Java Road
Minden, LA 71055

Shipper's No. 2879

Shipping Date 3/25/13

At

Purchase Order No.

By RROK

Freight Charges: Collect _____ Prepaid NVV

Location No. 2321

(Mail or Street Address of Consignee — For purposes of notification only)

Consigned to Austin Powder Co

Destination 7-11-10 Blanchy LA

State

County East Camden AR

Route

Charge Account of 1-870-574-1140 4,332

Fed Lic. 5 AR 103-20-55-10159 Exp. Date 5/1/15

State Lic. Exp. Date

Customer No.

Customer P.O. No.

Rel. No.

| SHIPPED No. of PKGS | SHIPPED No. of UNITS | PROPER SHIPPING NAME AND HAZARD CLASS | RETURNED No. of PKGS | RETURNED No. of UNITS | EMERGENCY RESPONSE PROCEDURE GUIDE NO. | EXEMPTION DOT-E | H M | Placards Applied to Railcar or Motor Vehicle |
|---|---|---|---|---|---|---|---|---|
| [illegible] | [illegible] | UN0161, Powder, Smokeless, 1.3C, PG II | | | #112 | [illegible] | | EXPLOSIVES 1.3 |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | Truck No. 7206 |
| | | | | | | | | Trailer No. [illegible] |
| | | | | | | | | Mileage |
| | | | | | | | | Total [illegible] Packages |
| | | | | | | | | Gross Weight # 39,000 |
| | | Seal # | | | | | | Net Explosive Weight |
| | | 7083827 / 7083830 | | | | | | 35,280 |

RECEIVED
MAR 26 2013
AUSTIN POWDER COMPANY
EAST CAMDEN PLANT

ENTERED 3/26/13

This is to certify that the above-named materials are properly classified, described, packaged, marked, and labeled and are in proper condition for transportation, according to the applicable regulations of the Department of Transportation.

Signature _____

Invoice No. _____

FOR CHEMICAL EMERGENCY, SPILL, LEAK, FIRE, EXPOSURE OR ACCIDENT CALL CHEMTREC — DAY OR NIGHT
IN THE USA CALL 800-424-9300 IN CANADA (ERP #2-0040) 800-561-3636 ELSEWHERE CALL (703) 527-3887

Permanent Address of Shipper:
**Explo Systems, Inc.**
1600 Java Road
den, Louisiana 71055
3) 382-8700

Per _____

DOT Hazardous Material Handling Number _____
Local Federal Explosives License No. 5-LA-119-20-1A-00057
(Shipper)

I have been offered placards identifying the shipment as Specified in 49CFR Subpart F of Part 172. I have received the above goods in apparent good order and condition.

Received By _____ Date _____
❑ CONSIGNEE ❑ CARRIER

By _____ Date _____
AUTHORIZED RECEIVER

CONTAINS HAZARDOUS MATERIALS

Agent must detach and retain this Shipping Order

019962

EXP_001596

AUSTIN POWDER PACKING LIST

SHIPMENT DATE 3-25-13

B/L# 2879 TRL 1810004

M-6

IND81D-070015 12 PTS
IND86E-070616 14 PTS
IND82D-070110 4 PTS
IND87B-070678 10 PTS
IND81K-070071 2 PTS
42 PTS WITH 6 FB @140 LBS PER DRUM

35,280 lbs

TOTAL 35,280 LBS

LIONEL KOONS

EXPLO SYSTEMS INC

AUSTIN POWDER PACKING LIST

SHIPMENT DATE 3-25-13

B/L# 2879 TRL 1810004

M-6

IND81D-070015 12 PTS
IND86E-070616 14 PTS
IND82D-070110 4 PTS
IND87B-070678 10 PTS
IND81K-070071 2 PTS
42 PTS WITH 6 FB @140 LBS PER DRUM

TOTAL 35,280 LBS

LIONEL KOONS

EXPLO SYSTEMS INC

# MOTOR VEHICLE INSPECTION (TRANSPORTING HAZARDOUS MATERIALS)

*(Read Instructions before completing this form.)*

This form applies to all vehicles which must be marked or placarded in accordance with Title 49 CFR.

1. BILL OF LADING/TRANSPORTATION CONTROL NUMBER: 2879

| SECTION 1 - DOCUMENTATION | ORIGIN a. | DESTINATION b. |
|---|---|---|
| 2. CARRIER/GOVERNMENT ORGANIZATION | RRUK | |
| 3. DATE/TIME OF INSPECTION | 3/25/13 | |
| 4. LOCATION OF INSPECTION | EXPLO SYSTEMS INC | |
| 5. OPERATOR(S) NAME(S) | PARRISH, THOMAS | |
| 6. OPERATOR(S) LICENSE NUMBER(S) | P32082549000 60 | |
| 7. MEDICAL EXAMINER'S CERTIFICATE* | 2/25/15 | |

| 8. (X if satisfactory at origin) | | | | | 9. CVSA DECAL DISPLAYED ON COMMERCIAL EQUIPMENT* | YES | NO |
|---|---|---|---|---|---|---|---|
| a. MILITARY HAZMAT ENDORSEMENT | ✓ | d. ERG OR EQUIVALENT COMMERCIAL: | ✓ YES | NO | | | |
| b. VALID LEASE* | ✓ | e. DRIVER'S VEHICLE INSPECTION REPORT* | | ✓ | a. TRUCK/TRACTOR | ✓ | |
| c. ROUTE PLAN | ✓ | f. COPY OF 49 CFR PART 397 | | ✓ | b. TRAILER | | |

## SECTION II - MECHANICAL INSPECTION

*All items shall be checked on empty equipment prior to loading. Items with an asterisk shall be checked on all incoming loaded equipment.*

10. TYPE OF VEHICLE(S): TRACTOR / TRAILER / DROM

11. VEHICLE NUMBER(S): TRAC #7306 / TRL # 181004

| 12. PART INSPECTED (X as applicable) | ORIGIN (1) SAT | ORIGIN (1) UNSAT | DESTINATION (2) SAT | DESTINATION (2) UNSAT | | ORIGIN (1) SAT | ORIGIN (1) UNSAT | DESTINATION (2) SAT | DESTINATION (2) UNSAT | COMMENTS (3) |
|---|---|---|---|---|---|---|---|---|---|---|
| a. SPARE ELECTRICAL FUSES | | | | | k. EXHAUST SYSTEM | | | | | |
| b. HORN OPERATIVE | | | | | l. BRAKE SYSTEM* | | | | | |
| c. STEERING SYSTEM | | | | | m. SUSPENSION | | | | | |
| d. WINDSHIELD/WIPERS | | | | | n. COUPLING DEVICES | | | | | |
| e. MIRRORS | | | | | o. CARGO SPACE | | | | | |
| f. WARNING EQUIPMENT | | | | | p. LANDING GEAR* | | | | | |
| g. FIRE EXTINGUISHER* | | | | | q. TIRES, WHEELS, RIMS | | | | | |
| h. ELECTRICAL WIRING | | | | | r. TAILGATE/DOORS* | | | | | |
| i. LIGHTS AND REFLECTORS | | | | | s. TARPAULIN* | N/A | | | | |
| j. FUEL SYSTEM* | | | | | t. OTHER (Specify) | | | | | |

13. INSPECTION RESULTS (X one) ACCEPTED ✓ REJECTED

*(If rejected give reason under "Remarks". Equipment will be approved if deficiencies are corrected prior to loading.)*

14. SATELLITE MOTOR SURVEILLANCE SYSTEM: (X one) ACCEPTED N/A REJECTED

15. REMARKS

16. INSPECTOR SIGNATURE *(Origin)* [signature]

17. INSPECTOR SIGNATURE *(Destination)*

## SECTION III - POST LOADING INSPECTION

This section applies to Commercial and Government/Military vehicles. All items will be checked prior to release of loaded equipment and shall be checked on all incoming loaded equipment.

| | ORIGIN (1) SAT | ORIGIN (1) UNSAT | DESTINATION (2) SAT | DESTINATION (2) UNSAT | COMMENTS (3) |
|---|---|---|---|---|---|
| 18. LOADED IAW APPLICABLE SEGREGATION/COMPATIBILITY TABLE OF 49 CFR | | | | | |
| 19. LOAD PROPERLY SECURED TO PREVENT MOVEMENT | | | | | |
| 20. SEALS APPLIED TO CLOSED VEHICLE; TARPAULIN APPLIED ON OPEN EQUIPMENT | | | | | |
| 21. PROPER PLACARDS APPLIED | | | | | |
| 22. SHIPPING PAPERS/DD FORM 836 FOR GOVERNMENT VEHICLE SHIPMENTS | N/A | | | | |
| 23. COPY OF DD FORM 626 FOR DRIVER | | | | | |
| 24. SHIPPED UNDER DOT SPECIAL PERMIT 868 | N/A | | | | |

25. INSPECTOR SIGNATURE *(Origin)* [signature]

26. DRIVER(S) SIGNATURE *(Origin)* [signature]

27. INSPECTOR SIGNATURE *(Destination)*

28. DRIVER(S) SIGNATURE *(Destination)*

Explo Systems, Inc.
1600 Java Road
Minden, LA 71055

# MATERIAL SAFETY DATA SHEET

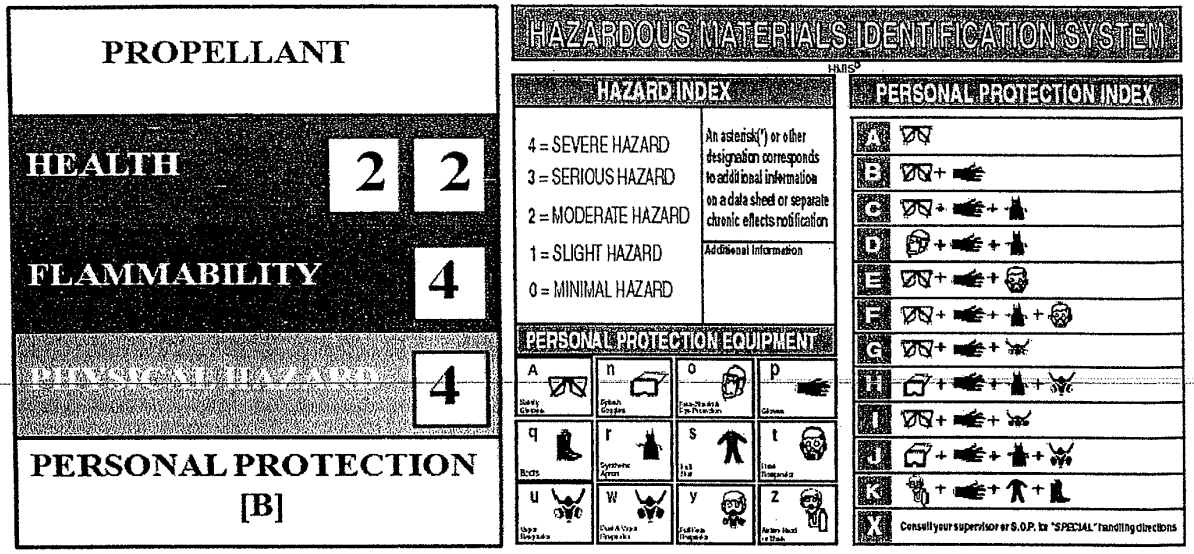
## PROPELLANT (Wetted)

## SECTION I - PRODUCT IDENTIFICATION

PRODUCT NAME: Propellant, Explosive, Solid, Wetted
Technical Information Phone No.: 318.382.8700
For Chemical Emergency (Spill, Fire, Exposure or Accident) call CHEMTREC day or night. Within the US and Canada: +1 800-424-9300. Outside the US and Canada: +1 703-527-3887 (collect calls accepted).

| Ingredient | CAS No. | Wt. % | OSHA PEL<br>ACGIH TLV<br>EPA RQ (if defined)<br>DOT RQ (if defined) |
|---|---|---|---|
| Dibutyl Phthalate | 84-74-2 | 3.00 | OSHA PEL 5 mg/m$^3$<br>ACGIH TLV 5 mg/m$^3$<br>EPA RQ 10 lbs<br>DOT RQ 10 lbs |
| Diphenylamine | 122-39-4 | 1.00 | OSHA PEL 10 mg/m$^3$<br>ACGIH TLV 10 mg/m$^3$<br>EPA RQ (none defined)<br>DOT RQ (none defined) |
| Potassium Sulfate | 7778-80-5 | 2.00 | OSHA PEL none published<br>ACGIH TLV none published<br>EPA RQ (none defined)<br>DOT RQ (none defined) |
| Nitrocellulose (flammable solid) | -- | 87.00 | OSHA PEL none published<br>ACGIH TLV none published<br>EPA RQ (none defined)<br>DOT RQ (none defined) |
| Dinitrotoluene | 25321-14-6 | 10.00 | OSHA PEL 10 mg/m$^3$<br>ACGIH TLV 10 mg/m$^3$<br>EPA RQ 10 lbs<br>DOT RQ 10 lbs |

## SECTION II - HAZARDS IDENTIFICATION




Routes of Entry: Inhalation; Skin; Ingestion
Carcinogenicity: None
First Aid Measures: EYES - Immediately flush with copious amount of water (low pressure) for 15 minutes, remove contact lenses; call physician. SKIN - Wash with soap and running water. INGESTION - Contact physician immediately. INHALATION - Remove to fresh air. Treat irritation symptomatically; call physician.
Firefighting Measures: Self-oxidizing, deluge with water. Will not be able to extinguish unless large quantity of water is used in very short time. Use NIOSH/MSHA approved SCBA and full protective equipment; evacuate area.
Unusual Fire/Explosion Hazard: Easily ignited, highly combustible; protect from fire and sparks and extreme heat.
Autoignition: 383°F (195°C)
Hazardous Combustion Products: Oxides of Carbon
Accidental Release Measures: SPILL - Clean immediately with soft (horsehair) brush and conductive rubber or plastic shovel. Use brass or other non-sparking tools and utensils. DO NOT hammer or otherwise cause impact forces to spilled material (explosion or autoignition could occur with impact force being applied).

## SECTION III - HANDLING AND STORAGE

Precautions: Avoid prolonged temperature above 125°F (50°C). Normal storage conditions should be 75°F (21°C) and 50% Humidity. Storage must conform to local, state and federal regulations, specifically: 29 CFR OSHA 1910.109; 27 CFR BATFE 55 subpart K.
Other Special Precautions: Flammable Solid…Keep away from heat, sparks, open flame…Keep containers closed…use with adequate ventilation.
Ventilation: Local and general ventilation necessary to keep air concentration below TLV's.
Personal Protective Equipment: Safety Glasses, Cotton or Leather Gloves, Fire Resistant Coveralls.

## SECTION IV - PHYSICAL AND CHEMICAL PROPERTIES

Specific Gravity: 1.496
Evaporation Rate: <1 (Butylacetate = 1)
Solubility in Water: negligible
Appearance and Odor: Hard Cylinder Perforated, Smooth, Greenish Yellow. Odorless.
Materials to Avoid: Oxides of Nitrogen and Carbon.



019967
EXP_001601

Conditions to Avoid: Open Flame, Sparks, Heat, Direct Sunlight.
Hazardous Decomposition Products: Oxides of Carbon

## SECTION V – TRANSPORTATION INFORMATION

DOT Proper Shipping Name: Smokeless Powder (wetted)
Hazard Class: 1.3C
UN No. UN0161
Packing Group: II

## SECTION VI - DISPOSAL CONSIDERATIONS

Disposal must be in accordance with federal, state and local regulations. Burn in open burning ground in accordance with regulatory requirements. It may also be burned in an incinerator approved for explosives.

## DISCLAIMER

The information contained in this MSDS (Material Safety Data Sheet) is based upon available constituent data for the components of **Propellant** and is believed to be correct. However, as this information has been obtained from various sources, including the manufacturers of its components and independent laboratories, it is provided herein without warranty or representation that it is complete, accurate and can be relied upon. Explo Systems, Inc. has not attempted to conceal in any manner the deleterious aspects of this product, and makes no warranty as such. Explo Systems, Inc. cannot anticipate nor control the many situations in which this product or this information may be used; there is no guarantee that the health and safety precautions suggested herein will be proper under all conditions. It is the sole responsibility of each user of the product to determine and comply with the requirements of all applicable laws and regulations regarding its use. This information is given solely for the purposes of safety to persons and property. Any other use of this information is expressly prohibited.

## AUTHOR

This MSDS was prepared by: Ferris Callihan, PE - Director Support Technology - Explo Systems, Inc. - 1600 Java Road - Minden, LA 71055 - Tel 318 382 8700 - E-mail: fcallihan@explosystems.com

U.S. Department
of Transportation

Pipeline and Hazardous
Materials Safety Administration

East Building, PHH – 32
1200 New Jersey Avenue, Southeast
Washington, D.C. 20590

The US Department of Transportation
Competent Authority for the United States

## CLASSIFICATION OF EXPLOSIVES
## FIRST REVISION

Based upon a request by Explo Systems Inc., 1600 Java Road, Minden, LA 71055, United States the following items are classed in accordance with Section 173.56, Title 49, Code of Federal Regulations (49 CFR). A copy of your application, all supporting documentation and a copy of this approval must be retained and made available to DOT upon request.

**U.N. PROPER SHIPPING NAME AND NUMBER:**
Powder, smokeless, UN0161

**U.N. CLASSIFICATION CODE**: 1.3C

| REFERENCE NUMBER | PRODUCT DESIGNATION/PART NUMBER |
|---|---|
| EX2010040603 | Reclaimed M6 Propellant |

**NOTES:** This classification is only valid when the smokeless powder has been tested and found to have sufficient residual stabilizers present per US Army Safety Bulletin: "Inspection of Supplies and Equipment, Ammunition Surveillance Procedures" (SB 742-1). The following packaging methods are assigned:
Packaging Method A: Inner Packaging - Not necessary. Outer Packaging – UN 1G fiberdrum, each containing not more than one hundred and forty (140) pounds of smokeless propellant.
Packaging Method B: Inner Packaging: Flexible static-resistant reinforced plastic cloth and strapping lifting bag, each containing not more than eight hundred and eighty (880) pounds of smokeless propellant. Outer Packaging - UN 4G heavy-wall fiberboard box with a volumetric capacity of 119 gallons or less. (see 49 CFR Section 171.8 Definition for "Non-bulk packaging")

**DATED:** 05/05/2011

Harpreet S Singh

For Dr. Magdy El-Sibaie
Associate Administrator for Hazardous Materials Safety

Tracking No: 2011040848

25
2879

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND86E070616** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 19 NOV 2010** |

| Other Information | Sample Data | | Solvent |
|---|---|---|---|
| M6 Propellant | #1 | 0.5000 g 100 ml | ACN |

| | Standards (ERG-006) | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 2.068 | 135.8 | 654.4 | 0.482 |
| 2,4-DNDPA | 50.0 | 5.182 | 717.3 | 0 | 0.000 |
| 2,2' DNDPA | 50.0 | 7.635 | 736.3 | 13022.2 | 0.000 |
| 2,4' DNDPA | 50.0 | 11.713 | 779 | 0 | 0.000 |
| 4NDPA | 50.0 | 13.454 | 462.4 | 0 | 0.000 |
| 2NDPA | 50.0 | 15.161 | 1164.1 | 0 | 0.000 |
| DPA | 200.0 | 16.583 | 4078.5 | 221.2 | 0.022 |
| N-NitrosoDPA | 75.0 | 18.033 | 1011.7 | 0 | 0.000 |

0.504

Avg. % Stabilizer for Lot **0.504**

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | |
|---|---|
| **Analyst** Kisha Dickerson | Avg. Tot. Stabilizers **0.50** % |
| Analyst Signature | Stable YES / Unstable |
| Lab. Supervisor Signature | Comments **CATEGORY: A** |
| | Actions to be Taken |

Form #158

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND82D070110** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 27 JULY 2011** |

| Other Information | Sample Data | | Solvent |
|---|---|---|---|
| M6 Propellant | #1 | 0.50 g 100 ml | ACN |

| Standards (ERG-006) | | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 0.694 | 112.8 | 437.7 | 0.388 |
| 2,4-DNDPA | 50.0 | 3.477 | 942.8 | 0 | 0.000 |
| 2,2' DNDPA | 50.0 | 5.339 | 77.4 | 22925 | 0.000 |
| 2,4' DNDPA | 50.0 | 7.842 | 1020.3 | 0 | 0.000 |
| 4NDPA | 50.0 | 9.392 | 1634.2 | 119.1 | 0.007 |
| 2NDPA | 50.0 | 10.693 | 2956.2 | 134.9 | 0.005 |
| DPA | 200.0 | 12.201 | 5630.5 | 218.4 | 0.016 |
| N-NitrosoDPA | 75.0 | 13.103 | 1385.2 | 0 | 0.000 |

| | | |
|---|---|---|
| | | 0.415 |
| | Avg. % Stabilizer for Lot | **0.415** |

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | | |
|---|---|---|
| **Analyst** Mike Kile | Avg. Tot. Stabilizers | **0.42** % |
| Analyst Signature | Stable YES | Unstable |
| | Comments | |
| Lab. Supervisor Signature | **CATEGORY:** | **A** |
| | Actions to be Taken | |

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND81K070071** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 7 FEB 2012** |

| Other Information | Sample Data | | Solvent |
|---|---|---|---|
| M6 Propellant | #1 | 0.50 g 100 ml | ACN |

| | Standards (ERG-006) | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 0.863 | 50.1 | 541.1 | 1.080 |
| 2,4-DNDPA | 50.0 | 3.336 | 893.6 | 14.7 | 0.002 |
| 2,2' DNDPA | 50.0 | 5.03 | 726.8 | 22818 | 0.000 |
| 2,4' DNDPA | 50.0 | 7.182 | 1225.5 | 0 | 0.000 |
| 4NDPA | 50.0 | 8.642 | 1532.1 | 73.1 | 0.005 |
| 2NDPA | 50.0 | 9.759 | 2784.7 | 153.7 | 0.006 |
| DPA | 200.0 | 11.235 | 5480.9 | 820.7 | 0.060 |
| N-NitrosoDPA | 75.0 | 11.979 | 1363.1 | 0 | 0.000 |

| | | |
|---|---|---|
| | | 1.152 |
| Avg. % Stabilizer for Lot | | **1.152** |

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | |
|---|---|
| **Analyst** TAKISHA DICKERSON | Avg. Tot. Stabilizers **1.15** % |
| Analyst Signature | Stable YES / Unstable |
| | Comments |
| Lab. Supervisor Signature | **CATEGORY: A** |
| | Actions to be Taken |

Form #158

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND81D070015** | **D533 / M6 propellant** |
| Date of analysis: | **Date:20 OCT 2010** |

| Other Information | Sample Data | | Solvent |
|---|---|---|---|
| M6 Propellant | #1 | 0.5000 g 100 ml | ACN |

| | Standards (ERG-006) | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 5.024 | 281.6 | 2363.4 | 0.839 |
| 2,4-DNDPA | 50.0 | 10.59 | 329 | 0 | 0.000 |
| 2,2' DNDPA | 50.0 | 12.176 | 376.1 | 0 | 0.000 |
| 2,4' DNDPA | 50.0 | 12.67 | 275.3 | 35.7 | 0.013 |
| 4NDPA | 50.0 | 13.632 | 664.1 | 0 | 0.000 |
| 2NDPA | 50.0 | 14.943 | 1788.8 | 34.8 | 0.002 |
| DPA | 200.0 | 16.114 | 286 | 0 | 0.000 |
| N-NitrosoDPA | 75.0 | 19.917 | 329.9 | 158.8 | 0.000 |

| | | |
|---|---|---|
| | | 0.854 |
| Avg. % Stabilizer for Lot | | **0.854** |

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | | |
|---|---|---|
| **Analyst** Kisha Dickerson | Avg. Tot. Stabilizers | **0.85** % |
| Analyst Signature | Stable YES | Unstable |
| | Comments | |
| Lab. Supervisor Signature | **CATEGORY:** | **A** |
| | Actions to be Taken | |

CONTAINS HAZARDOUS MATERIALS

# STRAIGHT BILL OF LADING — NOT NEGOTIABLE

RECEIVED, subject to the classification and tariffs in effect on the date of the issue of this Original Bill of Lading.
The property described below, in apparent good order, except as noted (contents and condition of contents of packages unknown) consigned, end destined as indicated below, ch said carrier (the word carrier being understood throughout this contract meaning any person or corporation in possession of the property under the contract) agrees to curry .s usual place of delivery of said destination. It on its route, otherwise to deliver to another carrier on the route to said destination. It is mutually agreed, as to each of all or any of said property over all or any portion of said route to destination, and as to each party at any time interested in all or any of said property, that every service lobe performed hereunder shall be subject to all the terms and conditions of the Uniform Domestic Straight Bill of Lading Set forth (t) in Uniform Freight Classification in effect on the date hereof, It this is a rail or rail-water shipment, or (2) in the applicable motor carrier classification or tariff it this is a motor carrier shipment.

Shipper hereby certifies that he is familiar with all the terms and conditions of the said bill of lading, set forth in the classification or tariff which governs the transportation of this shipment, and the sold terms and conditions are hereby agreed to by the shipper and accept for himself and his assigns.

Shipper: Explo Systems, Inc.
1600 Java Road
Minden, LA 71055

Shipper's No. 2881

Shipping Date 3/26/13

At

Purchase Order No.

By RRLK

Freight Charges: Collect _____ Prepaid X

Location No. 2881

(Mail or Street Address of Consignee — For purposes of notification only)

Consigned to Austin Powder Co

Destination Tulloch Branch Rd

State

County East Camden AR

Route

Charge Account of 1870 S Y 4500 47302

Fed Lic. [illegible] Exp. Date 5/1/15

State Lic. Exp. Date

Customer No.

Customer P.O. No. Rel. No.

| SHIPPED No. of PKGS | SHIPPED No. of UNITS | PROPER SHIPPING NAME AND HAZARD CLASS | RETURNED No. of PKGS | RETURNED No. of UNITS | EMERGENCY RESPONSE PROCEDURE GUIDE NO. | EXEMPTION DOT-E | H M | Placards Applied to Railcar or Motor Vehicle |
|---|---|---|---|---|---|---|---|---|
| 1 Skid | 4201 | UN0161, Powder, Smokeless, 1.3C, PG II | | | #112 | | X | EXPLOSIVES 1.3 |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | Truck No. 61136 |
| | | | | | | | | Trailer No. 17749 |
| | | | | | | | | Mileage |
| | | | | | | | | Total 251 4-10 Packages |
| | | | | | | | | Gross Weight # 42000 |
| | | Sec H | | | | | | Net Explosive Weight |
| | | 7083833/7083834 | | | | | | 15,180 |

ENTERED 4/01/13

RECEIVED MAR 26 2013 6LC13 AUSTIN POWDER COMPANY EAST CAMDEN PLANT

This is to certify that the above-named materials are properly classified, described, packaged, marked, and labeled and are in proper condition for transportation, according to the applicable regulations of the Department of Transportation.

Signature _____ Invoice No. _____

FOR CHEMICAL EMERGENCY, SPILL, LEAK, FIRE, EXPOSURE OR ACCIDENT CALL CHEMTREC — DAY OR NIGHT
IN THE USA CALL 800-424-9300 IN CANADA (ERP #2-0040) 800-561-3636 ELSEWHERE CALL (703) 527-3887

Permanent Address of Shipper:
**Explo Systems, Inc.**
1600 Java Road
'en, Louisiana 71055
.) 382-8700

Per _____

DOT Hazardous Material Handling Number _____
Local Federal Explosives License No. 5-LA-119-20-1A-00057
(Shipper)

I have been offered placards identifying the shipment as Specified in 49CFR Subpart F of Part 172. I have received the above goods in apparent good order and condition.

Received By _____ Date 3-26-13
☐ CONSIGNEE ☐ CARRIER

By _____ Date _____
AUTHORIZED RECEIVER

CONTAINS HAZARDOUS MATERIALS

Agent must detach and retain this Shipping Order

CONTAINS HAZARDOUS MATERIALS

019975

EXP_001609

AUSTIN POWDER PACKING LIST

SHIPMENT DATE 3-26-13

B/L# 2881 TRL 17749

M-6

IND81D-070015 9 PTS
IND86E-070616 12 PTS
IND82D-070110 6 PTS
IND87B-070678 2 PTS
IND81K-070071 1 PTS
IND83K-070319 2 PTS
IND85F-070587 2 PTS
IND83M-070322 2 PTS
IND82H-070168 2 PTS
IND85D-070520 4 PTS
42 PTS WITH 6 FB @140 LBS PER DRUM

TOTAL 35,280 LBS

LIONEL KOONS

EXPLO SYSTEMS INC

# MOTOR VEHICLE INSPECTION (TRANSPORTING HAZARDOUS MATERIALS)

*(Read Instructions before completing this form.)*

This form applies to all vehicles which must be marked or placarded in accordance with Title 49 CFR.

1. BILL OF LADING/TRANSPORTATION CONTROL NUMBER: 2881

| SECTION 1 - DOCUMENTATION | ORIGIN a. | DESTINATION b. |
|---|---|---|
| 2. CARRIER/GOVERNMENT ORGANIZATION | TRUK | |
| 3. DATE/TIME OF INSPECTION | 3/26/13 | |
| 4. LOCATION OF INSPECTION | EXDIO SYSTEMS INC | |
| 5. OPERATOR(S) NAME(S) | BARNETT, HENRY | |
| 6. OPERATOR(S) LICENSE NUMBER(S) | 12023430 09 MO | |
| 7. MEDICAL EXAMINER'S CERTIFICATE* | 1-3-15 | |

| 8. (X if satisfactory at origin) | | | | | | 9. CVSA DECAL DISPLAYED ON COMMERCIAL EQUIPMENT* | YES | NO |
|---|---|---|---|---|---|---|---|---|
| a. MILITARY HAZMAT ENDORSEMENT | | d. ERG OR EQUIVALENT COMMERCIAL: | ✓ | YES | NO | | | |
| b. VALID LEASE* | | e. DRIVER'S VEHICLE INSPECTION REPORT* | | | | a. TRUCK/TRACTOR | ✓ | |
| c. ROUTE PLAN | | f. COPY OF 49 CFR PART 397 | | | | b. TRAILER | | |

## SECTION II - MECHANICAL INSPECTION

*All items shall be checked on empty equipment prior to loading. Items with an asterisk shall be checked on all incoming loaded equipment.*

10. TYPE OF VEHICLE(S): TRACTOR / TRAILER / DROM

11. VEHICLE NUMBER(S): TRAC #6436 / TRL # 17749

| 12. PART INSPECTED (X as applicable) | ORIGIN (1) SAT | ORIGIN (1) UNSAT | DESTINATION (2) SAT | DESTINATION (2) UNSAT | | ORIGIN (1) SAT | ORIGIN (1) UNSAT | DESTINATION (2) SAT | DESTINATION (2) UNSAT | COMMENTS (3) |
|---|---|---|---|---|---|---|---|---|---|---|
| a. SPARE ELECTRICAL FUSES | | | | | k. EXHAUST SYSTEM | | | | | |
| b. HORN OPERATIVE | | | | | l. BRAKE SYSTEM* | | | | | |
| c. STEERING SYSTEM | | | | | m. SUSPENSION | | | | | |
| d. WINDSHIELD/WIPERS | | | | | n. COUPLING DEVICES | | | | | |
| e. MIRRORS | | | | | o. CARGO SPACE | | | | | |
| f. WARNING EQUIPMENT | | | | | p. LANDING GEAR* | | | | | |
| g. FIRE EXTINGUISHER* | | | | | q. TIRES, WHEELS, RIMS | | | | | |
| h. ELECTRICAL WIRING | | | | | r. TAILGATE/DOORS* | | | | | |
| i. LIGHTS AND REFLECTORS | | | | | s. TARPAULIN* | N/A | | | | |
| j. FUEL SYSTEM* | | | | | t. OTHER (Specify) | | | | | |

13. INSPECTION RESULTS (X one) ACCEPTED ✓ REJECTED

*(If rejected give reason under "Remarks". Equipment will be approved if deficiencies are corrected prior to loading.)*

14. SATELLITE MOTOR SURVEILLANCE SYSTEM: (X one) ACCEPTED N/A REJECTED

15. REMARKS

16. INSPECTOR SIGNATURE *(Origin)*

17. INSPECTOR SIGNATURE *(Destination)*

## SECTION III - POST LOADING INSPECTION

This section applies to Commercial and Government/Military vehicles. All items will be checked prior to release of loaded equipment and shall be checked on all incoming loaded equipment.

| | ORIGIN (1) SAT | ORIGIN (1) UNSAT | DESTINATION (2) SAT | DESTINATION (2) UNSAT | COMMENTS (3) |
|---|---|---|---|---|---|
| 18. LOADED IAW APPLICABLE SEGREGATION/COMPATIBILITY TABLE OF 49 CFR | | | | | |
| 19. LOAD PROPERLY SECURED TO PREVENT MOVEMENT | | | | | |
| 20. SEALS APPLIED TO CLOSED VEHICLE; TARPAULIN APPLIED ON OPEN EQUIPMENT | | | | | |
| 21. PROPER PLACARDS APPLIED | | | | | |
| 22. SHIPPING PAPERS/DD FORM 836 FOR GOVERNMENT VEHICLE SHIPMENTS | N/A | | | | |
| 23. COPY OF DD FORM 626 FOR DRIVER | | | | | |
| 24. SHIPPED UNDER DOT SPECIAL PERMIT 868 | N/A | | | | |

25. INSPECTOR SIGNATURE *(Origin)*

26. DRIVER(S) SIGNATURE *(Origin)*

27. INSPECTOR SIGNATURE *(Destination)*

28. DRIVER(S) SIGNATURE *(Destination)*

DD FORM 836, MAR 2007 PREVIOUS EDITION OBSOLETE

019977

EXP_001611

Explo Systems, Inc.
1600 Java Road
Minden, LA 71055

# MATERIAL SAFETY DATA SHEET

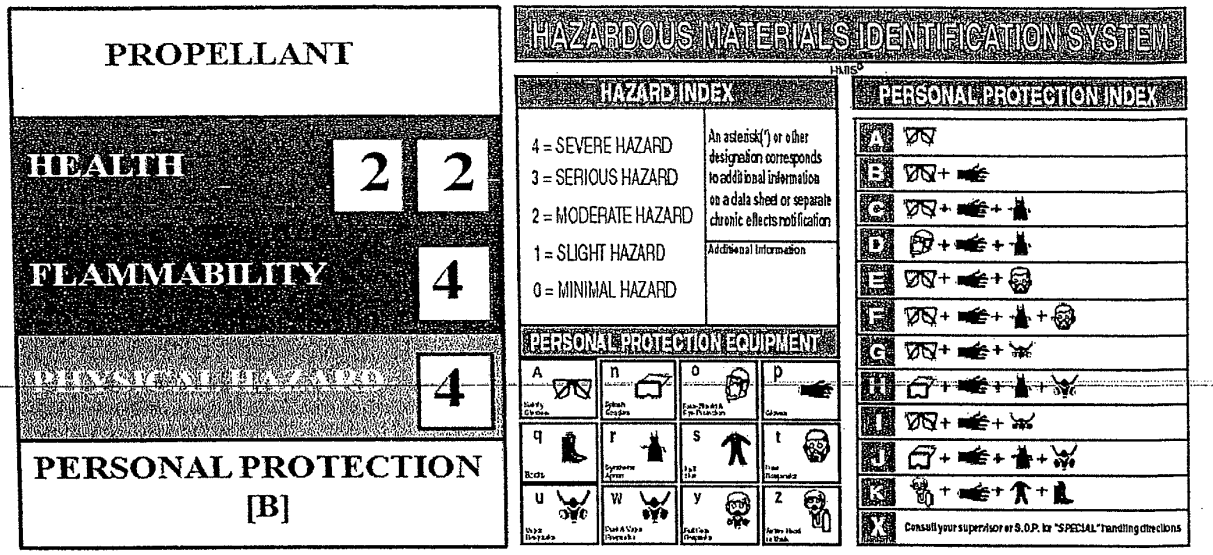
## PROPELLANT (Wetted)

## SECTION I - PRODUCT IDENTIFICATION

PRODUCT NAME: Propellant, Explosive, Solid, Wetted
Technical Information Phone No.: 318.382.8700
For Chemical Emergency (Spill, Fire, Exposure or Accident) call CHEMTREC day or night. Within the US and Canada: +1 800-424-9300. Outside the US and Canada: +1 703-527-3887 (collect calls accepted).

| **Ingredient** | **CAS No.** | **Wt. %** | **OSHA PEL**<br>**ACGIH TLV**<br>**EPA RQ (if defined)**<br>**DOT RQ (if defined)** |
|---|---|---|---|
| Dibutyl Phthalate | 84-74-2 | 3.00 | OSHA PEL 5 mg/m$^3$<br>ACGIH TLV 5 mg/m$^3$<br>EPA RQ 10 lbs<br>DOT RQ 10 lbs |
| Diphenylamine | 122-39-4 | 1.00 | OSHA PEL 10 mg/m$^3$<br>ACGIH TLV 10 mg/m$^3$<br>EPA RQ (none defined)<br>DOT RQ (none defined) |
| Potassium Sulfate | 7778-80-5 | 2.00 | OSHA PEL none published<br>ACGIH TLV none published<br>EPA RQ (none defined)<br>DOT RQ (none defined) |
| Nitrocellulose (flammable solid) | -- | 87.00 | OSHA PEL none published<br>ACGIH TLV none published<br>EPA RQ (none defined)<br>DOT RQ (none defined) |
| Dinitrotoluene | 25321-14-6 | 10.00 | OSHA PEL 10 mg/m$^3$<br>ACGIH TLV 10 mg/m$^3$<br>EPA RQ 10 lbs<br>DOT RQ 10 lbs |

## SECTION II - HAZARDS IDENTIFICATION




Routes of Entry: Inhalation; Skin; Ingestion
Carcinogenicity: None
First Aid Measures: EYES - Immediately flush with copious amount of water (low pressure) for 15 minutes, remove contact lenses; call physician. SKIN - Wash with soap and running water. INGESTION - Contact physician immediately. INHALATION - Remove to fresh air. Treat irritation symptomatically; call physician.
Firefighting Measures: Self-oxidizing, deluge with water. Will not be able to extinguish unless large quantity of water is used in very short time. Use NIOSH/MSHA approved SCBA and full protective equipment; evacuate area.
Unusual Fire/Explosion Hazard: Easily ignited, highly combustible; protect from fire and sparks and extreme heat.
Autoignition: 383°F (195°C)
Hazardous Combustion Products: Oxides of Carbon
Accidental Release Measures: SPILL - Clean immediately with soft (horsehair) brush and conductive rubber or plastic shovel. Use brass or other non-sparking tools and utensils. DO NOT hammer or otherwise cause impact forces to spilled material (explosion or autoignition could occur with impact force being applied).

## SECTION III - HANDLING AND STORAGE

Precautions: Avoid prolonged temperature above 125°F (50°C). Normal storage conditions should be 75°F (21°C) and 50% Humidity. Storage must conform to local, state and federal regulations, specifically: 29 CFR OSHA 1910.109; 27 CFR BATFE 55 subpart K.
Other Special Precautions: Flammable Solid…Keep away from heat, sparks, open flame…Keep containers closed…use with adequate ventilation.
Ventilation: Local and general ventilation necessary to keep air concentration below TLV's.
Personal Protective Equipment: Safety Glasses, Cotton or Leather Gloves, Fire Resistant Coveralls.

## SECTION IV - PHYSICAL AND CHEMICAL PROPERTIES

Specific Gravity: 1.496
Evaporation Rate: <1 (Butylacetate = 1)
Solubility in Water: negligible
Appearance and Odor: Hard Cylinder Perforated, Smooth, Greenish Yellow. Odorless.
Materials to Avoid: Oxides of Nitrogen and Carbon.

Conditions to Avoid: Open Flame, Sparks, Heat, Direct Sunlight.
Hazardous Decomposition Products: Oxides of Carbon

## SECTION V – TRANSPORTATION INFORMATION

DOT Proper Shipping Name: Smokeless Powder (wetted)
Hazard Class: 1.3C
UN No. UN0161
Packing Group: II

## SECTION VI - DISPOSAL CONSIDERATIONS

Disposal must be in accordance with federal, state and local regulations. Burn in open burning ground in accordance with regulatory requirements. It may also be burned in an incinerator approved for explosives.

## DISCLAIMER

The information contained in this MSDS (Material Safety Data Sheet) is based upon available constituent data for the components of **Propellant** and is believed to be correct. However, as this information has been obtained from various sources, including the manufacturers of its components and independent laboratories, it is provided herein without warranty or representation that it is complete, accurate and can be relied upon. Explo Systems, Inc. has not attempted to conceal in any manner the deleterious aspects of this product, and makes no warranty as such. Explo Systems, Inc. cannot anticipate nor control the many situations in which this product or this information may be used; there is no guarantee that the health and safety precautions suggested herein will be proper under all conditions. It is the sole responsibility of each user of the product to determine and comply with the requirements of all applicable laws and regulations regarding its use. This information is given solely for the purposes of safety to persons and property. Any other use of this information is expressly prohibited.

## AUTHOR

This MSDS was prepared by: Ferris Callihan, PE - Director Support Technology - Explo Systems, Inc. - 1600 Java Road - Minden, LA 71055 - Tel 318 382 8700 - E-mail: fcallihan@explosystems.com

U.S. Department
of Transportation

Pipeline and Hazardous
Materials Safety Administration

East Building, PHH – 32
1200 New Jersey Avenue, Southeast
Washington, D.C. 20590

The US Department of Transportation
Competent Authority for the United States

## CLASSIFICATION OF EXPLOSIVES
## FIRST REVISION

Based upon a request by Explo Systems Inc., 1600 Java Road, Minden, LA 71055, United States the following items are classed in accordance with Section 173.56, Title 49, Code of Federal Regulations (49 CFR). A copy of your application, all supporting documentation and a copy of this approval must be retained and made available to DOT upon request.

**U.N. PROPER SHIPPING NAME AND NUMBER:**
Powder, smokeless, UN0161

**U.N. CLASSIFICATION CODE**: 1.3C

| REFERENCE NUMBER | PRODUCT DESIGNATION/PART NUMBER |
|---|---|
| EX2010040603 | Reclaimed M6 Propellant |

**NOTES:** This classification is only valid when the smokeless powder has been tested and found to have sufficient residual stabilizers present per US Army Safety Bulletin: "Inspection of Supplies and Equipment, Ammunition Surveillance Procedures" (SB 742-1). The following packaging methods are assigned:
Packaging Method A: Inner Packaging - Not necessary. Outer Packaging – UN 1G fiberdrum, each containing not more than one hundred and forty (140) pounds of smokeless propellant.
Packaging Method B: Inner Packaging: Flexible static-resistant reinforced plastic cloth and strapping lifting bag, each containing not more than eight hundred and eighty (880) pounds of smokeless propellant. Outer Packaging - UN 4G heavy-wall fiberboard box with a volumetric capacity of 119 gallons or less. (see 49 CFR Section 171.8 Definition for "Non-bulk packaging")

**DATED:** 05/05/2011

For Dr. Magdy El-Sibaie
Associate Administrator for Hazardous Materials Safety

Tracking No: 2011040848



019981

EXP_001615

26
2881

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND86E070616** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 19 NOV 2010** |

| Other Information | Sample Data | | Solvent |
|---|---|---|---|
| M6 Propellant | #1 | 0.5000 g 100 ml | ACN |

| Standards (ERG-006) | | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 2.068 | 135.8 | 654.4 | 0.482 |
| 2,4-DNDPA | 50.0 | 5.182 | 717.3 | 0 | 0.000 |
| 2,2' DNDPA | 50.0 | 7.635 | 736.3 | 13022.2 | 0.000 |
| 2,4' DNDPA | 50.0 | 11.713 | 779 | 0 | 0.000 |
| 4NDPA | 50.0 | 13.454 | 462.4 | 0 | 0.000 |
| 2NDPA | 50.0 | 15.161 | 1164.1 | 0 | 0.000 |
| DPA | 200.0 | 16.583 | 4078.5 | 221.2 | 0.022 |
| N-NitrosoDPA | 75.0 | 18.033 | 1011.7 | 0 | 0.000 |

0.504

Avg. % Stabilizer for Lot **0.504**

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | |
|---|---|
| **Analyst** Kisha Dickerson | Avg. Tot. Stabilizers **0.50** % |
| Analyst Signature | Stable YES / Unstable |
| Lab. Supervisor Signature | Comments **CATEGORY: A** |
| | Actions to be Taken |

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND85D070520** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 22 Dec 2010** |

Other Information
M6 Propellant

| Sample Data | | | Solvent |
|---|---|---|---|
| #1 | 0.5000 g | 100 ml | ACN |

| Standards (ERG-006) | | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 4.041 | 1072.9 | 2745.6 | 0.256 |
| 2,4-DNDPA | 50.0 | 9.403 | 1132.4 | 27290.8 | 2.410 |
| 2,2' DNDPA | 50.0 | 11.071 | 1654.7 | 59.9 | 0.000 |
| 2,4' DNDPA | 50.0 | 11.863 | 1176.6 | 121 | 0.010 |
| 4NDPA | 50.0 | 12.612 | 2267.7 | 0 | 0.000 |
| 2NDPA | 50.0 | 14.156 | 6085.2 | 565.1 | 0.009 |
| DPA | 200.0 | 15.296 | 1602.1 | 0 | 0.000 |
| N-NitrosoDPA | 75.0 | 19.37 | 2345.7 | 685 | 0.000 |

| | | |
|---|---|---|
| | | 2.685 |
| Avg. % Stabilizer for Lot | | **2.685** |

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | |
|---|---|
| **Analyst** Mike Kile | Avg. Tot. Stabilizers **2.69** % |
| Analyst Signature | Stable YES / Unstable |
| Lab. Supervisor Signature | Comments **CATEGORY: A** |
| | Actions to be Taken |

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND85F070587** | **D533 / M6 propellant** |
| Date of analysis: | **Date:25 AUG 2010** |

| Other Information | Sample Data | | Solvent |
|---|---|---|---|
| M6 Propellant | #1 | 0.5000 g 100 ml | ACN |

| Standards (ERG-006) | | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 2.177 | 146.5 | 1821.4 | 1.243 |
| 2,4-DNDPA | 50.0 | 5.001 | 961.7 | 0 | 0.000 |
| 2,2' DNDPA | 50.0 | 7.038 | 2567.5 | 14427.7 | 0.000 |
| 2,4' DNDPA | 50.0 | 9.931 | 938.5 | 0 | 0.000 |
| 4NDPA | 50.0 | 11.434 | 1325.8 | 0 | 0.000 |
| 2NDPA | 50.0 | 12.813 | 1809.7 | 0 | 0.000 |
| DPA | 200.0 | 14.19 | 4886.9 | 225 | 0.018 |
| N-NitrosoDPA | 75.0 | 15.18 | 1296.7 | 0 | 0.000 |
| | | | | | 1.262 |
| | | | Avg. % Stabilizer for Lot | | **1.262** |

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | |
|---|---|
| **Analyst** Kisha Dickerson | Avg. Tot. Stabilizers **1.26** % |
| Analyst Signature | Stable YES / Unstable |
| Lab. Supervisor Signature | Comments **CATEGORY: A** |
| | Actions to be Taken |

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND83M070322** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 23 JULY 2010** |

| Other Information | Sample Data | | Solvent |
|---|---|---|---|
| M6 Propellant | #1 | 0.5000 g 100 ml | ACN |

| Standards (ERG-006) | | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 2.1 | 138.2 | 340.6 | 0.251 |
| 2,4-DNDPA | 50.0 | 4.911 | 1162.1 | 283.8 | 0.025 |
| 2,2' DNDPA | 50.0 | 6.723 | 453.3 | 0 | 0.000 |
| 2,4' DNDPA | 50.0 | 9.11 | 1583.4 | 0 | 0.000 |
| 4NDPA | 50.0 | 10.528 | 2068.9 | 0 | 0.000 |
| 2NDPA | 50.0 | 11.725 | 3520.6 | 3386 | 0.098 |
| DPA | 200.0 | 13.111 | 6312.2 | 0 | 0.000 |
| N-NitrosoDPA | 75.0 | 13.888 | 1967 | 0 | 0.000 |

| | | |
|---|---|---|
| | | 0.374 |
| Avg. % Stabilizer for Lot | | **0.374** |

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | |
|---|---|
| **Analyst** MARTY | Avg. Tot. Stabilizers **0.37** % |
| Analyst Signature | Stable YES / Unstable |
| Lab. Supervisor Signature | Comments **CATEGORY: A** |
| | Actions to be Taken |

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND83K070319** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 15 JUNE 2012** |

| Other Information | Sample Data | | Solvent |
|---|---|---|---|
| M6 Propellant | #1 | 0.50 g 100 ml | ACN |

| | Standards (ERG-006) | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 0.782 | 41.2 | 275.4 | 0.668 |
| 2,4-DNDPA | 50.0 | 3.401 | 926.1 | 0 | 0.000 |
| 2,2' DNDPA | 50.0 | 5.141 | 1554.2 | 22992 | 0.000 |
| 2,4' DNDPA | 50.0 | 7.435 | 1019.1 | 0 | 0.000 |
| 4NDPA | 50.0 | 8.937 | 1639.5 | 159.8 | 0.010 |
| 2NDPA | 50.0 | 10.056 | 2924.6 | 174.6 | 0.006 |
| DPA | 200.0 | 11.627 | 5690.8 | 138.2 | 0.010 |
| N-NitrosoDPA | 75.0 | 12.44 | 1376.8 | 0 | 0.000 |

| | |
|---|---|
| | 0.694 |
| Avg. % Stabilizer for Lot | **0.694** |

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | |
|---|---|
| **Analyst** Takisha Dickerson | Avg. Tot. Stabilizers **0.69** % |
| Analyst Signature | Stable YES / Unstable |
| | Comments **CATEGORY: A** |
| Lab. Supervisor Signature | |
| | Actions to be Taken |

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND82H070168** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 1 FEB 2011** |

| Other Information | Sample Data | | Solvent |
|---|---|---|---|
| M6 Propellant | #1 | 0.5000 g 100 ml | ACN |

| Standards (ERG-006) | | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 4.156 | 1116 | 2540.4 | 0.228 |
| 2,4-DNDPA | 50.0 | 9.388 | 1191.2 | 31231.4 | 2.622 |
| 2,2' DNDPA | 50.0 | 10.987 | 1694.7 | 51.5 | 0.000 |
| 2,4' DNDPA | 50.0 | 11.73 | 1272.3 | 143.2 | 0.011 |
| 4NDPA | 50.0 | 12.459 | 2443.3 | 0 | 0.000 |
| 2NDPA | 50.0 | 13.939 | 5852.1 | 838.5 | 0.014 |
| DPA | 200.0 | 15.022 | 1753.1 | 0 | 0.000 |
| N-NitrosoDPA | 75.0 | 18.932 | 2535.1 | 985.4 | 0.000 |

| | | |
|---|---|---|
| | | 2.875 |
| Avg. % Stabilizer for Lot | | **2.875** |

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | |
|---|---|
| **Analyst** Mike Kile | Avg. Tot. Stabilizers **2.88** % |
| Analyst Signature | Stable YES / Unstable |
| Lab. Supervisor Signature | Comments **CATEGORY: A** |
| | Actions to be Taken |

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND82D070110** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 27 JULY 2011** |

| Other Information | Sample Data | | Solvent |
|---|---|---|---|
| M6 Propellant | #1 | 0.50 g 100 ml | ACN |

| Standards (ERG-006) | | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 0.694 | 112.8 | 437.7 | 0.388 |
| 2,4-DNDPA | 50.0 | 3.477 | 942.8 | 0 | 0.000 |
| 2,2' DNDPA | 50.0 | 5.339 | 77.4 | 22925 | 0.000 |
| 2,4' DNDPA | 50.0 | 7.842 | 1020.3 | 0 | 0.000 |
| 4NDPA | 50.0 | 9.392 | 1634.2 | 119.1 | 0.007 |
| 2NDPA | 50.0 | 10.693 | 2956.2 | 134.9 | 0.005 |
| DPA | 200.0 | 12.201 | 5630.5 | 218.4 | 0.016 |
| N-NitrosoDPA | 75.0 | 13.103 | 1385.2 | 0 | 0.000 |

| | |
|---|---|
| | 0.415 |
| Avg. % Stabilizer for Lot | **0.415** |

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | |
|---|---|
| **Analyst** Mike Kile | Avg. Tot. Stabilizers **0.42** % |
| Analyst Signature | Stable YES / Unstable |
| Lab. Supervisor Signature | Comments **CATEGORY: A** |
| | Actions to be Taken |

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND81K070071** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 7 FEB 2012** |

| Other Information | Sample Data | | Solvent |
|---|---|---|---|
| M6 Propellant | #1 | 0.50 g 100 ml | ACN |

| Standards (ERG-006) | | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 0.863 | 50.1 | 541.1 | 1.080 |
| 2,4-DNDPA | 50.0 | 3.336 | 893.6 | 14.7 | 0.002 |
| 2,2' DNDPA | 50.0 | 5.03 | 726.8 | 22818 | 0.000 |
| 2,4' DNDPA | 50.0 | 7.182 | 1225.5 | 0 | 0.000 |
| 4NDPA | 50.0 | 8.642 | 1532.1 | 73.1 | 0.005 |
| 2NDPA | 50.0 | 9.759 | 2784.7 | 153.7 | 0.006 |
| DPA | 200.0 | 11.235 | 5480.9 | 820.7 | 0.060 |
| N-NitrosoDPA | 75.0 | 11.979 | 1363.1 | 0 | 0.000 |

| | | |
|---|---|---|
| | | 1.152 |
| Avg. % Stabilizer for Lot | | **1.152** |

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | |
|---|---|
| **Analyst** TAKISHA DICKERSON | Avg. Tot. Stabilizers **1.15** % |
| Analyst Signature | Stable YES \| Unstable |
| Lab. Supervisor Signature | Comments **CATEGORY: A** |
| | Actions to be Taken |

Form #158

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND81D070015** | **D533 / M6 propellant** |
| Date of analysis: | **Date:20 OCT 2010** |

| Other Information | Sample Data | | | Solvent |
|---|---|---|---|---|
| M6 Propellant | #1 | 0.5000 g | 100 ml | ACN |

| Standards (ERG-006) | | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 5.024 | 281.6 | 2363.4 | 0.839 |
| 2,4-DNDPA | 50.0 | 10.59 | 329 | 0 | 0.000 |
| 2,2' DNDPA | 50.0 | 12.176 | 376.1 | 0 | 0.000 |
| 2,4' DNDPA | 50.0 | 12.67 | 275.3 | 35.7 | 0.013 |
| 4NDPA | 50.0 | 13.632 | 664.1 | 0 | 0.000 |
| 2NDPA | 50.0 | 14.943 | 1788.8 | 34.8 | 0.002 |
| DPA | 200.0 | 16.114 | 286 | 0 | 0.000 |
| N-NitrosoDPA | 75.0 | 19.917 | 329.9 | 158.8 | 0.000 |

| | | |
|---|---|---|
| | | 0.854 |
| Avg. % Stabilizer for Lot | | **0.854** |

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | | |
|---|---|---|
| **Analyst** Kisha Dickerson | Avg. Tot. Stabilizers | **0.85** % |
| Analyst Signature | Stable YES | Unstable |
| | Comments | |
| Lab. Supervisor Signature | **CATEGORY:** | **A** |
| | Actions to be Taken | |

CONTAINS HAZARDOUS MATERIALS

# STRAIGHT BILL OF LADING — NOT NEGOTIABLE

RECEIVED, subject to the classification and tariffs in effect on the date of the issue of this Original Bill of Lading.
The property described below, in apparent good order, except as noted (contents and condition of contents of packages unknown) consigned, and destined as indicated below, ch said carrier (the word carrier being understood throughout this contract meaning any person or corporation in possession of the property under the contract) agrees to curry s usual place of delivery of said destination. It on its route, otherwise to deliver to another carrier on the route to said destination. It is mutually agreed, as to each of all or any of said property over all or any portion of said route to destination, and as to each party at any time interested in all or any of said property, that every service lobe performed hereunder shall be subject to all the terms and conditions of the Uniform Domestic Straight Bill of Lading Set forth (t) in Uniform Freight Classification in effect on the date hereof, It this is a rail or rail-water shipment, or (2) in the applicable motor carrier classification or tariff it this is a motor carrier shipment.

Shipper hereby certifies that he is familiar with all the terms and conditions of the said bill of lading, set forth in the classification or tariff which governs the transportation of this shipment, and the sold terms and conditions are hereby agreed to by the shipper and accept for himself and his assigns.

Shipper: Explo Systems, Inc.
1600 Java Road
Minden, LA 71055

Shipper's No. 2882

Shipping Date 3/27/13

At

Purchase Order No.

By Rdw

Freight Charges: Collect _____ Prepaid YW

Location No. 2321/2320

(Mail or Street Address of Consignee — For purposes of notification only)

Consigned to Austin Powder Co. 00139

Destination PLC to Bryant State

Fed Lic. 5-LA-103 Exp. Date 5/1/15

State Lic. Exp. Date

County Ouachita AR

Customer No.

Route

Charge Account of 1870.324.6250.502

Customer P.O. No.

Rel. No.

| SHIPPED No. of PKGS | SHIPPED No. of UNITS | PROPER SHIPPING NAME AND HAZARD CLASS | RETURNED No. of PKGS | RETURNED No. of UNITS | EMERGENCY RESPONSE PROCEDURE GUIDE NO. | EXEMPTION DOT E | H M | Placards Applied to Railcar or Motor Vehicle |
|---|---|---|---|---|---|---|---|---|
| 750/lbs | 40 | UN0161, Powder, Smokeless, 1.3C, PG II | | | #112 | | X | EXPLOSIVES 1.3 |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | Truck No. 6426 |
| | | | | | | | | Trailer No. 7510079 |
| | | | | | | | | Mileage |
| | | w10R21339 | | | | | | Total 25249.50 @ 1420.00 Packages |
| | | | | | | | | Gross Weight # 39,000 |
| | | Seal # | | | | | | Net Explosive Weight |
| | | 7083835 / 7083836 | | | | | | 35750 |

ENTERED 4/01/13

RECEIVED MAR 27 2013 AUSTIN POWDER COMPANY EAST CAMDEN PLANT

This is to certify that the above-named materials are properly classified, described, packaged, marked, and labeled and are in proper condition for transportation, according to the applicable regulations of the Department of Transportation.

Signature _____ Invoice No. _____

FOR CHEMICAL EMERGENCY, SPILL, LEAK, FIRE, EXPOSURE OR ACCIDENT CALL CHEMTREC — DAY OR NIGHT
IN THE USA CALL 800-424-9300 IN CANADA (ERP #2-0040) 800-561-3636 ELSEWHERE CALL (703) 527-3887

Permanent Address of Shipper:
**Explo Systems, Inc.**
1600 Java Road
Minden, Louisiana 71055
(318) 382-8700

Per _____

DOT Hazardous Material Handling Number _____
Local Federal Explosives License No. 5-LA-119-20-1A-00057
(Shipper)

I have been offered placards identifying the shipment as Specified in 49CFR Subpart F of Part 172. I have received the above goods in apparent good order and condition.

Received By _____ Date _____
☐ CONSIGNEE ☐ CARRIER

By _____ Date _____
AUTHORIZED RECEIVER

CONTAINS HAZARDOUS MATERIALS

Agent must detach and retain this Shipping Order

019992

EXP_001626

AUSTIN POWDER PACKING LIST

SHIPMENT DATE 3-27-13

B/L# 2882 TRL 7810099

M-6

IND81D-070015 6 PTS
IND82D-070110 4 PTS
IND87B-070678 10 PTS
IND81K-070071 3 PTS
IND83K-070319 3 PTS
IND83M-070322 2 PTS
IND85D-070520 8 PTS
IND82H-070167 1 PT
IND83F-070276 2 PTS
IND86E-070616 2 PTS
IND81F-070024 1 PT

42 PTS WITH 6 FB @140 LBS PER DRUM

TOTAL 35,280 LBS

LIONEL KOONS

EXPLO SYSTEMS INC

## MOTOR VEHICLE INSPECTION (TRANSPORTING HAZARDOUS MATERIALS)

*(Read Instructions before completing this form.)*

This form applies to all vehicles which must be marked or placarded in accordance with Title 49 CFR.

1. BILL OF LADING/TRANSPORTATION CONTROL NUMBER: 2882

| SECTION 1 - DOCUMENTATION | ORIGIN a. | DESTINATION b. |
|---|---|---|
| 2. CARRIER/GOVERNMENT ORGANIZATION | RRUR | |
| 3. DATE/TIME OF INSPECTION | 3/27/13 | |
| 4. LOCATION OF INSPECTION | EXPLO SYSTEMS INC | |
| 5. OPERATOR(S) NAME(S) | Barnett, Heather | |
| 6. OPERATOR(S) LICENSE NUMBER(S) | R202343009 | |
| 7. MEDICAL EXAMINER'S CERTIFICATE* | 1/3/15 | |

8. *(X if satisfactory at origin)*

| | | | | | |
|---|---|---|---|---|---|
| a. MILITARY HAZMAT ENDORSEMENT | ✓ | d. ERG OR EQUIVALENT COMMERCIAL: | ✓ YES | NO | |
| b. VALID LEASE* | ✓ | e. DRIVER'S VEHICLE INSPECTION REPORT* | | | ✓ |
| c. ROUTE PLAN | ✓ | f. COPY OF 49 CFR PART 397 | | | ✓ |

9. CVSA DECAL DISPLAYED ON COMMERCIAL EQUIPMENT*

| | YES | NO |
|---|---|---|
| a. TRUCK/TRACTOR | ✓ | |
| b. TRAILER | ✓ | |

### SECTION II - MECHANICAL INSPECTION

*All items shall be checked on empty equipment prior to loading. Items with an asterisk shall be checked on all incoming loaded equipment.*

10. TYPE OF VEHICLE(S): TRACTOR / TRAILER / DROM

11. VEHICLE NUMBER(S): TRAC #6436 / TRL # 7810059

| 12. PART INSPECTED *(X as applicable)* | ORIGIN (1) SAT | ORIGIN (1) UNSAT | DESTINATION (2) SAT | DESTINATION (2) UNSAT | | ORIGIN (1) SAT | ORIGIN (1) UNSAT | DESTINATION (2) SAT | DESTINATION (2) UNSAT | COMMENTS (3) |
|---|---|---|---|---|---|---|---|---|---|---|
| a. SPARE ELECTRICAL FUSES | | | | | k. EXHAUST SYSTEM | | | | | |
| b. HORN OPERATIVE | | | | | l. BRAKE SYSTEM* | | | | | |
| c. STEERING SYSTEM | | | | | m. SUSPENSION | | | | | |
| d. WINDSHIELD/WIPERS | | | | | n. COUPLING DEVICES | | | | | |
| e. MIRRORS | | | | | o. CARGO SPACE | | | | | |
| f. WARNING EQUIPMENT | | | | | p. LANDING GEAR* | | | | | |
| g. FIRE EXTINGUISHER* | | | | | q. TIRES, WHEELS, RIMS | | | | | |
| h. ELECTRICAL WIRING | | | | | r. TAILGATE/DOORS* | | | | | |
| i. LIGHTS AND REFLECTORS | | | | | s. TARPAULIN* | N/A | | | | |
| j. FUEL SYSTEM* | | | | | t. OTHER *(Specify)* | | | | | |

13. INSPECTION RESULTS *(X one)* ACCEPTED ✓ REJECTED

*(If rejected give reason under "Remarks". Equipment will be approved if deficiencies are corrected prior to loading.)*

14. SATELLITE MOTOR SURVEILLANCE SYSTEM: *(X one)* ACCEPTED N/A REJECTED

15. REMARKS

16. INSPECTOR SIGNATURE *(Origin)*: [signature]

17. INSPECTOR SIGNATURE *(Destination)*

### SECTION III - POST LOADING INSPECTION

This section applies to Commercial and Government/Military vehicles. All items will be checked prior to release of loaded equipment and shall be checked on all incoming loaded equipment.

| | ORIGIN (1) SAT | ORIGIN (1) UNSAT | DESTINATION (2) SAT | DESTINATION (2) UNSAT | COMMENTS (3) |
|---|---|---|---|---|---|
| 18. LOADED IAW APPLICABLE SEGREGATION/COMPATIBILITY TABLE OF 49 CFR | | | | | |
| 19. LOAD PROPERLY SECURED TO PREVENT MOVEMENT | | | | | |
| 20. SEALS APPLIED TO CLOSED VEHICLE; TARPAULIN APPLIED ON OPEN EQUIPMENT | | | | | |
| 21. PROPER PLACARDS APPLIED | | | | | |
| 22. SHIPPING PAPERS/DD FORM 836 FOR GOVERNMENT VEHICLE SHIPMENTS | N/A | | | | |
| 23. COPY OF DD FORM 626 FOR DRIVER | | | | | |
| 24. SHIPPED UNDER DOT SPECIAL PERMIT 868 | N/A | | | | |

25. INSPECTOR SIGNATURE *(Origin)*: [signature]

26. DRIVER(S) SIGNATURE *(Origin)*: Heather Barnett

27. INSPECTOR SIGNATURE *(Destination)*

28. DRIVER(S) SIGNATURE *(Destination)*

DD FORM 626, MAR 2007 PREVIOUS EDITION IS OBSOLETE

Explo Systems, Inc.
1600 Java Road
Minden, LA 71055

# MATERIAL SAFETY DATA SHEET

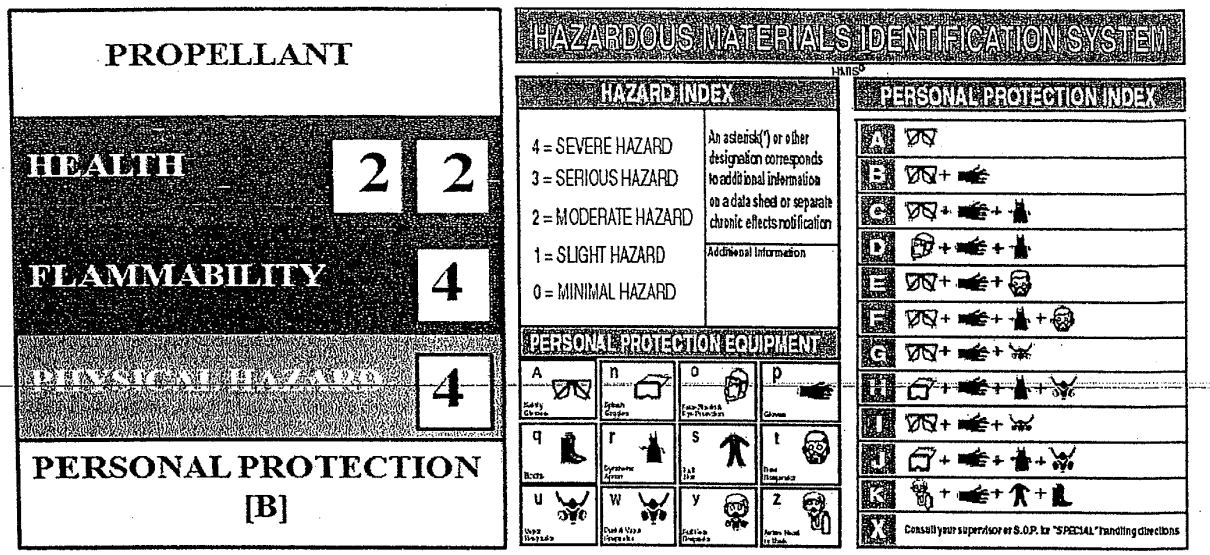
## PROPELLANT (Wetted)

## SECTION I - PRODUCT IDENTIFICATION

PRODUCT NAME: Propellant, Explosive, Solid, Wetted
Technical Information Phone No.: 318.382.8700
For Chemical Emergency (Spill, Fire, Exposure or Accident) call CHEMTREC day or night. Within the US and Canada: +1 800-424-9300. Outside the US and Canada: +1 703-527-3887 (collect calls accepted).

| Ingredient | CAS No. | Wt. % | OSHA PEL<br>ACGIH TLV<br>EPA RQ (if defined)<br>DOT RQ (if defined) |
|---|---|---|---|
| Dibutyl Phthalate | 84-74-2 | 3.00 | OSHA PEL 5 mg/m$^3$<br>ACGIH TLV 5 mg/m$^3$<br>EPA RQ 10 lbs<br>DOT RQ 10 lbs |
| Diphenylamine | 122-39-4 | 1.00 | OSHA PEL 10 mg/m$^3$<br>ACGIH TLV 10 mg/m$^3$<br>EPA RQ (none defined)<br>DOT RQ (none defined) |
| Potassium Sulfate | 7778-80-5 | 2.00 | OSHA PEL none published<br>ACGIH TLV none published<br>EPA RQ (none defined)<br>DOT RQ (none defined) |
| Nitrocellulose (flammable solid) | -- | 87.00 | OSHA PEL none published<br>ACGIH TLV none published<br>EPA RQ (none defined)<br>DOT RQ (none defined) |
| Dinitrotoluene | 25321-14-6 | 10.00 | OSHA PEL 10 mg/m$^3$<br>ACGIH TLV 10 mg/m$^3$<br>EPA RQ 10 lbs<br>DOT RQ 10 lbs |

## SECTION II - HAZARDS IDENTIFICATION




Routes of Entry: Inhalation; Skin; Ingestion
Carcinogenicity: None
First Aid Measures: EYES - Immediately flush with copious amount of water (low pressure) for 15 minutes, remove contact lenses; call physician. SKIN - Wash with soap and running water. INGESTION - Contact physician immediately. INHALATION - Remove to fresh air. Treat irritation symptomatically; call physician.
Firefighting Measures: Self-oxidizing, deluge with water. Will not be able to extinguish unless large quantity of water is used in very short time. Use NIOSH/MSHA approved SCBA and full protective equipment; evacuate area.
Unusual Fire/Explosion Hazard: Easily ignited, highly combustible; protect from fire and sparks and extreme heat.
Autoignition: 383°F (195°C)
Hazardous Combustion Products: Oxides of Carbon
Accidental Release Measures: SPILL - Clean immediately with soft (horsehair) brush and conductive rubber or plastic shovel. Use brass or other non-sparking tools and utensils. DO NOT hammer or otherwise cause impact forces to spilled material (explosion or autoignition could occur with impact force being applied).

## SECTION III - HANDLING AND STORAGE

Precautions: Avoid prolonged temperature above 125°F (50°C). Normal storage conditions should be 75°F (21°C) and 50% Humidity. Storage must conform to local, state and federal regulations, specifically: 29 CFR OSHA 1910.109; 27 CFR BATFE 55 subpart K.
Other Special Precautions: Flammable Solid…Keep away from heat, sparks, open flame…Keep containers closed…use with adequate ventilation.
Ventilation: Local and general ventilation necessary to keep air concentration below TLV's.
Personal Protective Equipment: Safety Glasses, Cotton or Leather Gloves, Fire Resistant Coveralls.

## SECTION IV - PHYSICAL AND CHEMICAL PROPERTIES

Specific Gravity: 1.496
Evaporation Rate: <1 (Butylacetate = 1)
Solubility in Water: negligible
Appearance and Odor: Hard Cylinder Perforated, Smooth, Greenish Yellow. Odorless.
Materials to Avoid: Oxides of Nitrogen and Carbon.

Conditions to Avoid: Open Flame, Sparks, Heat, Direct Sunlight.
Hazardous Decomposition Products: Oxides of Carbon

## SECTION V – TRANSPORTATION INFORMATION

DOT Proper Shipping Name: Smokeless Powder (wetted)
Hazard Class: 1.3C
UN No. UN0161
Packing Group: II

## SECTION VI - DISPOSAL CONSIDERATIONS

Disposal must be in accordance with federal, state and local regulations. Burn in open burning ground in accordance with regulatory requirements. It may also be burned in an incinerator approved for explosives.

## DISCLAIMER

The information contained in this MSDS (Material Safety Data Sheet) is based upon available constituent data for the components of **Propellant** and is believed to be correct. However, as this information has been obtained from various sources, including the manufacturers of its components and independent laboratories, it is provided herein without warranty or representation that it is complete, accurate and can be relied upon. Explo Systems, Inc. has not attempted to conceal in any manner the deleterious aspects of this product, and makes no warranty as such. Explo Systems, Inc. cannot anticipate nor control the many situations in which this product or this information may be used; there is no guarantee that the health and safety precautions suggested herein will be proper under all conditions. It is the sole responsibility of each user of the product to determine and comply with the requirements of all applicable laws and regulations regarding its use. This information is given solely for the purposes of safety to persons and property. Any other use of this information is expressly prohibited.

## AUTHOR

This MSDS was prepared by: Ferris Callihan, PE - Director Support Technology - Explo Systems, Inc. - 1600 Java Road - Minden, LA 71055 - Tel 318 382 8700 - E-mail: fcallihan@explosystems.com

U.S. Department
of Transportation

Pipeline and Hazardous
Materials Safety Administration

East Building, PHH – 32
1200 New Jersey Avenue, Southeast
Washington, D.C. 20590

The US Department of Transportation
Competent Authority for the United States

## CLASSIFICATION OF EXPLOSIVES
## FIRST REVISION

Based upon a request by Explo Systems Inc., 1600 Java Road, Minden, LA 71055, United States the following items are classed in accordance with Section 173.56, Title 49, Code of Federal Regulations (49 CFR). A copy of your application, all supporting documentation and a copy of this approval must be retained and made available to DOT upon request.

**U.N. PROPER SHIPPING NAME AND NUMBER:**
Powder, smokeless, UN0161

**U.N. CLASSIFICATION CODE**: 1.3C

| **REFERENCE NUMBER** | **PRODUCT DESIGNATION/PART NUMBER** |
|---|---|
| EX2010040603 | Reclaimed M6 Propellant |

**NOTES:** This classification is only valid when the smokeless powder has been tested and found to have sufficient residual stabilizers present per US Army Safety Bulletin: "Inspection of Supplies and Equipment, Ammunition Surveillance Procedures" (SB 742-1). The following packaging methods are assigned:
Packaging Method A: Inner Packaging - Not necessary. Outer Packaging – UN 1G fiberdrum, each containing not more than one hundred and forty (140) pounds of smokeless propellant.
Packaging Method B: Inner Packaging: Flexible static-resistant reinforced plastic cloth and strapping lifting bag, each containing not more than eight hundred and eighty (880) pounds of smokeless propellant. Outer Packaging - UN 4G heavy-wall fiberboard box with a volumetric capacity of 119 gallons or less. (see 49 CFR Section 171.8 Definition for "Non-bulk packaging")

**DATED:** 05/05/2011

For Dr. Magdy El-Sibaie
Associate Administrator for Hazardous Materials Safety

Tracking No: 2011040848



019998

EXP_001632

**R & R Trucking, Inc.**
P.O. Box 545
DUENWEG, MO 64841
417-623-6885
417-624-8642-Fax

**NEI Transport, LLC**
P.O. Box 545
DUENWEG, MO 64841
417-623-8784
417-623-8881-Fax

**AATCO**
P.O. Box 545
DUENWEG, MO 64841
417-623-8784
417-623-8881-Fax

# EXPLOSIVE HIGHWAY ROUTE PLAN

DATE: 3/27/3

TRUCK #: 6436 TRAILER #: T8100099 WORK ORDER #: 215339 B/L #: 2882

ORIGIN: CITY: WINDOM ST: LA DESTINATION: CITY: EL DORADO ST: AR

## HIGHWAY ROUTES

LA, LOCAL, I20, HWY 79, HWY 9, HWY 167

AR, HWY 167, HWY 274, LOCAL.

NOTE: The above information is to be completed before leaving the shipper. This form is to be retained with your Bill of Lading until delivery is made.

DRIVER SIGNATURE: 1. [signature]

DRIVER SIGNATURE: 2. Heather Bonnett

27
2882

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND83M070322** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 12 APR 2012** |

| Other Information | Sample Data | | Solvent |
|---|---|---|---|
| M6 Propellant | #1 | 0.50 g 100 ml | ACN |

| Standards (ERG-006) | | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 0.882 | 28.4 | 566.5 | 1.995 |
| 2,4-DNDPA | 50.0 | 3.244 | 978.3 | 0 | 0.000 |
| 2,2' DNDPA | 50.0 | 4.803 | 3426.7 | 22442 | 0.000 |
| 2,4' DNDPA | 50.0 | 6.74 | 1061.1 | 499.4 | 0.047 |
| 4NDPA | 50.0 | 8.012 | 1726.9 | 66.2 | 0.004 |
| 2NDPA | 50.0 | 9.091 | 3662.4 | 113.4 | 0.003 |
| DPA | 200.0 | 10.394 | 6185.4 | 978.3 | 0.063 |
| N-NitrosoDPA | 75.0 | 10.968 | 1530.7 | 0 | 0.000 |

| | |
|---|---|
| | 2.112 |
| Avg. % Stabilizer for Lot | **2.112** |

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | |
|---|---|
| **Analyst** Kisha Dickerson | Avg. Tot. Stabilizers **2.11** % |
| Analyst Signature | Stable YES / Unstable |
| Lab. Supervisor Signature | Comments **CATEGORY: A** |
| | Actions to be Taken |

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND83K070319** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 1 FEB 2011** |

| Other Information | Sample Data | | Solvent |
|---|---|---|---|
| M6 Propellant | #1 | 0.5000 g 100 ml | ACN |

| | Standards (ERG-006) | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 4.156 | 1116 | 2244 | 0.201 |
| 2,4-DNDPA | 50.0 | 9.388 | 1191.2 | 26030.5 | 2.185 |
| 2,2' DNDPA | 50.0 | 10.987 | 1694.7 | 71.6 | 0.000 |
| 2,4' DNDPA | 50.0 | 11.73 | 1272.3 | 94.4 | 0.007 |
| 4NDPA | 50.0 | 12.459 | 2443.3 | 0 | 0.000 |
| 2NDPA | 50.0 | 13.939 | 5852.1 | 562.5 | 0.010 |
| DPA | 200.0 | 15.022 | 1753.1 | 319.5 | 0.073 |
| N-NitrosoDPA | 75.0 | 18.932 | 2535.1 | 438.3 | 0.000 |

| | | |
|---|---|---|
| | | 2.476 |
| Avg. % Stabilizer for Lot | | **2.476** |

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | |
|---|---|
| **Analyst** Mike Kile | Avg. Tot. Stabilizers **2.48** % |
| Analyst Signature | Stable YES / Unstable |
| Lab. Supervisor Signature | Comments **CATEGORY: A** |
| | Actions to be Taken |

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND83F070276** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 4 Sep 2012** |

| Other Information | Sample Data | | Solvent |
|---|---|---|---|
| M6 Propellant | #1 | 0.50 g 100 ml | ACN |

| | Standards (ERG-006) | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 0.889 | 48.8 | 578.6 | 1.186 |
| 2,4-DNDPA | 50.0 | 3.418 | 914.3 | 0 | 0.000 |
| 2,2' DNDPA | 50.0 | 5.22 | 777.3 | 23990 | 0.000 |
| 2,4' DNDPA | 50.0 | 7.622 | 980.5 | 0 | 0.000 |
| 4NDPA | 50.0 | 9.134 | 1586.8 | 40.6 | 0.003 |
| 2NDPA | 50.0 | 10.417 | 2826.3 | 88.7 | 0.003 |
| DPA | 200.0 | 11.797 | 5671.5 | 812.6 | 0.057 |
| N-NitrosoDPA | 75.0 | 12.757 | 1337.5 | 0 | 0.000 |

| | | |
|---|---|---|
| | | 1.249 |
| Avg. % Stabilizer for Lot | | **1.249** |

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | |
|---|---|
| **Analyst** Mike Kile | Avg. Tot. Stabilizers **1.25** % |
| Analyst Signature | Stable YES / Unstable |
| Lab. Supervisor Signature | Comments **CATEGORY: A** |
| | Actions to be Taken |

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND82H070167** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 6 JAN 2012** |

| Other Information | Sample Data | | Solvent |
|---|---|---|---|
| M6 Propellant | #1 | 0.50 g 100 ml | ACN |

| | Standards (ERG-006) | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 0.65 | 119.1 | 308.2 | 0.259 |
| 2,4-DNDPA | 50.0 | 3.304 | 1019.8 | 0 | 0.000 |
| 2,2' DNDPA | 50.0 | 4.943 | 1734.6 | 23824 | 0.000 |
| 2,4' DNDPA | 50.0 | 7.018 | 1103.9 | 404.1 | 0.037 |
| 4NDPA | 50.0 | 8.439 | 1782.5 | 50.5 | 0.003 |
| 2NDPA | 50.0 | 9.513 | 3182.1 | 79.6 | 0.003 |
| DPA | 200.0 | 10.956 | 6219.8 | 750.3 | 0.048 |
| N-NitrosoDPA | 75.0 | 11.669 | 1532.4 | 0 | 0.000 |

| | |
|---|---|
| | 0.349 |
| Avg. % Stabilizer for Lot | **0.349** |

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | |
|---|---|
| **Analyst** TAKISHA DICKERSON | Avg. Tot. Stabilizers **0.35** % |
| Analyst Signature | Stable YES / Unstable |
| Lab. Supervisor Signature | Comments **CATEGORY: A** |
| | Actions to be Taken |

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND82D070110** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 27 JULY 2011** |

| Other Information | Sample Data | | Solvent |
|---|---|---|---|
| M6 Propellant | #1 | 0.50 g 100 ml | ACN |

| | Standards (ERG-006) | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 0.694 | 112.8 | 437.7 | 0.388 |
| 2,4-DNDPA | 50.0 | 3.477 | 942.8 | 0 | 0.000 |
| 2,2' DNDPA | 50.0 | 5.339 | 77.4 | 22925 | 0.000 |
| 2,4' DNDPA | 50.0 | 7.842 | 1020.3 | 0 | 0.000 |
| 4NDPA | 50.0 | 9.392 | 1634.2 | 119.1 | 0.007 |
| 2NDPA | 50.0 | 10.693 | 2956.2 | 134.9 | 0.005 |
| DPA | 200.0 | 12.201 | 5630.5 | 218.4 | 0.016 |
| N-NitrosoDPA | 75.0 | 13.103 | 1385.2 | 0 | 0.000 |

| | | |
|---|---|---|
| | | 0.415 |
| | Avg. % Stabilizer for Lot | **0.415** |

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | |
|---|---|
| **Analyst** Mike Kile | Avg. Tot. Stabilizers **0.42** % |
| Analyst Signature | Stable YES / Unstable |
| Lab. Supervisor Signature | Comments **CATEGORY: A** |
| | Actions to be Taken |

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND81F070024** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 9 DEC 2011** |

| Other Information | Sample Data | | Solvent |
|---|---|---|---|
| M6 Propellant | #1 | 0.50 g 100 ml | ACN |

| | Standards (ERG-006) | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 0.748 | 166.8 | 892.3 | 0.535 |
| 2,4-DNDPA | 50.0 | 3.333 | 991.5 | 0 | 0.000 |
| 2,2' DNDPA | 50.0 | 5.039 | 624.7 | 22530 | 0.000 |
| 2,4' DNDPA | 50.0 | 7.221 | 1076.5 | 0 | 0.000 |
| 4NDPA | 50.0 | 8.681 | 1747.7 | 46.9 | 0.003 |
| 2NDPA | 50.0 | 9.803 | 3112 | 109.9 | 0.004 |
| DPA | 200.0 | 11.276 | 5985.4 | 604.1 | 0.040 |
| N-NitrosoDPA | 75.0 | 12.035 | 1482.1 | 0 | 0.000 |

| | | |
|---|---|---|
| | | 0.582 |
| | Avg. % Stabilizer for Lot | **0.582** |

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | |
|---|---|
| **Analyst** TAKISHA DICKERSON | Avg. Tot. Stabilizers **0.58** % |
| Analyst Signature | Stable YES / Unstable |
| Lab. Supervisor Signature | Comments **CATEGORY: A** |
| | Actions to be Taken |

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND81K070071** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 7 FEB 2012** |

| Other Information | Sample Data | | Solvent |
|---|---|---|---|
| M6 Propellant | #1 | 0.50 g 100 ml | ACN |

| | Standards (ERG-006) | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 0.863 | 50.1 | 541.1 | 1.080 |
| 2,4-DNDPA | 50.0 | 3.336 | 893.6 | 14.7 | 0.002 |
| 2,2' DNDPA | 50.0 | 5.03 | 726.8 | 22818 | 0.000 |
| 2,4' DNDPA | 50.0 | 7.182 | 1225.5 | 0 | 0.000 |
| 4NDPA | 50.0 | 8.642 | 1532.1 | 73.1 | 0.005 |
| 2NDPA | 50.0 | 9.759 | 2784.7 | 153.7 | 0.006 |
| DPA | 200.0 | 11.235 | 5480.9 | 820.7 | 0.060 |
| N-NitrosoDPA | 75.0 | 11.979 | 1363.1 | 0 | 0.000 |

| | | |
|---|---|---|
| | | 1.152 |
| | Avg. % Stabilizer for Lot | **1.152** |

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | | |
|---|---|---|
| **Analyst** TAKISHA DICKERSON | Avg. Tot. Stabilizers | **1.15** % |
| Analyst Signature | Stable YES | Unstable |
| | Comments | |
| Lab. Supervisor Signature | **CATEGORY:** | **A** |
| | Actions to be Taken | |

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND81D070015** | **D533 / M6 propellant** |
| Date of analysis: | **Date:20 OCT 2010** |

| Other Information | Sample Data | | Solvent |
|---|---|---|---|
| M6 Propellant | #1 | 0.5000 g 100 ml | ACN |

| Standards (ERG-006) | | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 5.024 | 281.6 | 2363.4 | 0.839 |
| 2,4-DNDPA | 50.0 | 10.59 | 329 | 0 | 0.000 |
| 2,2' DNDPA | 50.0 | 12.176 | 376.1 | 0 | 0.000 |
| 2,4' DNDPA | 50.0 | 12.67 | 275.3 | 35.7 | 0.013 |
| 4NDPA | 50.0 | 13.632 | 664.1 | 0 | 0.000 |
| 2NDPA | 50.0 | 14.943 | 1788.8 | 34.8 | 0.002 |
| DPA | 200.0 | 16.114 | 286 | 0 | 0.000 |
| N-NitrosoDPA | 75.0 | 19.917 | 329.9 | 158.8 | 0.000 |

| | | |
|---|---|---|
| | | 0.854 |
| Avg. % Stabilizer for Lot | | **0.854** |

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | | |
|---|---|---|
| **Analyst** Kisha Dickerson | Avg. Tot. Stabilizers | **0.85** % |
| Analyst Signature | Stable YES | Unstable |
| | Comments | |
| Lab. Supervisor Signature | **CATEGORY:** | **A** |
| | Actions to be Taken | |

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND86E070616** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 19 NOV 2010** |

Other Information
M6 Propellant

| Sample Data | | | Solvent |
|---|---|---|---|
| #1 | 0.5000 g | 100 ml | ACN |

| Standards (ERG-006) | | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 2.068 | 135.8 | 654.4 | 0.482 |
| 2,4-DNDPA | 50.0 | 5.182 | 717.3 | 0 | 0.000 |
| 2,2' DNDPA | 50.0 | 7.635 | 736.3 | 13022.2 | 0.000 |
| 2,4' DNDPA | 50.0 | 11.713 | 779 | 0 | 0.000 |
| 4NDPA | 50.0 | 13.454 | 462.4 | 0 | 0.000 |
| 2NDPA | 50.0 | 15.161 | 1164.1 | 0 | 0.000 |
| DPA | 200.0 | 16.583 | 4078.5 | 221.2 | 0.022 |
| N-NitrosoDPA | 75.0 | 18.033 | 1011.7 | 0 | 0.000 |

| | |
|---|---|
| | 0.504 |
| Avg. % Stabilizer for Lot | **0.504** |

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | |
|---|---|
| **Analyst** Kisha Dickerson | Avg. Tot. Stabilizers **0.50** % |
| Analyst Signature | Stable YES / Unstable |
| Lab. Supervisor Signature | Comments **CATEGORY: A** |
| | Actions to be Taken |

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND85D070520** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 22 Dec 2010** |

| Other Information | Sample Data | | Solvent |
|---|---|---|---|
| M6 Propellant | #1 | 0.5000 g 100 ml | ACN |

| Standards (ERG-006) | | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 4.041 | 1072.9 | 2745.6 | 0.256 |
| 2,4-DNDPA | 50.0 | 9.403 | 1132.4 | 27290.8 | 2.410 |
| 2,2' DNDPA | 50.0 | 11.071 | 1654.7 | 59.9 | 0.000 |
| 2,4' DNDPA | 50.0 | 11.863 | 1176.6 | 121 | 0.010 |
| 4NDPA | 50.0 | 12.612 | 2267.7 | 0 | 0.000 |
| 2NDPA | 50.0 | 14.156 | 6085.2 | 565.1 | 0.009 |
| DPA | 200.0 | 15.296 | 1602.1 | 0 | 0.000 |
| N-NitrosoDPA | 75.0 | 19.37 | 2345.7 | 685 | 0.000 |

| | | |
|---|---|---|
| | | 2.685 |
| Avg. % Stabilizer for Lot | | **2.685** |

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | | |
|---|---|---|
| **Analyst** Mike Kile | Avg. Tot. Stabilizers | **2.69** % |
| Analyst Signature | Stable YES | Unstable |
| | Comments | |
| Lab. Supervisor Signature | **CATEGORY:** | **A** |
| | Actions to be Taken | |

CONTAINS HAZARDOUS MATERIALS

# STRAIGHT BILL OF LADING

## NOT NEGOTIABLE

RECEIVED, subject to the classification and tariffs in effect on the date of the issue of this Original Bill of Lading.
The property described below, in apparent good order, except as noted (contents and condition of contents of packages unknown) consigned, end destined as indicated below, ch said carrier (the word carrier being understood throughout this contract meaning any person or corporation in possession of the property under the contract) agrees to curry is usual place of delivery of said destination. It on its route, otherwise to deliver to another carrier on the route to said destination. It is mutually agreed, as to each of all or any of said property over all or any portion of said route to destination, and as to each party at any time interested in all or any of said property, that every service lobe performed hereunder shall be subject to all the terms and conditions of the Uniform Domestic Straight Bill of Lading Set forth (t) in Uniform Freight Classification in effect on the date hereof, It this is a rail or rail-water shipment, or (2) in the applicable motor carrier classification or tariff it this is a motor carrier shipment.

Shipper hereby certifies that he is familiar with all the terms and conditions of the said bill of lading, set forth in the classification or tariff which governs the transportation of this shipment, and the sold terms and conditions are hereby agreed to by the shipper and accept for himself and his assigns.

Shipper: Explo Systems, Inc.
1600 Java Road
Minden, LA 71055

Shipper's No. 2880

Shipping Date 3/26/13

At

Purchase Order No.

By JRBUK

Freight Charges: Collect _____ Prepaid X

Location No. 3531

(Mail or Street Address of Consignee — For purposes of notification only)

Consigned to Pioneer Powder Works

Destination 7 CR 10 Bldg 101 State

County Post Complex 100

Route

Charge Account of Pioneer Powder Works

Fed Lic. [illegible] Exp. Date 3/1/15

State Lic. Exp. Date

Customer No.

Customer P.O. No. Rel. No.

| SHIPPED No. of PKGS | SHIPPED No. of UNITS | PROPER SHIPPING NAME AND HAZARD CLASS | RETURNED No. of PKGS | RETURNED No. of UNITS | EMERGENCY RESPONSE PROCEDURE GUIDE NO. | EXEMPTION DOT-E | H M | Placards Applied to Railcar or Motor Vehicle |
|---|---|---|---|---|---|---|---|---|
| | | UN0161, Powder, Smokeless, 1.3C, PG II | | | #112 | | | EXPLOSIVES 1.3 |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | Truck No. 217 |
| | | | | | | | | Trailer No. Extra 7 |
| | | | | | | | | Mileage |
| | | | | | | | | Total Packages |
| | | | | | | | | Gross Weight # |
| | | | | | | | | Net Explosive Weight |
| | | 7083831/7083832 | | | | | | |

RECEIVED
MAR 27 2013
6LC13
AUSTIN POWDER COMPANY
EAST CAMDEN PLANT

ENTERED
4/4/13

This is to certify that the above-named materials are properly classified, described, packaged, marked, and labeled and are in proper condition for transportation, according to the applicable regulations of the Department of Transportation.

Signature _____ Invoice No. _____

FOR CHEMICAL EMERGENCY, SPILL, LEAK, FIRE, EXPOSURE OR ACCIDENT CALL CHEMTREC — DAY OR NIGHT
IN THE USA CALL 800-424-9300 IN CANADA (ERP #2-0040) 800-561-3636 ELSEWHERE CALL (703) 527-3887

Permanent Address of Shipper:
**Explo Systems, Inc.**
1600 Java Road
Minden, Louisiana 71055
(318) 382-8700

Per _____

DOT Hazardous Material Handling Number _____
Local Federal Explosives License No. 5-LA-119-20-1A-00057
(Shipper)

I have been offered placards identifying the shipment as Specified in 49CFR Subpart F of Part 172. I have received the above goods in apparent good order and condition.

Received By _____ Date _____
☐ CONSIGNEE ☐ CARRIER

By _____ Date _____
AUTHORIZED RECEIVER

CONTAINS HAZARDOUS MATERIALS

Agent must detach and retain this Shipping Order

020011

EXP_001645

AUSTIN POWDER PACKING LIST

SHIPMENT DATE 3-26-13

B/L# 2880 TRL 6810057

M-6

IND81D-070015 4 PTS
IND86E-070616 23 PTS
IND82D-070110 2 PTS
IND87B-070678 2 PTS
IND81K-070071 1 PTS
IND83K-070319 4 PTS
IND82H-070167 4 PTS
IND81L-070073 2 PTS

42 PTS WITH 6 FB @140 LBS PER DRUM

TOTAL 35,280 LBS

LIONEL KOONS

EXPLO SYSTEMS INC

# MOTOR VEHICLE INSPECTION (TRANSPORTING HAZARDOUS MATERIALS)

*(Read Instructions before completing this form.)*

This form applies to all vehicles which must be marked or placarded in accordance with Title 49 CFR.

1. BILL OF LADING/TRANSPORTATION CONTROL NUMBER: 2280

| SECTION 1 - DOCUMENTATION | ORIGIN a. | DESTINATION b. |
|---|---|---|
| 2. CARRIER/GOVERNMENT ORGANIZATION | TRUK | |
| 3. DATE/TIME OF INSPECTION | 3/26/13 | |
| 4. LOCATION OF INSPECTION | EXDO SYSTEMS INC | |
| 5. OPERATOR(S) NAME(S) | FAULK, MATTHEW | |
| 6. OPERATOR(S) LICENSE NUMBER(S) | 13631444 TX | |
| 7. MEDICAL EXAMINER'S CERTIFICATE* | 10/10/14 | |

| 8. (X if satisfactory at origin) | | | | | | 9. CVSA DECAL DISPLAYED ON COMMERCIAL EQUIPMENT* | YES | NO |
|---|---|---|---|---|---|---|---|---|
| a. MILITARY HAZMAT ENDORSEMENT | | d. ERG OR EQUIVALENT COMMERCIAL: | YES | | NO | a. TRUCK/TRACTOR | ✓ | |
| b. VALID LEASE* | | e. DRIVER'S VEHICLE INSPECTION REPORT* | | | ✓ | b. TRAILER | | — |
| c. ROUTE PLAN | ✓ | f. COPY OF 49 CFR PART 397 | | | ✓ | | | |

## SECTION II - MECHANICAL INSPECTION

*All items shall be checked on empty equipment prior to loading. Items with an asterisk shall be checked on all incoming loaded equipment.*

10. TYPE OF VEHICLE(S): TRACTOR / TRAILER / DROM

11. VEHICLE NUMBER(S): TRAC #6177 / TRL #6810057

| 12. PART INSPECTED (X as applicable) | ORIGIN (1) SAT | ORIGIN (1) UNSAT | DESTINATION (2) SAT | DESTINATION (2) UNSAT | | ORIGIN (1) SAT | ORIGIN (1) UNSAT | DESTINATION (2) SAT | DESTINATION (2) UNSAT | COMMENTS (3) |
|---|---|---|---|---|---|---|---|---|---|---|
| a. SPARE ELECTRICAL FUSES | | | | | k. EXHAUST SYSTEM | | | | | |
| b. HORN OPERATIVE | | | | | l. BRAKE SYSTEM* | | | | | |
| c. STEERING SYSTEM | | | | | m. SUSPENSION | | | | | |
| d. WINDSHIELD/WIPERS | | | | | n. COUPLING DEVICES | | | | | |
| e. MIRRORS | | | | | o. CARGO SPACE | | | | | |
| f. WARNING EQUIPMENT | | | | | p. LANDING GEAR* | | | | | |
| g. FIRE EXTINGUISHER* | | | | | q. TIRES, WHEELS, RIMS | | | | | |
| h. ELECTRICAL WIRING | | | | | r. TAILGATE/DOORS* | | | | | |
| i. LIGHTS AND REFLECTORS | | | | | s. TARPAULIN* | N/A | | | | |
| j. FUEL SYSTEM* | | | | | t. OTHER (Specify) | | | | | |

13. INSPECTION RESULTS (X one) ACCEPTED ✓ REJECTED

*(If rejected give reason under "Remarks". Equipment will be approved if deficiencies are corrected prior to loading.)*

14. SATELLITE MOTOR SURVEILLANCE SYSTEM: (X one) ACCEPTED N/A REJECTED

15. REMARKS

16. INSPECTOR SIGNATURE (Origin)

17. INSPECTOR SIGNATURE (Destination)

## SECTION III - POST LOADING INSPECTION

This section applies to Commercial and Government/Military vehicles. All items will be checked prior to release of loaded equipment and shall be checked on all incoming loaded equipment.

| | ORIGIN (1) SAT | ORIGIN (1) UNSAT | DESTINATION (2) SAT | DESTINATION (2) UNSAT | COMMENTS (3) |
|---|---|---|---|---|---|
| 18. LOADED IAW APPLICABLE SEGREGATION/COMPATIBILITY TABLE OF 49 CFR | | | | | |
| 19. LOAD PROPERLY SECURED TO PREVENT MOVEMENT | | | | | |
| 20. SEALS APPLIED TO CLOSED VEHICLE; TARPAULIN APPLIED ON OPEN EQUIPMENT | | | | | |
| 21. PROPER PLACARDS APPLIED | | | | | |
| 22. SHIPPING PAPERS/DD FORM 836 FOR GOVERNMENT VEHICLE SHIPMENTS | N/A | | | | |
| 23. COPY OF DD FORM 626 FOR DRIVER | | | | | |
| 24. SHIPPED UNDER DOT SPECIAL PERMIT 868 | N/A | | | | |

25. INSPECTOR SIGNATURE (Origin)

26. DRIVER(S) SIGNATURE (Origin)

27. INSPECTOR SIGNATURE (Destination)

28. DRIVER(S) SIGNATURE (Destination)

EXPLO SYSTEMS, INC.

Explo Systems, Inc.
1600 Java Road
Minden, LA 71055

# MATERIAL SAFETY DATA SHEET

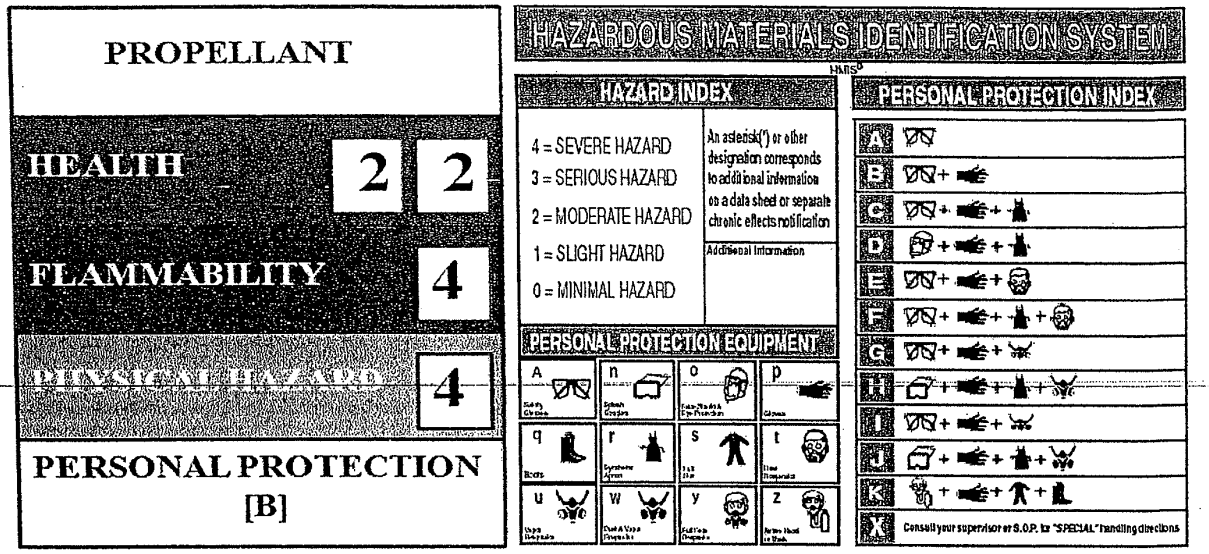
## PROPELLANT (Wetted)

## SECTION I - PRODUCT IDENTIFICATION

PRODUCT NAME: Propellant, Explosive, Solid, Wetted
Technical Information Phone No.: 318.382.8700
For Chemical Emergency (Spill, Fire, Exposure or Accident) call CHEMTREC day or night. Within the US and Canada: +1 800-424-9300. Outside the US and Canada: +1 703-527-3887 (collect calls accepted).

| Ingredient | CAS No. | Wt. % | OSHA PEL<br>ACGIH TLV<br>EPA RQ (if defined)<br>DOT RQ (if defined) |
|---|---|---|---|
| Dibutyl Phthalate | 84-74-2 | 3.00 | OSHA PEL 5 mg/m$^3$<br>ACGIH TLV 5 mg/m$^3$<br>EPA RQ 10 lbs<br>DOT RQ 10 lbs |
| Diphenylamine | 122-39-4 | 1.00 | OSHA PEL 10 mg/m$^3$<br>ACGIH TLV 10 mg/m$^3$<br>EPA RQ (none defined)<br>DOT RQ (none defined) |
| Potassium Sulfate | 7778-80-5 | 2.00 | OSHA PEL none published<br>ACGIH TLV none published<br>EPA RQ (none defined)<br>DOT RQ (none defined) |
| Nitrocellulose (flammable solid) | -- | 87.00 | OSHA PEL none published<br>ACGIH TLV none published<br>EPA RQ (none defined)<br>DOT RQ (none defined) |
| Dinitrotoluene | 25321-14-6 | 10.00 | OSHA PEL 10 mg/m$^3$<br>ACGIH TLV 10 mg/m$^3$<br>EPA RQ 10 lbs<br>DOT RQ 10 lbs |

## SECTION II - HAZARDS IDENTIFICATION




Routes of Entry: Inhalation; Skin; Ingestion
Carcinogenicity: None
First Aid Measures: EYES - Immediately flush with copious amount of water (low pressure) for 15 minutes, remove contact lenses; call physician. SKIN - Wash with soap and running water. INGESTION - Contact physician immediately. INHALATION - Remove to fresh air. Treat irritation symptomatically; call physician.
Firefighting Measures: Self-oxidizing, deluge with water. Will not be able to extinguish unless large quantity of water is used in very short time. Use NIOSH/MSHA approved SCBA and full protective equipment; evacuate area.
Unusual Fire/Explosion Hazard: Easily ignited, highly combustible; protect from fire and sparks and extreme heat.
Autoignition: 383°F (195°C)
Hazardous Combustion Products: Oxides of Carbon
Accidental Release Measures: SPILL - Clean immediately with soft (horsehair) brush and conductive rubber or plastic shovel. Use brass or other non-sparking tools and utensils. DO NOT hammer or otherwise cause impact forces to spilled material (explosion or autoignition could occur with impact force being applied).

## SECTION III - HANDLING AND STORAGE

Precautions: Avoid prolonged temperature above 125°F (50°C). Normal storage conditions should be 75°F (21°C) and 50% Humidity. Storage must conform to local, state and federal regulations, specifically: 29 CFR OSHA 1910.109; 27 CFR BATFE 55 subpart K.
Other Special Precautions: Flammable Solid…Keep away from heat, sparks, open flame…Keep containers closed…use with adequate ventilation.
Ventilation: Local and general ventilation necessary to keep air concentration below TLV's.
Personal Protective Equipment: Safety Glasses, Cotton or Leather Gloves, Fire Resistant Coveralls.

## SECTION IV - PHYSICAL AND CHEMICAL PROPERTIES

Specific Gravity: 1.496
Evaporation Rate: <1 (Butylacetate = 1)
Solubility in Water: negligible
Appearance and Odor: Hard Cylinder Perforated, Smooth, Greenish Yellow. Odorless.
Materials to Avoid: Oxides of Nitrogen and Carbon.

Conditions to Avoid: Open Flame, Sparks, Heat, Direct Sunlight.
Hazardous Decomposition Products: Oxides of Carbon

## SECTION V – TRANSPORTATION INFORMATION

DOT Proper Shipping Name: Smokeless Powder (wetted)
Hazard Class: 1.3C
UN No. UN0161
Packing Group: II

## SECTION VI - DISPOSAL CONSIDERATIONS

Disposal must be in accordance with federal, state and local regulations. Burn in open burning ground in accordance with regulatory requirements. It may also be burned in an incinerator approved for explosives.

## DISCLAIMER

The information contained in this MSDS (Material Safety Data Sheet) is based upon available constituent data for the components of **Propellant** and is believed to be correct. However, as this information has been obtained from various sources, including the manufacturers of its components and independent laboratories, it is provided herein without warranty or representation that it is complete, accurate and can be relied upon. Explo Systems, Inc. has not attempted to conceal in any manner the deleterious aspects of this product, and makes no warranty as such. Explo Systems, Inc. cannot anticipate nor control the many situations in which this product or this information may be used; there is no guarantee that the health and safety precautions suggested herein will be proper under all conditions. It is the sole responsibility of each user of the product to determine and comply with the requirements of all applicable laws and regulations regarding its use. This information is given solely for the purposes of safety to persons and property. Any other use of this information is expressly prohibited.

## AUTHOR

This MSDS was prepared by: Ferris Callihan, PE - Director Support Technology - Explo Systems, Inc. - 1600 Java Road - Minden, LA 71055 - Tel 318 382 8700 - E-mail: fcallihan@explosystems.com

U.S. Department
of Transportation

Pipeline and Hazardous
Materials Safety Administration

East Building, PHH – 32
1200 New Jersey Avenue, Southeast
Washington, D.C. 20590

The US Department of Transportation
Competent Authority for the United States

## CLASSIFICATION OF EXPLOSIVES
## FIRST REVISION

Based upon a request by Explo Systems Inc., 1600 Java Road, Minden, LA 71055, United States the following items are classed in accordance with Section 173.56, Title 49, Code of Federal Regulations (49 CFR). A copy of your application, all supporting documentation and a copy of this approval must be retained and made available to DOT upon request.

**U.N. PROPER SHIPPING NAME AND NUMBER:**
Powder, smokeless, UN0161

**U.N. CLASSIFICATION CODE**: 1.3C

| REFERENCE NUMBER | PRODUCT DESIGNATION/PART NUMBER |
|---|---|
| EX2010040603 | Reclaimed M6 Propellant |

**NOTES:** This classification is only valid when the smokeless powder has been tested and found to have sufficient residual stabilizers present per US Army Safety Bulletin: "Inspection of Supplies and Equipment, Ammunition Surveillance Procedures" (SB 742-1). The following packaging methods are assigned:
Packaging Method A: Inner Packaging - Not necessary. Outer Packaging – UN 1G fiberdrum, each containing not more than one hundred and forty (140) pounds of smokeless propellant.
Packaging Method B: Inner Packaging: Flexible static-resistant reinforced plastic cloth and strapping lifting bag, each containing not more than eight hundred and eighty (880) pounds of smokeless propellant. Outer Packaging - UN 4G heavy-wall fiberboard box with a volumetric capacity of 119 gallons or less. (see 49 CFR Section 171.8 Definition for "Non-bulk packaging")

**DATED:** 05/05/2011

For Dr. Magdy El-Sibaie
Associate Administrator for Hazardous Materials Safety

Tracking No: 2011040848

28
2880

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND86E070616** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 19 NOV 2010** |

| Other Information | Sample Data | | Solvent |
|---|---|---|---|
| M6 Propellant | #1 | 0.5000 g 100 ml | ACN |

| Standards (ERG-006) | | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 2.068 | 135.8 | 654.4 | 0.482 |
| 2,4-DNDPA | 50.0 | 5.182 | 717.3 | 0 | 0.000 |
| 2,2' DNDPA | 50.0 | 7.635 | 736.3 | 13022.2 | 0.000 |
| 2,4' DNDPA | 50.0 | 11.713 | 779 | 0 | 0.000 |
| 4NDPA | 50.0 | 13.454 | 462.4 | 0 | 0.000 |
| 2NDPA | 50.0 | 15.161 | 1164.1 | 0 | 0.000 |
| DPA | 200.0 | 16.583 | 4078.5 | 221.2 | 0.022 |
| N-NitrosoDPA | 75.0 | 18.033 | 1011.7 | 0 | 0.000 |

0.504

Avg. % Stabilizer for Lot **0.504**

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | |
|---|---|
| **Analyst** Kisha Dickerson | Avg. Tot. Stabilizers **0.50** % |
| Analyst Signature | Stable YES / Unstable |
| Lab. Supervisor Signature | Comments **CATEGORY: A** |
| | Actions to be Taken |

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND83K070319** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 1 FEB 2011** |

| Other Information | Sample Data | | Solvent |
|---|---|---|---|
| M6 Propellant | #1 | 0.5000 g 100 ml | ACN |

| | Standards (ERG-006) | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 4.156 | 1116 | 2244 | 0.201 |
| 2,4-DNDPA | 50.0 | 9.388 | 1191.2 | 26030.5 | 2.185 |
| 2,2' DNDPA | 50.0 | 10.987 | 1694.7 | 71.6 | 0.000 |
| 2,4' DNDPA | 50.0 | 11.73 | 1272.3 | 94.4 | 0.007 |
| 4NDPA | 50.0 | 12.459 | 2443.3 | 0 | 0.000 |
| 2NDPA | 50.0 | 13.939 | 5852.1 | 562.5 | 0.010 |
| DPA | 200.0 | 15.022 | 1753.1 | 319.5 | 0.073 |
| N-NitrosoDPA | 75.0 | 18.932 | 2535.1 | 438.3 | 0.000 |

2.476

| Avg. % Stabilizer for Lot | **2.476** |
|---|---|

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | |
|---|---|
| **Analyst** Mike Kile | Avg. Tot. Stabilizers **2.48** % |
| Analyst Signature | Stable YES / Unstable |
| Lab. Supervisor Signature | Comments **CATEGORY: A** |
| | Actions to be Taken |

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND82H070167** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 6 JAN 2012** |

| Other Information | Sample Data | | Solvent |
|---|---|---|---|
| M6 Propellant | #1 | 0.50 g 100 ml | ACN |

| Standards (ERG-006) | | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 0.65 | 119.1 | 308.2 | 0.259 |
| 2,4-DNDPA | 50.0 | 3.304 | 1019.8 | 0 | 0.000 |
| 2,2' DNDPA | 50.0 | 4.943 | 1734.6 | 23824 | 0.000 |
| 2,4' DNDPA | 50.0 | 7.018 | 1103.9 | 404.1 | 0.037 |
| 4NDPA | 50.0 | 8.439 | 1782.5 | 50.5 | 0.003 |
| 2NDPA | 50.0 | 9.513 | 3182.1 | 79.6 | 0.003 |
| DPA | 200.0 | 10.956 | 6219.8 | 750.3 | 0.048 |
| N-NitrosoDPA | 75.0 | 11.669 | 1532.4 | 0 | 0.000 |
| | | | | | 0.349 |
| | | | Avg. % Stabilizer for Lot | | **0.349** |

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | |
|---|---|
| **Analyst** TAKISHA DICKERSON | Avg. Tot. Stabilizers **0.35** % |
| Analyst Signature | Stable YES / Unstable |
| Lab. Supervisor Signature | Comments **CATEGORY: A** |
| | Actions to be Taken |

Form #159

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND82D070110** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 27 JULY 2011** |

| Other Information | Sample Data | | Solvent |
|---|---|---|---|
| M6 Propellant | #1 | 0.50 g 100 ml | ACN |

| Standards (ERG-006) | | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 0.694 | 112.8 | 437.7 | 0.388 |
| 2,4-DNDPA | 50.0 | 3.477 | 942.8 | 0 | 0.000 |
| 2,2' DNDPA | 50.0 | 5.339 | 77.4 | 22925 | 0.000 |
| 2,4' DNDPA | 50.0 | 7.842 | 1020.3 | 0 | 0.000 |
| 4NDPA | 50.0 | 9.392 | 1634.2 | 119.1 | 0.007 |
| 2NDPA | 50.0 | 10.693 | 2956.2 | 134.9 | 0.005 |
| DPA | 200.0 | 12.201 | 5630.5 | 218.4 | 0.016 |
| N-NitrosoDPA | 75.0 | 13.103 | 1385.2 | 0 | 0.000 |

| | |
|---|---|
| | 0.415 |
| Avg. % Stabilizer for Lot | **0.415** |

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | |
|---|---|
| **Analyst** Mike Kile | Avg. Tot. Stabilizers **0.42** % |
| Analyst Signature | Stable YES / Unstable |
| | Comments **CATEGORY: A** |
| Lab. Supervisor Signature | |
| | Actions to be Taken |

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND81L070073** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 29 JULY 2011** |

| Other Information | Sample Data | | Solvent |
|---|---|---|---|
| M6 Propellant | #1 | 0.50 g 100 ml | ACN |

| | Standards (ERG-006) | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 0.642 | 125.1 | 606.3 | 0.485 |
| 2,4-DNDPA | 50.0 | 3.455 | 992.3 | 0 | 0.000 |
| 2,2' DNDPA | 50.0 | 5.274 | 125.3 | 22452 | 0.000 |
| 2,4' DNDPA | 50.0 | 7.702 | 1067.4 | 0 | 0.000 |
| 4NDPA | 50.0 | 9.26 | 1688.8 | 34.3 | 0.002 |
| 2NDPA | 50.0 | 10.547 | 3070.1 | 102.4 | 0.003 |
| DPA | 200.0 | 12.08 | 5796.8 | 430.9 | 0.030 |
| N-NitrosoDPA | 75.0 | 12.966 | 1456.1 | 0 | 0.000 |

| | |
|---|---|
| | 0.520 |
| Avg. % Stabilizer for Lot | **0.520** |

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | |
|---|---|
| **Analyst** Kisha Dickerson | Avg. Tot. Stabilizers **0.52** % |
| Analyst Signature | Stable YES / Unstable |
| Lab. Supervisor Signature | Comments **CATEGORY: A** |
| | Actions to be Taken |

Form #158

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND81K070071** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 7 FEB 2012** |

| Other Information | Sample Data | | Solvent |
|---|---|---|---|
| M6 Propellant | #1 | 0.50 g 100 ml | ACN |

| Standards (ERG-006) | | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 0.863 | 50.1 | 541.1 | 1.080 |
| 2,4-DNDPA | 50.0 | 3.336 | 893.6 | 14.7 | 0.002 |
| 2,2' DNDPA | 50.0 | 5.03 | 726.8 | 22818 | 0.000 |
| 2,4' DNDPA | 50.0 | 7.182 | 1225.5 | 0 | 0.000 |
| 4NDPA | 50.0 | 8.642 | 1532.1 | 73.1 | 0.005 |
| 2NDPA | 50.0 | 9.759 | 2784.7 | 153.7 | 0.006 |
| DPA | 200.0 | 11.235 | 5480.9 | 820.7 | 0.060 |
| N-NitrosoDPA | 75.0 | 11.979 | 1363.1 | 0 | 0.000 |

| | | |
|---|---|---|
| | | 1.152 |
| Avg. % Stabilizer for Lot | | **1.152** |

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | |
|---|---|
| **Analyst** TAKISHA DICKERSON | Avg. Tot. Stabilizers **1.15** % |
| Analyst Signature | Stable YES \| Unstable |
| Lab. Supervisor Signature | Comments **CATEGORY: A** |
| | Actions to be Taken |

Form #158

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND81D070015** | **D533 / M6 propellant** |
| Date of analysis: | **Date:20 OCT 2010** |

| Other Information | Sample Data | | | Solvent |
|---|---|---|---|---|
| M6 Propellant | #1 | 0.5000 g | 100 ml | ACN |

| | Standards (ERG-006) | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 5.024 | 281.6 | 2363.4 | 0.839 |
| 2,4-DNDPA | 50.0 | 10.59 | 329 | 0 | 0.000 |
| 2,2' DNDPA | 50.0 | 12.176 | 376.1 | 0 | 0.000 |
| 2,4' DNDPA | 50.0 | 12.67 | 275.3 | 35.7 | 0.013 |
| 4NDPA | 50.0 | 13.632 | 664.1 | 0 | 0.000 |
| 2NDPA | 50.0 | 14.943 | 1788.8 | 34.8 | 0.002 |
| DPA | 200.0 | 16.114 | 286 | 0 | 0.000 |
| N-NitrosoDPA | 75.0 | 19.917 | 329.9 | 158.8 | 0.000 |

| | | |
|---|---|---|
| | | 0.854 |
| Avg. % Stabilizer for Lot | | **0.854** |

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | | | |
|---|---|---|---|
| **Analyst** | Kisha Dickerson | Avg. Tot. Stabilizers | **0.85** % |
| Analyst Signature | | Stable YES | Unstable |
| | | Comments | |
| Lab. Supervisor Signature | | **CATEGORY:** | **A** |
| | | Actions to be Taken | |

CONTAINS HAZARDOUS MATERIALS

# STRAIGHT BILL OF LADING

## NOT NEGOTIABLE

RECEIVED, subject to the classification and tariffs in effect on the date of the issue of this Original Bill of Lading.
The property described below, in apparent good order, except as noted (contents and condition of contents of packages unknown) consigned, and destined as indicated below, ch said carrier (the word carrier being understood throughout this contract meaning any person or corporation in possession of the property under the contract) agrees to curry .s usual place of delivery of said destination. It on its route, otherwise to deliver to another carrier on the route to said destination. It is mutually agreed, as to each of all or any of said property over all or any portion of said route to destination, and as to each party at any time interested in all or any of said property, that every service lobe performed hereunder shall be subject to all the terms and conditions of the Uniform Domestic Straight Bill of Lading Set forth (t) in Uniform Freight Classification in effect on the date hereof, It this is a rail or rail-water shipment, or (2) in the applicable motor carrier classification or tariff it this is a motor carrier shipment.

Shipper hereby certifies that he is familiar with all the terms and conditions of the said bill of lading, set forth in the classification or tariff which governs the transportation of this shipment, and the sold terms and conditions are hereby agreed to by the shipper and accept for himself and his assigns.

Shipper: Explo Systems, Inc.
1600 Java Road
Minden, LA 71055

Shipper's No. 2884

Shipping Date 3/27/13

At

Purchase Order No.

By PRUK Freight Charges: Collect _____ Prepaid XX Location No. 2220

(Mail or Street Address of Consignee — For purposes of notification only)

Consigned to Austin Powder Co
Destination 7100 Alabama State
County Pottawatomie OK
Route
Charge Account of 182534 2506

Fed Lic. 5-AR-103-20-1K-00039 Exp. Date 3/1/15
State Lic. Exp. Date
Customer No.
Customer P.O. No. Rel. No.

| SHIPPED No. of PKGS | SHIPPED No. of UNITS | PROPER SHIPPING NAME AND HAZARD CLASS | RETURNED No. of PKGS | RETURNED No. of UNITS | EMERGENCY RESPONSE PROCEDURE GUIDE NO. | EXEMPTION DOT-E | H M | Placards Applied to Railcar or Motor Vehicle |
|---|---|---|---|---|---|---|---|---|
| 1 | 1 | UN0161, Powder, Smokeless, 1.3C, PG II | | | #112 | | | EXPLOSIVES 1.3 |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | Truck No. 127 |
| | | | | | | | | Trailer No. 2014 |
| | | | | | | | | Mileage |
| | | | | | | | | Total Packages |
| | | | | | | | | Gross Weight # 2,250 |
| | | | | | | | | Net Explosive Weight |
| | | | | | | | | 2,250 |

RECEIVED
MAR 28 2013
COLC13
AUSTIN POWDER COMPANY
EAST CAMDEN PLANT

ENTERED
4/01/13

This is to certify that the above-named materials are properly classified, described, packaged, marked, and labeled and are in proper condition for transportation, according to the applicable regulations of the Department of Transportation.

Signature _____ Invoice No. _____

FOR CHEMICAL EMERGENCY, SPILL, LEAK, FIRE, EXPOSURE OR ACCIDENT CALL CHEMTREC — DAY OR NIGHT
IN THE USA CALL 800-424-9300 IN CANADA (ERP #2-0040) 800-561-3636 ELSEWHERE CALL (703) 527-3887

Permanent Address of Shipper:
**Explo Systems, Inc.**
1600 Java Road
den, Louisiana 71055
3) 382-8700

Per _____

DOT Hazardous Material Handling Number _____
Local Federal Explosives License No. 5-LA-119-20-1A-00057
(Shipper)

I have been offered placards identifying the shipment as Specified in 49CFR Subpart F of Part 172. I have received the above goods in apparent good order and condition.

Received By _____ Date _____
☐ CONSIGNEE ☐ CARRIER

By _____ Date _____
AUTHORIZED RECEIVER

CONTAINS HAZARDOUS MATERIALS

Agent must detach and retain this Shipping Order

020026

EXP_001660

AUSTIN POWDER PACKING LIST

SHIPMENT DATE 3-27-13

B/L# 2884 TRL 17749

M-6

IND81D-070015 4 PTS
IND83F-070276 8 PTS
IND86E-070616 13 PTS
IND81F-070024 2 PTS
IND81G-070061 4 PTS
IND85F-070587 1 PT
IND83E-070273 3 PTS
IND83M-070322 2 PTS
IND84G-070326 2 PTS
IND81L-070072 3 PTS

42 PTS WITH 6 FB @140 LBS PER DRUM

TOTAL 35,280 LBS 35,280 lbs

LIONEL KOONS

EXPLO SYSTEMS INC

AUSTIN POWDER PACKING LIST

SHIPMENT DATE 3-27-13

B/L# 2884 TRL 17749

M-6

IND81D-070015 4 PTS
IND83F-070276 8 PTS
IND86E-070616 13 PTS
IND81F-070024 2 PTS
IND81G-070061 4 PTS
IND85F-070587 1 PT
IND83E-070273 3 PTS
IND83M-070322 2 PTS
IND84G-070326 2 PTS
IND81L-070072 3 PTS

42 PTS WITH 6 FB @140 LBS PER DRUM

TOTAL 35,280 LBS

LIONEL KOONS

EXPLO SYSTEMS INC

# MOTOR VEHICLE INSPECTION (TRANSPORTING HAZARDOUS MATERIALS)

*(Read Instructions before completing this form.)*

This form applies to all vehicles which must be marked or placarded in accordance with Title 49 CFR.

1. BILL OF LADING/TRANSPORTATION CONTROL NUMBER: 2884

| SECTION 1 - DOCUMENTATION | ORIGIN a. | DESTINATION b. |
|---|---|---|
| 2. CARRIER/GOVERNMENT ORGANIZATION | RRVK | |
| 3. DATE/TIME OF INSPECTION | 3/27/13 | |
| 4. LOCATION OF INSPECTION | EXDO SYSTEMS INC | |
| 5. OPERATOR(S) NAME(S) | FAULK, ANTHONY | |
| 6. OPERATOR(S) LICENSE NUMBER(S) | 13631449 TX | |
| 7. MEDICAL EXAMINER'S CERTIFICATE* | 12/10/14 | |

| 8. (X if satisfactory at origin) | | | | 9. CVSA DECAL DISPLAYED ON COMMERCIAL EQUIPMENT* | YES | NO |
|---|---|---|---|---|---|---|
| a. MILITARY HAZMAT ENDORSEMENT | C | d. ERG OR EQUIVALENT COMMERCIAL: | ✓ YES / NO | a. TRUCK/TRACTOR | C | |
| b. VALID LEASE* | | e. DRIVER'S VEHICLE INSPECTION REPORT* | | | | |
| c. ROUTE PLAN | ✓ | f. COPY OF 49 CFR PART 397 | | b. TRAILER | C | |

## SECTION II - MECHANICAL INSPECTION

*All items shall be checked on empty equipment prior to loading. Items with an asterisk shall be checked on all incoming loaded equipment.*

10. TYPE OF VEHICLE(S): TRACTOR / TRAILER / DROM

11. VEHICLE NUMBER(S): TRAC #6177 / TRL # 17749

| 12. PART INSPECTED (X as applicable) | ORIGIN (1) SAT | ORIGIN (1) UNSAT | DESTINATION (2) SAT | DESTINATION (2) UNSAT | | ORIGIN (1) SAT | ORIGIN (1) UNSAT | DESTINATION (2) SAT | DESTINATION (2) UNSAT | COMMENTS (3) |
|---|---|---|---|---|---|---|---|---|---|---|
| a. SPARE ELECTRICAL FUSES | | | | | k. EXHAUST SYSTEM | | | | | |
| b. HORN OPERATIVE | | | | | l. BRAKE SYSTEM* | | | | | |
| c. STEERING SYSTEM | | | | | m. SUSPENSION | | | | | |
| d. WINDSHIELD/WIPERS | | | | | n. COUPLING DEVICES | | | | | |
| e. MIRRORS | | | | | o. CARGO SPACE | | | | | |
| f. WARNING EQUIPMENT | | | | | p. LANDING GEAR* | | | | | |
| g. FIRE EXTINGUISHER* | | | | | q. TIRES, WHEELS, RIMS | | | | | |
| h. ELECTRICAL WIRING | | | | | r. TAILGATE/DOORS* | | | | | |
| i. LIGHTS AND REFLECTORS | | | | | s. TARPAULIN* | N/A | | | | |
| j. FUEL SYSTEM* | | | | | t. OTHER (Specify) | | | | | |

13. INSPECTION RESULTS (X one) ACCEPTED ✓ REJECTED

*(If rejected give reason under "Remarks". Equipment will be approved if deficiencies are corrected prior to loading.)*

14. SATELLITE MOTOR SURVEILLANCE SYSTEM: (X one) ACCEPTED N/A REJECTED

15. REMARKS

16. INSPECTOR SIGNATURE (Origin) [signature]

17. INSPECTOR SIGNATURE (Destination)

## SECTION III - POST LOADING INSPECTION

This section applies to Commercial and Government/Military vehicles. All items will be checked prior to release of loaded equipment and shall be checked on all incoming loaded equipment.

| | ORIGIN (1) SAT | ORIGIN (1) UNSAT | DESTINATION (2) SAT | DESTINATION (2) UNSAT | COMMENTS (3) |
|---|---|---|---|---|---|
| 18. LOADED IAW APPLICABLE SEGREGATION/COMPATIBILITY TABLE OF 49 CFR | | | | | |
| 19. LOAD PROPERLY SECURED TO PREVENT MOVEMENT | | | | | |
| 20. SEALS APPLIED TO CLOSED VEHICLE; TARPAULIN APPLIED ON OPEN EQUIPMENT | | | | | |
| 21. PROPER PLACARDS APPLIED | | | | | |
| 22. SHIPPING PAPERS/DD FORM 836 FOR GOVERNMENT VEHICLE SHIPMENTS | N/A | | | | |
| 23. COPY OF DD FORM 626 FOR DRIVER | 1 | | | | |
| 24. SHIPPED UNDER DOT SPECIAL PERMIT 868 | N/A | | | | |

25. INSPECTOR SIGNATURE (Origin) [signature]

26. DRIVER(S) SIGNATURE (Origin) [signature]

27. INSPECTOR SIGNATURE (Destination)

28. DRIVER(S) SIGNATURE (Destination)

EXPLO SYSTEMS, INC.

**Explo Systems, Inc.**
**1600 Java Road**
**Minden, LA 71055**

# MATERIAL SAFETY DATA SHEET

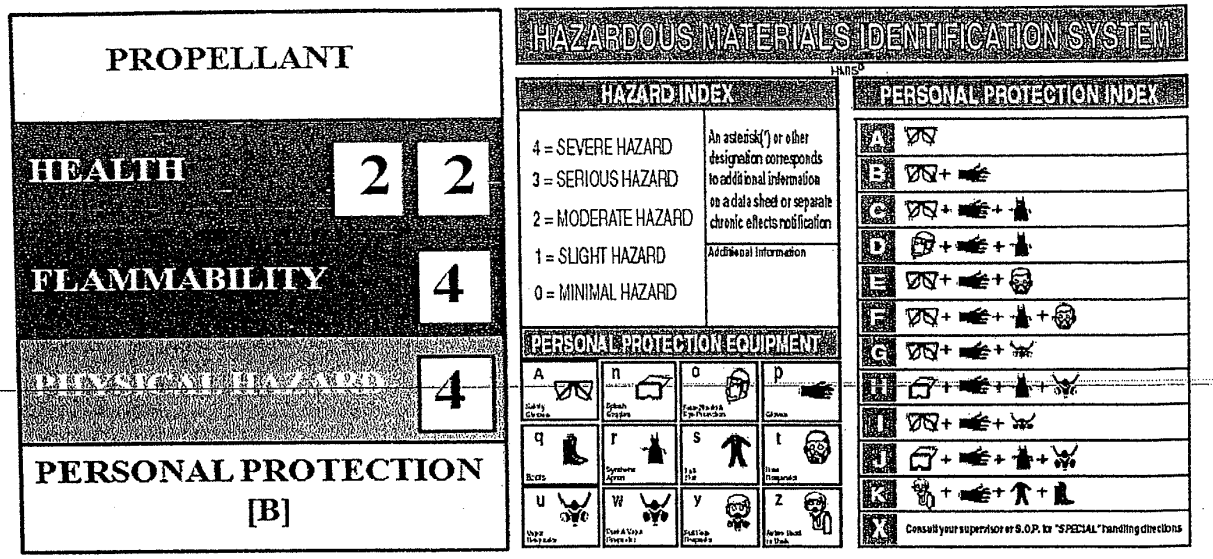
## PROPELLANT (Wetted)

## SECTION I - PRODUCT IDENTIFICATION

PRODUCT NAME: Propellant, Explosive, Solid, Wetted
Technical Information Phone No.: 318.382.8700
For Chemical Emergency (Spill, Fire, Exposure or Accident) call CHEMTREC day or night. Within the US and Canada: +1 800-424-9300. Outside the US and Canada: +1 703-527-3887 (collect calls accepted).

| **Ingredient** | **CAS No.** | **Wt. %** | **OSHA PEL**<br>**ACGIH TLV**<br>**EPA RQ (if defined)**<br>**DOT RQ (if defined)** |
|---|---|---|---|
| Dibutyl Phthalate | 84-74-2 | 3.00 | OSHA PEL 5 $mg/m^3$<br>ACGIH TLV 5 $mg/m^3$<br>EPA RQ 10 lbs<br>DOT RQ 10 lbs |
| Diphenylamine | 122-39-4 | 1.00 | OSHA PEL 10 $mg/m^3$<br>ACGIH TLV 10 $mg/m^3$<br>EPA RQ (none defined)<br>DOT RQ (none defined) |
| Potassium Sulfate | 7778-80-5 | 2.00 | OSHA PEL none published<br>ACGIH TLV none published<br>EPA RQ (none defined)<br>DOT RQ (none defined) |
| Nitrocellulose (flammable solid) | -- | 87.00 | OSHA PEL none published<br>ACGIH TLV none published<br>EPA RQ (none defined)<br>DOT RQ (none defined) |
| Dinitrotoluene | 25321-14-6 | 10.00 | OSHA PEL 10 $mg/m^3$<br>ACGIH TLV 10 $mg/m^3$<br>EPA RQ 10 lbs<br>DOT RQ 10 lbs |

## SECTION II - HAZARDS IDENTIFICATION




Routes of Entry: Inhalation; Skin; Ingestion
Carcinogenicity: None
First Aid Measures: EYES - Immediately flush with copious amount of water (low pressure) for 15 minutes, remove contact lenses; call physician. SKIN - Wash with soap and running water. INGESTION - Contact physician immediately. INHALATION - Remove to fresh air. Treat irritation symptomatically; call physician.
Firefighting Measures: Self-oxidizing, deluge with water. Will not be able to extinguish unless large quantity of water is used in very short time. Use NIOSH/MSHA approved SCBA and full protective equipment; evacuate area.
Unusual Fire/Explosion Hazard: Easily ignited, highly combustible; protect from fire and sparks and extreme heat.
Autoignition: 383°F (195°C)
Hazardous Combustion Products: Oxides of Carbon
Accidental Release Measures: SPILL - Clean immediately with soft (horsehair) brush and conductive rubber or plastic shovel. Use brass or other non-sparking tools and utensils. DO NOT hammer or otherwise cause impact forces to spilled material (explosion or autoignition could occur with impact force being applied).

## SECTION III - HANDLING AND STORAGE

Precautions: Avoid prolonged temperature above 125°F (50°C). Normal storage conditions should be 75°F (21°C) and 50% Humidity. Storage must conform to local, state and federal regulations, specifically: 29 CFR OSHA 1910.109; 27 CFR BATFE 55 subpart K.
Other Special Precautions: Flammable Solid…Keep away from heat, sparks, open flame…Keep containers closed…use with adequate ventilation.
Ventilation: Local and general ventilation necessary to keep air concentration below TLV's.
Personal Protective Equipment: Safety Glasses, Cotton or Leather Gloves, Fire Resistant Coveralls.

## SECTION IV - PHYSICAL AND CHEMICAL PROPERTIES

Specific Gravity: 1.496
Evaporation Rate: <1 (Butylacetate = 1)
Solubility in Water: negligible
Appearance and Odor: Hard Cylinder Perforated, Smooth, Greenish Yellow. Odorless.
Materials to Avoid: Oxides of Nitrogen and Carbon.

Conditions to Avoid: Open Flame, Sparks, Heat, Direct Sunlight.
Hazardous Decomposition Products: Oxides of Carbon

## SECTION V – TRANSPORTATION INFORMATION

DOT Proper Shipping Name: Smokeless Powder (wetted)
Hazard Class: 1.3C
UN No. UN0161
Packing Group: II

## SECTION VI - DISPOSAL CONSIDERATIONS

Disposal must be in accordance with federal, state and local regulations. Burn in open burning ground in accordance with regulatory requirements. It may also be burned in an incinerator approved for explosives.

## DISCLAIMER

The information contained in this MSDS (Material Safety Data Sheet) is based upon available constituent data for the components of **Propellant** and is believed to be correct. However, as this information has been obtained from various sources, including the manufacturers of its components and independent laboratories, it is provided herein without warranty or representation that it is complete, accurate and can be relied upon. Explo Systems, Inc. has not attempted to conceal in any manner the deleterious aspects of this product, and makes no warranty as such. Explo Systems, Inc. cannot anticipate nor control the many situations in which this product or this information may be used; there is no guarantee that the health and safety precautions suggested herein will be proper under all conditions. It is the sole responsibility of each user of the product to determine and comply with the requirements of all applicable laws and regulations regarding its use. This information is given solely for the purposes of safety to persons and property. Any other use of this information is expressly prohibited.

## AUTHOR

This MSDS was prepared by: Ferris Callihan, PE - Director Support Technology - Explo Systems, Inc. - 1600 Java Road - Minden, LA 71055 - Tel 318 382 8700 - E-mail: fcallihan@explosystems.com

U.S. Department
of Transportation

Pipeline and Hazardous
Materials Safety Administration

East Building, PHH – 32
1200 New Jersey Avenue, Southeast
Washington, D.C. 20590

The US Department of Transportation
Competent Authority for the United States

## CLASSIFICATION OF EXPLOSIVES
## FIRST REVISION

Based upon a request by Explo Systems Inc., 1600 Java Road, Minden, LA 71055, United States the following items are classed in accordance with Section 173.56, Title 49, Code of Federal Regulations (49 CFR). A copy of your application, all supporting documentation and a copy of this approval must be retained and made available to DOT upon request.

**U.N. PROPER SHIPPING NAME AND NUMBER:**
Powder, smokeless, UN0161

**U.N. CLASSIFICATION CODE**: 1.3C

| **REFERENCE NUMBER** | **PRODUCT DESIGNATION/PART NUMBER** |
|---|---|
| EX2010040603 | Reclaimed M6 Propellant |

**NOTES:** This classification is only valid when the smokeless powder has been tested and found to have sufficient residual stabilizers present per US Army Safety Bulletin: "Inspection of Supplies and Equipment, Ammunition Surveillance Procedures" (SB 742-1). The following packaging methods are assigned:
Packaging Method A: Inner Packaging - Not necessary. Outer Packaging – UN 1G fiberdrum, each containing not more than one hundred and forty (140) pounds of smokeless propellant.
Packaging Method B: Inner Packaging: Flexible static-resistant reinforced plastic cloth and strapping lifting bag, each containing not more than eight hundred and eighty (880) pounds of smokeless propellant. Outer Packaging - UN 4G heavy-wall fiberboard box with a volumetric capacity of 119 gallons or less. (see 49 CFR Section 171.8 Definition for "Non-bulk packaging")

**DATED:** 05/05/2011

For Dr. Magdy El-Sibaie
Associate Administrator for Hazardous Materials Safety

Tracking No: 2011040848

## POTENTIAL HAZARDS

### FIRE OR EXPLOSION

- **MAY EXPLODE AND THROW FRAGMENTS 1600 meters (1 MILE) OR MORE IF FIRE REACHES CARGO.**
- **For information on "Compatibility Group" letters, refer to Glossary section.**

### HEALTH

- Fire may produce irritating, corrosive and/or toxic gases.

## PUBLIC SAFETY

- **CALL Emergency Response Telephone Number on Shipping Paper first. If Shipping Paper not available or no answer, refer to appropriate telephone number listed on the inside back cover.**
- Isolate spill or leak area immediately for at least 500 meters (1/3 mile) in all directions.
- Move people out of line of sight of the scene and away from windows.
- Keep unauthorized personnel away.
- Stay upwind.
- Ventilate closed spaces before entering.

### PROTECTIVE CLOTHING

- Wear positive pressure self-contained breathing apparatus (SCBA).
- Structural firefighters' protective clothing will only provide limited protection.

### EVACUATION

**Large Spill**

- **Consider initial evacuation for 800 meters (1/2 mile) in all directions.**

**Fire**

- If rail car or trailer is involved in a fire and heavily encased explosives such as bombs or artillery projectiles are suspected, ISOLATE for 1600 meters (1 mile) in all directions; also, initiate evacuation including emergency responders for 1600 meters (1 mile) in all directions.
- When heavily encased explosives are not involved, evacuate the area for 800 meters (1/2 mile) in all directions.

*** For information on "Compatibility Group" letters, refer to the Glossary section.**





## EMERGENCY RESPONSE

### FIRE

**CARGO Fire**

- **DO NOT fight fire when fire reaches cargo! Cargo may EXPLODE!**
- Stop all traffic and clear the area for at least 1600 meters (1 mile) in all directions and let burn.
- **Do not move cargo or vehicle if cargo has been exposed to heat.**

**TIRE or VEHICLE Fire**

- **Use plenty of water - FLOOD it! If water is not available, use $CO_2$, dry chemical or dirt.**
- If possible, and WITHOUT RISK, use unmanned hose holders or monitor nozzles from maximum distance to prevent fire from spreading to cargo area.
- Pay special attention to tire fires as re-ignition may occur. Stand by with extinguisher ready.

### SPILL OR LEAK

- ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area).
- All equipment used when handling the product must be grounded.
- Do not touch or walk through spilled material.
- DO NOT OPERATE RADIO TRANSMITTERS WITHIN 100 meters (330 feet) OF ELECTRIC DETONATORS.
- **DO NOT CLEAN-UP OR DISPOSE OF, EXCEPT UNDER SUPERVISION OF A SPECIALIST.**

### FIRST AID

- Move victim to fresh air. • Call 911 or emergency medical service.
- Give artificial respiration if victim is not breathing.
- Administer oxygen if breathing is difficult.
- Remove and isolate contaminated clothing and shoes.
- In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes.
- Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves.

*** For information on "Compatibility Group" letters, refer to the Glossary section.**



020034

EXP_001668

29
2884

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND86E070616** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 19 NOV 2010** |

| Other Information | Sample Data | | Solvent |
|---|---|---|---|
| M6 Propellant | #1 | 0.5000 g 100 ml | ACN |

| Standards (ERG-006) | | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 2.068 | 135.8 | 654.4 | 0.482 |
| 2,4-DNDPA | 50.0 | 5.182 | 717.3 | 0 | 0.000 |
| 2,2' DNDPA | 50.0 | 7.635 | 736.3 | 13022.2 | 0.000 |
| 2,4' DNDPA | 50.0 | 11.713 | 779 | 0 | 0.000 |
| 4NDPA | 50.0 | 13.454 | 462.4 | 0 | 0.000 |
| 2NDPA | 50.0 | 15.161 | 1164.1 | 0 | 0.000 |
| DPA | 200.0 | 16.583 | 4078.5 | 221.2 | 0.022 |
| N-NitrosoDPA | 75.0 | 18.033 | 1011.7 | 0 | 0.000 |

0.504

Avg. % Stabilizer for Lot **0.504**

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | |
|---|---|
| **Analyst** Kisha Dickerson | Avg. Tot. Stabilizers **0.50** % |
| Analyst Signature | Stable YES / Unstable |
| | Comments **CATEGORY: A** |
| Lab. Supervisor Signature | |
| | Actions to be Taken |

Form #158

020035

EXP_001669

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND85F070587** | **D533 / M6 propellant** |
| Date of analysis: | **Date:25 AUG 2010** |

| Other Information | Sample Data | | Solvent |
|---|---|---|---|
| M6 Propellant | #1 | 0.5000 g 100 ml | ACN |

| | Standards (ERG-006) | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 2.177 | 146.5 | 1821.4 | 1.243 |
| 2,4-DNDPA | 50.0 | 5.001 | 961.7 | 0 | 0.000 |
| 2,2' DNDPA | 50.0 | 7.038 | 2567.5 | 14427.7 | 0.000 |
| 2,4' DNDPA | 50.0 | 9.931 | 938.5 | 0 | 0.000 |
| 4NDPA | 50.0 | 11.434 | 1325.8 | 0 | 0.000 |
| 2NDPA | 50.0 | 12.813 | 1809.7 | 0 | 0.000 |
| DPA | 200.0 | 14.19 | 4886.9 | 225 | 0.018 |
| N-NitrosoDPA | 75.0 | 15.18 | 1296.7 | 0 | 0.000 |

| | |
|---|---|
| | 1.262 |
| Avg. % Stabilizer for Lot | **1.262** |

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | |
|---|---|
| **Analyst** Kisha Dickerson | Avg. Tot. Stabilizers **1.26** % |
| Analyst Signature | Stable YES / Unstable |
| | Comments **CATEGORY: A** |
| Lab. Supervisor Signature | |
| | Actions to be Taken |

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND84G070326** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 3 MAY 2012** |

| Other Information | Sample Data | | Solvent |
|---|---|---|---|
| M6 Propellant | #1 | 0.50 g 100 ml | ACN |

| Standards (ERG-006) | | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 0.867 | 104.4 | 324.4 | 0.311 |
| 2,4-DNDPA | 50.0 | 3.335 | 1105.6 | 0 | 0.000 |
| 2,2' DNDPA | 50.0 | 5.007 | 4986.7 | 23068 | 0.000 |
| 2,4' DNDPA | 50.0 | 7.137 | 1206.9 | 0 | 0.000 |
| 4NDPA | 50.0 | 8.593 | 1969.2 | 87.1 | 0.004 |
| 2NDPA | 50.0 | 9.688 | 3527.8 | 151.4 | 0.004 |
| DPA | 200.0 | 11.153 | 7041.6 | 785.8 | 0.045 |
| N-NitrosoDPA | 75.0 | 11.897 | 1704.5 | | 0.000 |
| | | | | | 0.364 |
| | | Avg. % Stabilizer for Lot | | | **0.364** |

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | |
|---|---|
| **Analyst** Takisha Dickerson | Avg. Tot. Stabilizers **0.36** % |
| Analyst Signature | Stable YES / Unstable |
| | Comments |
| Lab. Supervisor Signature | **CATEGORY: A** |
| | Actions to be Taken |

Form #158

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND83M070322** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 23 JULY 2010** |

| Other Information | Sample Data | | Solvent |
|---|---|---|---|
| M6 Propellant | #1 | 0.5000 g 100 ml | ACN |

| Standards (ERG-006) | | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 2.1 | 138.2 | 340.6 | 0.251 |
| 2,4-DNDPA | 50.0 | 4.911 | 1162.1 | 283.8 | 0.025 |
| 2,2' DNDPA | 50.0 | 6.723 | 453.3 | 0 | 0.000 |
| 2,4' DNDPA | 50.0 | 9.11 | 1583.4 | 0 | 0.000 |
| 4NDPA | 50.0 | 10.528 | 2068.9 | 0 | 0.000 |
| 2NDPA | 50.0 | 11.725 | 3520.6 | 3386 | 0.098 |
| DPA | 200.0 | 13.111 | 6312.2 | 0 | 0.000 |
| N-NitrosoDPA | 75.0 | 13.888 | 1967 | 0 | 0.000 |

| | | |
|---|---|---|
| | | 0.374 |
| | Avg. % Stabilizer for Lot | **0.374** |

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | |
|---|---|
| **Analyst** MARTY | Avg. Tot. Stabilizers **0.37** % |
| Analyst Signature | Stable YES / Unstable |
| | Comments **CATEGORY: A** |
| Lab. Supervisor Signature | |
| | Actions to be Taken |

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND83F070276** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 4 Sep 2012** |

| Other Information | Sample Data | | Solvent |
|---|---|---|---|
| M6 Propellant | #1 | 0.50 g | 100 ml ACN |

| Standards (ERG-006) | | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 0.889 | 48.8 | 578.6 | 1.186 |
| 2,4-DNDPA | 50.0 | 3.418 | 914.3 | 0 | 0.000 |
| 2,2' DNDPA | 50.0 | 5.22 | 777.3 | 23990 | 0.000 |
| 2,4' DNDPA | 50.0 | 7.622 | 980.5 | 0 | 0.000 |
| 4NDPA | 50.0 | 9.134 | 1586.8 | 40.6 | 0.003 |
| 2NDPA | 50.0 | 10.417 | 2826.3 | 88.7 | 0.003 |
| DPA | 200.0 | 11.797 | 5671.5 | 812.6 | 0.057 |
| N-NitrosoDPA | 75.0 | 12.757 | 1337.5 | 0 | 0.000 |

1.249

Avg. % Stabilizer for Lot **1.249**

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | |
|---|---|
| **Analyst** Mike Kile | Avg. Tot. Stabilizers **1.25** % |
| Analyst Signature | Stable YES / Unstable |
| Lab. Supervisor Signature | Comments **CATEGORY: A** |
| | Actions to be Taken |

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND81L070072** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 29 MAY 2012** |

| Other Information | Sample Data | | Solvent |
|---|---|---|---|
| M6 Propellant | #1 | 0.50 g 100 ml | ACN |

| | Standards (ERG-006) | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 0.86 | 235.9 | 624.2 | 0.265 |
| 2,4-DNDPA | 50.0 | 3.398 | 913.2 | 0 | 0.000 |
| 2,2' DNDPA | 50.0 | 5.133 | 1007.2 | 37338 | 0.000 |
| 2,4' DNDPA | 50.0 | 7.409 | 1002.4 | 0 | 0.000 |
| 4NDPA | 50.0 | 8.917 | 1612.8 | 156.8 | 0.010 |
| 2NDPA | 50.0 | 10.112 | 2882.2 | 297.6 | 0.010 |
| DPA | 200.0 | 11.607 | 5642.3 | 1100.9 | 0.078 |
| N-NitrosoDPA | 75.0 | 12.414 | 1351.4 | | 0.000 |
| | | | | | 0.363 |
| | | Avg. % Stabilizer for Lot | | | **0.363** |

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | |
|---|---|
| **Analyst** Takisha Dickerson | Avg. Tot. Stabilizers **0.36** % |
| Analyst Signature | Stable YES \| Unstable |
| | Comments |
| Lab. Supervisor Signature | **CATEGORY: A** |
| | Actions to be Taken |

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND81G070061** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 12 JULY 2011** |

| Other Information | Sample Data | | | Solvent |
|---|---|---|---|---|
| M6 Propellant | #1 | 0.50 g | 100 ml | ACN |

| | Standards (ERG-006) | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 0.71 | 111 | 358.1 | 0.323 |
| 2,4-DNDPA | 50.0 | 3.475 | 1001 | 79.1 | 0.008 |
| 2,2' DNDPA | 50.0 | 5.325 | 95 | 18335 | 0.000 |
| 2,4' DNDPA | 50.0 | 7.791 | 1061.3 | 83.2 | 0.008 |
| 4NDPA | 50.0 | 9.345 | 1700.8 | 167.7 | 0.010 |
| 2NDPA | 50.0 | 10.629 | 3041.2 | 330.5 | 0.011 |
| DPA | 200.0 | 12.152 | 5943.4 | 913.3 | 0.061 |
| N-NitrosoDPA | 75.0 | 13.034 | 1443.1 | 111.8 | 0.000 |

| | | |
|---|---|---|
| | | 0.421 |
| Avg. % Stabilizer for Lot | | **0.421** |

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | |
|---|---|
| **Analyst** Mike Kile | Avg. Tot. Stabilizers **0.42** % |
| Analyst Signature | Stable YES / Unstable |
| Lab. Supervisor Signature | Comments<br>**CATEGORY: A** |
| | Actions to be Taken |

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND81F070024** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 9 DEC 2011** |

| Other Information | Sample Data | | Solvent |
|---|---|---|---|
| M6 Propellant | #1 | 0.50 g 100 ml | ACN |

| Standards (ERG-006) | | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 0.748 | 166.8 | 892.3 | 0.535 |
| 2,4-DNDPA | 50.0 | 3.333 | 991.5 | 0 | 0.000 |
| 2,2' DNDPA | 50.0 | 5.039 | 624.7 | 22530 | 0.000 |
| 2,4' DNDPA | 50.0 | 7.221 | 1076.5 | 0 | 0.000 |
| 4NDPA | 50.0 | 8.681 | 1747.7 | 46.9 | 0.003 |
| 2NDPA | 50.0 | 9.803 | 3112 | 109.9 | 0.004 |
| DPA | 200.0 | 11.276 | 5985.4 | 604.1 | 0.040 |
| N-NitrosoDPA | 75.0 | 12.035 | 1482.1 | 0 | 0.000 |

| | 0.582 |
|---|---|
| Avg. % Stabilizer for Lot | **0.582** |

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | |
|---|---|
| **Analyst** TAKISHA DICKERSON | Avg. Tot. Stabilizers **0.58** % |
| Analyst Signature | Stable YES / Unstable |
| Lab. Supervisor Signature | Comments **CATEGORY: A** |
| | Actions to be Taken |

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND81DY70015** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 23 Sept 2011** |

| Other Information | Sample Data | | Solvent |
|---|---|---|---|
| M6 Propellant | #1 | 0.50 g 100 ml | ACN |

| Standards (ERG-006) | | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 0.882 | 107.9 | 423.3 | 0.392 |
| 2,4-DNDPA | 50.0 | 3.447 | 904.3 | 16.6 | 0.002 |
| 2,2' DNDPA | 50.0 | 5.247 | 26461 | 25393 | 0.000 |
| 2,4' DNDPA | 50.0 | 7.633 | 980.1 | 0 | 0.000 |
| 4NDPA | 50.0 | 9.192 | 1571.6 | 93.8 | 0.006 |
| 2NDPA | 50.0 | 10.459 | 2828.7 | 173.9 | 0.006 |
| DPA | 200.0 | 11.998 | 5503.2 | 836.5 | 0.061 |
| N-NitrosoDPA | 75.0 | 12.872 | 1320.7 | 0 | 0.000 |

| | | |
|---|---|---|
| | | 0.467 |
| | Avg. % Stabilizer for Lot | **0.467** |

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | | | |
|---|---|---|---|
| **Analyst** | Takisha Dickerson | Avg. Tot. Stabilizers | **0.47** % |
| Analyst Signature | | Stable YES | Unstable |
| | | Comments | |
| Lab. Supervisor Signature | | **CATEGORY:** | **A** |
| | | Actions to be Taken | |

CONTAINS HAZARDOUS MATERIALS

# STRAIGHT BILL OF LADING

**NOT NEGOTIABLE**

RECEIVED, subject to the classification and tariffs in effect on the date of the issue of this Original Bill of Lading.
The property described below, in apparent good order, except as noted (contents and condition of contents of packages unknown) consigned, end destined as indicated below, ch said carrier (the word carrier being understood throughout this contract meaning any person or corporation in possession of the property under the contract) agrees to curry s usual place of delivery of said destination. It on its route, otherwise to deliver to another carrier on the route to said destination. It is mutually agreed, as to each of all or any of said property over all or any portion of said route to destination, and as to each party at any time interested in all or any of said property, that every service lobe performed hereunder shall be subject to all the terms and conditions of the Uniform Domestic Straight Bill of Lading Set forth (t) in Uniform Freight Classification in effect on the date hereof, It this is a rail or rail-water shipment, or (2) in the applicable motor carrier classification or tariff it this is a motor carrier shipment.
Shipper hereby certifies that he is familiar with all the terms and conditions of the said bill of lading, set forth in the classification or tariff which governs the transportation of this shipment, and the sold terms and conditions are hereby agreed to by the shipper and accept for himself and his assigns.

Shipper: Explo Systems, Inc.
1600 Java Road
Minden, LA 71055

Shipper's No. 2885

Shipping Date [illegible]

At

Purchase Order No.

By RROK

Freight Charges: Collect _____ Prepaid XXX

Location No. 2320

(Mail or Street Address of Consignee — For purposes of notification only)

Consigned to Austin Powder Co

Fed Lic. [illegible] Exp. Date [illegible]

Destination [illegible] State

State Lic. Exp. Date

County [illegible]

Customer No.

Route

Charge Account of [illegible]

Customer P.O. No. Rel. No.

| SHIPPED No. of PKGS | SHIPPED No. of UNITS | PROPER SHIPPING NAME AND HAZARD CLASS | RETURNED No. of PKGS | RETURNED No. of UNITS | EMERGENCY RESPONSE PROCEDURE GUIDE NO. | EXEMPTION DOT-E | HM | Placards Applied to Railcar or Motor Vehicle |
|---|---|---|---|---|---|---|---|---|
| [illegible] | [illegible] | UN0161, Powder, Smokeless, 1.3C, PG II | | | #112 | | [illegible] | EXPLOSIVES 1.3 |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | Truck No. 6436 |
| | | | | | | | | Trailer No. [illegible] |
| | | | | | | | | Mileage |
| | | 2nd [illegible] W10 [illegible] 339 | | | | | | Total [illegible] Packages [illegible] |
| | | | | | | | | Gross Weight # [illegible] |
| | | [illegible] | | | | | | Net Explosive Weight |
| | | 7083839/7083840 | | | | | | [illegible] |

RECEIVED
MAR 28 2013
AUSTIN POWDER COMPANY
EAST CAMDEN PLANT

ENTERED 4/01/13

This is to certify that the above-named materials are properly classified, described, packaged, marked, and labeled and are in proper condition for transportation, according to the applicable regulations of the Department of Transportation.

Signature [illegible]

Invoice No. _____

FOR CHEMICAL EMERGENCY, SPILL, LEAK, FIRE, EXPOSURE OR ACCIDENT CALL CHEMTREC — DAY OR NIGHT
IN THE USA CALL 800-424-9300 IN CANADA (ERP #2-0040) 800-561-3636 ELSEWHERE CALL (703) 527-3887

Permanent Address of Shipper:
**Explo Systems, Inc.**
1600 Java Road
Minden, Louisiana 71055
(703) 382-8700

Per _____

DOT Hazardous Material Handling Number _____
Local Federal Explosives License No. 5-LA-119-20-1A-00057
(Shipper)

I have been offered placards identifying the shipment as Specified in 49CFR Subpart F of Part 172. I have received the above goods in apparent good order and condition.

Received By _____ Date _____
☐ CONSIGNEE ☐ CARRIER

By _____ Date _____
AUTHORIZED RECEIVER

CONTAINS HAZARDOUS MATERIALS

Agent must detach and retain this Shipping Order

020044

EXP_001678

AUSTIN POWDER PACKING LIST

SHIPMENT DATE 3-27-13

B/L# 2885 TRL 1810004

M-6

IND81L-070072 7 PTS
IND84G-070326 10 PTS
IND83F-070276 12 PTS
IND83F-070274 3 PTS
IND84K-070448 2 PTS
IND84C-070331 2 PTS
IND85F-070587 1 PT
IND82E-070115 4 PTS
IND83E-070273 1 PT

42 PTS WITH 6 FB @140 LBS PER DRUM

TOTAL 35,280 LBS 35,280 lbs

LIONEL KOONS

EXPLO SYSTEMS INC

EXPLO SYSTEMS, INC.

Explo Systems, Inc.
1600 Java Road
Minden, LA 71055

# MATERIAL SAFETY DATA SHEET

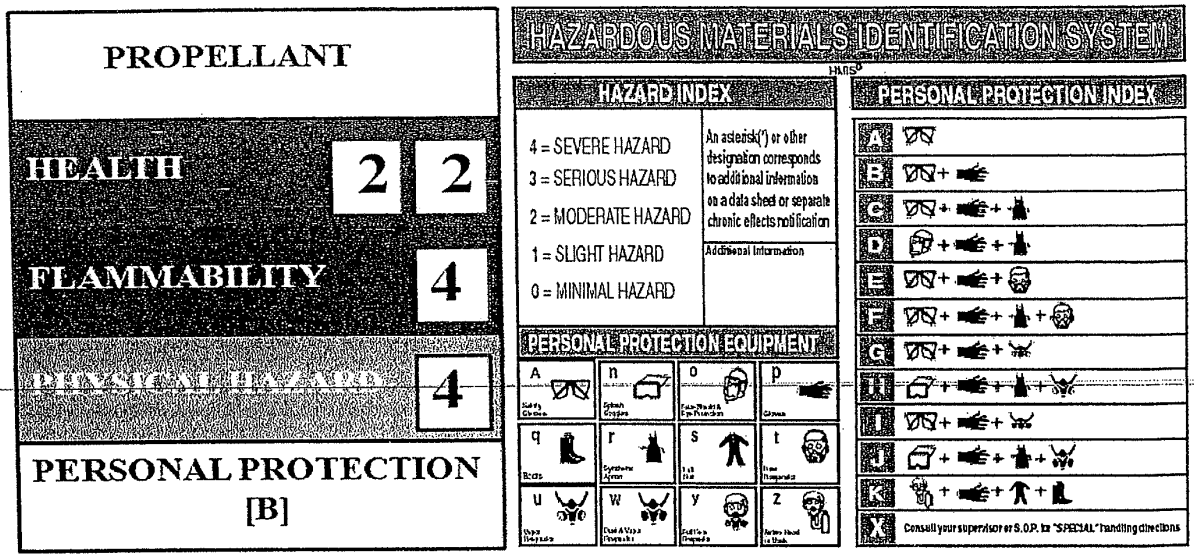
## PROPELLANT (Wetted)

## SECTION I - PRODUCT IDENTIFICATION

PRODUCT NAME: Propellant, Explosive, Solid, Wetted
Technical Information Phone No.: 318.382.8700
For Chemical Emergency (Spill, Fire, Exposure or Accident) call CHEMTREC day or night. Within the US and Canada: +1 800-424-9300. Outside the US and Canada: +1 703-527-3887 (collect calls accepted).

| Ingredient | CAS No. | Wt. % | OSHA PEL<br>ACGIH TLV<br>EPA RQ (if defined)<br>DOT RQ (if defined) |
|---|---|---|---|
| Dibutyl Phthalate | 84-74-2 | 3.00 | OSHA PEL 5 mg/m$^3$<br>ACGIH TLV 5 mg/m$^3$<br>EPA RQ 10 lbs<br>DOT RQ 10 lbs |
| Diphenylamine | 122-39-4 | 1.00 | OSHA PEL 10 mg/m$^3$<br>ACGIH TLV 10 mg/m$^3$<br>EPA RQ (none defined)<br>DOT RQ (none defined) |
| Potassium Sulfate | 7778-80-5 | 2.00 | OSHA PEL none published<br>ACGIH TLV none published<br>EPA RQ (none defined)<br>DOT RQ (none defined) |
| Nitrocellulose (flammable solid) | -- | 87.00 | OSHA PEL none published<br>ACGIH TLV none published<br>EPA RQ (none defined)<br>DOT RQ (none defined) |
| Dinitrotoluene | 25321-14-6 | 10.00 | OSHA PEL 10 mg/m$^3$<br>ACGIH TLV 10 mg/m$^3$<br>EPA RQ 10 lbs<br>DOT RQ 10 lbs |

## SECTION II - HAZARDS IDENTIFICATION




Routes of Entry: Inhalation; Skin; Ingestion
Carcinogenicity: None
First Aid Measures: EYES - Immediately flush with copious amount of water (low pressure) for 15 minutes, remove contact lenses; call physician. SKIN - Wash with soap and running water. INGESTION - Contact physician immediately. INHALATION - Remove to fresh air. Treat irritation symptomatically; call physician.
Firefighting Measures: Self-oxidizing, deluge with water. Will not be able to extinguish unless large quantity of water is used in very short time. Use NIOSH/MSHA approved SCBA and full protective equipment; evacuate area.
Unusual Fire/Explosion Hazard: Easily ignited, highly combustible; protect from fire and sparks and extreme heat.
Autoignition: 383°F (195°C)
Hazardous Combustion Products: Oxides of Carbon
Accidental Release Measures: SPILL - Clean immediately with soft (horsehair) brush and conductive rubber or plastic shovel. Use brass or other non-sparking tools and utensils. DO NOT hammer or otherwise cause impact forces to spilled material (explosion or autoignition could occur with impact force being applied).

## SECTION III - HANDLING AND STORAGE

Precautions: Avoid prolonged temperature above 125°F (50°C). Normal storage conditions should be 75°F (21°C) and 50% Humidity. Storage must conform to local, state and federal regulations, specifically: 29 CFR OSHA 1910.109; 27 CFR BATFE 55 subpart K.
Other Special Precautions: Flammable Solid…Keep away from heat, sparks, open flame…Keep containers closed…use with adequate ventilation.
Ventilation: Local and general ventilation necessary to keep air concentration below TLV's.
Personal Protective Equipment: Safety Glasses, Cotton or Leather Gloves, Fire Resistant Coveralls.

## SECTION IV - PHYSICAL AND CHEMICAL PROPERTIES

Specific Gravity: 1.496
Evaporation Rate: <1 (Butylacetate = 1)
Solubility in Water: negligible
Appearance and Odor: Hard Cylinder Perforated, Smooth, Greenish Yellow. Odorless.
Materials to Avoid: Oxides of Nitrogen and Carbon.

Conditions to Avoid: Open Flame, Sparks, Heat, Direct Sunlight.
Hazardous Decomposition Products: Oxides of Carbon

## SECTION V – TRANSPORTATION INFORMATION

DOT Proper Shipping Name: Smokeless Powder (wetted)
Hazard Class: 1.3C
UN No. UN0161
Packing Group: II

## SECTION VI - DISPOSAL CONSIDERATIONS

Disposal must be in accordance with federal, state and local regulations. Burn in open burning ground in accordance with regulatory requirements. It may also be burned in an incinerator approved for explosives.

## DISCLAIMER

The information contained in this MSDS (Material Safety Data Sheet) is based upon available constituent data for the components of **Propellant** and is believed to be correct. However, as this information has been obtained from various sources, including the manufacturers of its components and independent laboratories, it is provided herein without warranty or representation that it is complete, accurate and can be relied upon. Explo Systems, Inc. has not attempted to conceal in any manner the deleterious aspects of this product, and makes no warranty as such. Explo Systems, Inc. cannot anticipate nor control the many situations in which this product or this information may be used; there is no guarantee that the health and safety precautions suggested herein will be proper under all conditions. It is the sole responsibility of each user of the product to determine and comply with the requirements of all applicable laws and regulations regarding its use. This information is given solely for the purposes of safety to persons and property. Any other use of this information is expressly prohibited.

## AUTHOR

This MSDS was prepared by: Ferris Callihan, PE - Director Support Technology - Explo Systems, Inc. - 1600 Java Road - Minden, LA 71055 - Tel 318 382 8700 - E-mail: fcallihan@explosystems.com

U.S. Department
of Transportation

Pipeline and Hazardous
Materials Safety Administration

East Building, PHH – 32
1200 New Jersey Avenue, Southeast
Washington, D.C. 20590

The US Department of Transportation
Competent Authority for the United States

CLASSIFICATION OF EXPLOSIVES
FIRST REVISION

Based upon a request by Explo Systems Inc., 1600 Java Road, Minden, LA 71055, United States the following items are classed in accordance with Section 173.56, Title 49, Code of Federal Regulations (49 CFR). A copy of your application, all supporting documentation and a copy of this approval must be retained and made available to DOT upon request.

**U.N. PROPER SHIPPING NAME AND NUMBER:**
Powder, smokeless, UN0161

**U.N. CLASSIFICATION CODE**: 1.3C

| REFERENCE NUMBER | PRODUCT DESIGNATION/PART NUMBER |
|---|---|
| EX2010040603 | Reclaimed M6 Propellant |

**NOTES:** This classification is only valid when the smokeless powder has been tested and found to have sufficient residual stabilizers present per US Army Safety Bulletin: "Inspection of Supplies and Equipment, Ammunition Surveillance Procedures" (SB 742-1). The following packaging methods are assigned:
Packaging Method A: Inner Packaging - Not necessary. Outer Packaging – UN 1G fiberdrum, each containing not more than one hundred and forty (140) pounds of smokeless propellant.
Packaging Method B: Inner Packaging: Flexible static-resistant reinforced plastic cloth and strapping lifting bag, each containing not more than eight hundred and eighty (880) pounds of smokeless propellant. Outer Packaging - UN 4G heavy-wall fiberboard box with a volumetric capacity of 119 gallons or less. (see 49 CFR Section 171.8 Definition for "Non-bulk packaging")

**DATED:** 05/05/2011

For Dr. Magdy El-Sibaie
Associate Administrator for Hazardous Materials Safety

Tracking No: 2011040848



020049

EXP_001683

R & R Trucking, Inc.
P.O. Box 545
DUENWEG, MO 64841
417-623-6885
417-624-8642-Fax

NEI Transport, LLC
P.O. Box 545
DUENWEG, MO 64841
417-623-8784
417-623-8881-Fax

AATCO
P.O. Box 545
DUENWEG, MO 64841
417-623-8784
417-623-8881-Fax

# EXPLOSIVE HIGHWAY ROUTE PLAN

DATE: 3/27/13

TRUCK #: 6436 TRAILER #: 1810004 WORK ORDER #: 215339 B/L #: 2885

ORIGIN: CITY: MINDEN ST: LA DESTINATION: CITY: E. CAMDEN ST: AR

## HIGHWAY ROUTES

LA, LOCAL, I20, HY 167

AR HY 167, HY 274, HY 203

SUBJECT TO CHANGE

NOTE: The above information is to be completed before leaving the shipper. This form is to be retained with your Bill of Lading until delivery is made.

DRIVER SIGNATURE: 1. [signature]

DRIVER SIGNATURE: 2. Heather Bonnett

AUSTIN POWDER PACKING LIST

SHIPMENT DATE 3-27-13

B/L# 2885 TRL 1810004

M-6

| | |
|---|---|
| IND81L-070072 | 7 PTS |
| IND84G-070326 | 10 PTS |
| IND83F-070276 | 12 PTS |
| IND83F-070274 | 3 PTS |
| IND84K-070448 | 2 PTS |
| IND84C-070331 | 2 PTS |
| IND85F-070587 | 1 PT |
| IND82E-070115 | 4 PTS |
| IND83E-070273 | 1 PT |

42 PTS WITH 6 FB @140 LBS PER DRUM

TOTAL 35,280 LBS

LIONEL KOONS

EXPLO SYSTEMS INC

# MOTOR VEHICLE INSPECTION (TRANSPORTING HAZARDOUS MATERIALS)

*(Read Instructions before completing this form.)*

This form applies to all vehicles which must be marked or placarded in accordance with Title 49 CFR.

1. BILL OF LADING/TRANSPORTATION CONTROL NUMBER: 2885

| SECTION 1 - DOCUMENTATION | ORIGIN a. | DESTINATION b. |
|---|---|---|
| 2. CARRIER/GOVERNMENT ORGANIZATION | RRUI | |
| 3. DATE/TIME OF INSPECTION | 3/27/13 | |
| 4. LOCATION OF INSPECTION | EXDIO SYSTEMS INC | |
| 5. OPERATOR(S) NAME(S) | BARNETT, HEATHER | |
| 6. OPERATOR(S) LICENSE NUMBER(S) | R20234320094 NV | |
| 7. MEDICAL EXAMINER'S CERTIFICATE* | I-315 | |

| 8. (X if satisfactory at origin) | | | | 9. CVSA DECAL DISPLAYED ON COMMERCIAL EQUIPMENT* | YES | NO |
|---|---|---|---|---|---|---|
| a. MILITARY HAZMAT ENDORSEMENT | | d. ERG OR EQUIVALENT COMMERCIAL: | YES | a. TRUCK/TRACTOR | | |
| b. VALID LEASE* | | e. DRIVER'S VEHICLE INSPECTION REPORT* | | b. TRAILER | | |
| c. ROUTE PLAN | | f. COPY OF 49 CFR PART 397 | | | | |

## SECTION II - MECHANICAL INSPECTION

*All items shall be checked on empty equipment prior to loading. Items with an asterisk shall be checked on all incoming loaded equipment.*

10. TYPE OF VEHICLE(S): TRACTOR / TRAILER / DROM

11. VEHICLE NUMBER(S): TRAC #6436 / TRL # 1810004

| 12. PART INSPECTED (X as applicable) | ORIGIN (1) SAT | ORIGIN (1) UNSAT | DESTINATION (2) SAT | DESTINATION (2) UNSAT | | ORIGIN (1) SAT | ORIGIN (1) UNSAT | DESTINATION (2) SAT | DESTINATION (2) UNSAT | COMMENTS (3) |
|---|---|---|---|---|---|---|---|---|---|---|
| a. SPARE ELECTRICAL FUSES | | | | | k. EXHAUST SYSTEM | | | | | |
| b. HORN OPERATIVE | | | | | l. BRAKE SYSTEM* | | | | | |
| c. STEERING SYSTEM | | | | | m. SUSPENSION | | | | | |
| d. WINDSHIELD/WIPERS | | | | | n. COUPLING DEVICES | | | | | |
| e. MIRRORS | | | | | o. CARGO SPACE | | | | | |
| f. WARNING EQUIPMENT | | | | | p. LANDING GEAR* | | | | | |
| g. FIRE EXTINGUISHER* | | | | | q. TIRES, WHEELS, RIMS | | | | | |
| h. ELECTRICAL WIRING | | | | | r. TAILGATE/DOORS* | | | | | |
| i. LIGHTS AND REFLECTORS | | | | | s. TARPAULIN* | N/A | | | | |
| j. FUEL SYSTEM* | | | | | t. OTHER (Specify) | | | | | |

13. INSPECTION RESULTS (X one) ACCEPTED ✓ REJECTED

*(If rejected give reason under "Remarks". Equipment will be approved if deficiencies are corrected prior to loading.)*

14. SATELLITE MOTOR SURVEILLANCE SYSTEM: (X one) ACCEPTED N/A REJECTED

15. REMARKS

16. INSPECTOR SIGNATURE *(Origin)*

17. INSPECTOR SIGNATURE *(Destination)*

## SECTION III - POST LOADING INSPECTION

This section applies to Commercial and Government/Military vehicles. All items will be checked prior to release of loaded equipment and shall be checked on all incoming loaded equipment.

| | ORIGIN (1) SAT | ORIGIN (1) UNSAT | DESTINATION (2) SAT | DESTINATION (2) UNSAT | COMMENTS (3) |
|---|---|---|---|---|---|
| 18. LOADED IAW APPLICABLE SEGREGATION/COMPATIBILITY TABLE OF 49 CFR | | | | | |
| 19. LOAD PROPERLY SECURED TO PREVENT MOVEMENT | | | | | |
| 20. SEALS APPLIED TO CLOSED VEHICLE; TARPAULIN APPLIED ON OPEN EQUIPMENT | | | | | |
| 21. PROPER PLACARDS APPLIED | | | | | |
| 22. SHIPPING PAPERS/DD FORM 836 FOR GOVERNMENT VEHICLE SHIPMENTS | N/A | | | | |
| 23. COPY OF DD FORM 626 FOR DRIVER | | | | | |
| 24. SHIPPED UNDER DOT SPECIAL PERMIT 868 | N/A | | | | |

25. INSPECTOR SIGNATURE *(Origin)*

26. DRIVER(S) SIGNATURE *(Origin)* Heather Barnett

27. INSPECTOR SIGNATURE *(Destination)*

28. DRIVER(S) SIGNATURE *(Destination)*

DD FORM [illegible] MAR 2007 PREVIOUS EDITION IS OBSOLETE [illegible] Page [illegible] of [illegible] Pages

30
2885

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND85F070587** | **D533 / M6 propellant** |
| Date of analysis: | **Date:25 AUG 2010** |

| Other Information | Sample Data | | Solvent |
|---|---|---|---|
| M6 Propellant | #1 | 0.5000 g 100 ml | ACN |

| | Standards (ERG-006) | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 2.177 | 146.5 | 1821.4 | 1.243 |
| 2,4-DNDPA | 50.0 | 5.001 | 961.7 | 0 | 0.000 |
| 2,2' DNDPA | 50.0 | 7.038 | 2567.5 | 14427.7 | 0.000 |
| 2,4' DNDPA | 50.0 | 9.931 | 938.5 | 0 | 0.000 |
| 4NDPA | 50.0 | 11.434 | 1325.8 | 0 | 0.000 |
| 2NDPA | 50.0 | 12.813 | 1809.7 | 0 | 0.000 |
| DPA | 200.0 | 14.19 | 4886.9 | 225 | 0.018 |
| N-NitrosoDPA | 75.0 | 15.18 | 1296.7 | 0 | 0.000 |
| | | | | | 1.262 |
| | | Avg. % Stabilizer for Lot | | | **1.262** |

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | |
|---|---|
| **Analyst** Kisha Dickerson | Avg. Tot. Stabilizers **1.26** % |
| Analyst Signature | Stable YES / Unstable |
| Lab. Supervisor Signature | Comments **CATEGORY: A** |
| | Actions to be Taken |

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND84C070331** | **D533 / M6 propellant** |
| Date of analysis: | **Date:21 SEP 2010** |

| Other Information | Sample Data | | Solvent |
|---|---|---|---|
| M6 Propellant | #1 | 0.5000 g 100 ml | ACN |

| Standards (ERG-006) | | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 2.168 | 128.5 | 113.7 | 0.088 |
| 2,4-DNDPA | 50.0 | 5.033 | 432 | 217.6 | 0.050 |
| 2,2' DNDPA | 50.0 | 7.206 | 1480.6 | 820.7 | 0.000 |
| 2,4' DNDPA | 50.0 | 10.409 | 485.4 | 222.7 | 0.046 |
| 4NDPA | 50.0 | 12.024 | 1113.3 | 522 | 0.047 |
| 2NDPA | 50.0 | 13.489 | 784 | 396.3 | 0.051 |
| DPA | 200.0 | 14.97 | 2121.4 | 1130.5 | 0.213 |
| N-NitrosoDPA | 75.0 | 16.167 | 463.9 | 299.3 | 0.000 |

| | | |
|---|---|---|
| | | 0.495 |
| Avg. % Stabilizer for Lot | | **0.495** |

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | | |
|---|---|---|
| **Analyst** Kisha Dickerson | Avg. Tot. Stabilizers | **0.50** % |
| Analyst Signature | Stable YES | Unstable |
| | Comments | |
| Lab. Supervisor Signature | **CATEGORY:** | **A** |
| | Actions to be Taken | |

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND84K070448** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 1 Mar 2012** |

| Other Information | Sample Data | | Solvent |
|---|---|---|---|
| M6 Propellant | #1 | 0.50 g 100 ml | ACN |

| Standards (ERG-006) | | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 0.872 | 13.8 | 97.7 | 0.708 |
| 2,4-DNDPA | 50.0 | 3.42 | 982.9 | 0 | 0.000 |
| 2,2' DNDPA | 50.0 | 5.182 | 2038.4 | 23346 | 0.000 |
| 2,4' DNDPA | 50.0 | 7.465 | 1060.4 | 0 | 0.000 |
| 4NDPA | 50.0 | 8.991 | 1708.9 | 47.8 | 0.003 |
| 2NDPA | 50.0 | 10.17 | 3062.7 | 91.8 | 0.003 |
| DPA | 200.0 | 11.707 | 6061.6 | 816.4 | 0.054 |
| N-NitrosoDPA | 75.0 | 12.518 | 1461.9 | 0 | 0.000 |

| | |
|---|---|
| | 0.768 |
| Avg. % Stabilizer for Lot | **0.768** |

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | |
|---|---|
| **Analyst** Takisha Dickerson | Avg. Tot. Stabilizers **0.77** % |
| Analyst Signature | Stable YES / Unstable |
| Lab. Supervisor Signature | Comments **CATEGORY: A** |
| | Actions to be Taken |

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND84G070326** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 3 MAY 2012** |

| Other Information | Sample Data | | Solvent |
|---|---|---|---|
| M6 Propellant | #1 | 0.50 g 100 ml | ACN |

| Standards (ERG-006) | | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 0.867 | 104.4 | 324.4 | 0.311 |
| 2,4-DNDPA | 50.0 | 3.335 | 1105.6 | 0 | 0.000 |
| 2,2' DNDPA | 50.0 | 5.007 | 4986.7 | 23068 | 0.000 |
| 2,4' DNDPA | 50.0 | 7.137 | 1206.9 | 0 | 0.000 |
| 4NDPA | 50.0 | 8.593 | 1969.2 | 87.1 | 0.004 |
| 2NDPA | 50.0 | 9.688 | 3527.8 | 151.4 | 0.004 |
| DPA | 200.0 | 11.153 | 7041.6 | 785.8 | 0.045 |
| N-NitrosoDPA | 75.0 | 11.897 | 1704.5 | | 0.000 |

| | |
|---|---|
| | 0.364 |
| Avg. % Stabilizer for Lot | **0.364** |

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | |
|---|---|
| **Analyst** Takisha Dickerson | Avg. Tot. Stabilizers **0.36** % |
| Analyst Signature | Stable YES \| Unstable |
| Lab. Supervisor Signature | Comments **CATEGORY: A** |
| | Actions to be Taken |

Form #150

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND83F070274** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 27 JULY 2011** |

Other Information
M6 Propellant

| Sample Data | | | Solvent |
|---|---|---|---|
| #1 | 0.50 g | 100 ml | ACN |

| Standards (ERG-006) | | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 0.694 | 112.8 | 622.1 | 0.552 |
| 2,4-DNDPA | 50.0 | 3.477 | 942.8 | 0 | 0.000 |
| 2,2' DNDPA | 50.0 | 5.339 | 77.4 | 22209 | 0.000 |
| 2,4' DNDPA | 50.0 | 7.842 | 1020.3 | 0 | 0.000 |
| 4NDPA | 50.0 | 9.392 | 1634.2 | 48.5 | 0.003 |
| 2NDPA | 50.0 | 10.693 | 2956.2 | 98.3 | 0.003 |
| DPA | 200.0 | 12.201 | 5630.5 | 451.4 | 0.032 |
| N-NitrosoDPA | 75.0 | 13.103 | 1385.2 | 0 | 0.000 |

0.590

Avg. % Stabilizer for Lot **0.590**

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | |
|---|---|
| **Analyst** Takisha Dickerson | Avg. Tot. Stabilizers **0.59** % |
| Analyst Signature | Stable YES / Unstable |
| Lab. Supervisor Signature | Comments **CATEGORY: A** |
| | Actions to be Taken |

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND83F070276** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 4 Sep 2012** |

| Other Information | Sample Data | | Solvent |
|---|---|---|---|
| M6 Propellant | #1 | 0.50 g 100 ml | ACN |

| Standards (ERG-006) | | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 0.889 | 48.8 | 578.6 | 1.186 |
| 2,4-DNDPA | 50.0 | 3.418 | 914.3 | 0 | 0.000 |
| 2,2' DNDPA | 50.0 | 5.22 | 777.3 | 23990 | 0.000 |
| 2,4' DNDPA | 50.0 | 7.622 | 980.5 | 0 | 0.000 |
| 4NDPA | 50.0 | 9.134 | 1586.8 | 40.6 | 0.003 |
| 2NDPA | 50.0 | 10.417 | 2826.3 | 88.7 | 0.003 |
| DPA | 200.0 | 11.797 | 5671.5 | 812.6 | 0.057 |
| N-NitrosoDPA | 75.0 | 12.757 | 1337.5 | 0 | 0.000 |

| | | |
|---|---|---|
| | | 1.249 |
| | Avg. % Stabilizer for Lot | **1.249** |

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | |
|---|---|
| **Analyst** Mike Kile | Avg. Tot. Stabilizers **1.25** % |
| Analyst Signature | Stable YES / Unstable |
| | Comments **CATEGORY: A** |
| Lab. Supervisor Signature | |
| | Actions to be Taken |

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND82E070115** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 2 SEPTEMBER 2** |

| Other Information | Sample Data | | | Solvent |
|---|---|---|---|---|
| M6 Propellant | #1 | 0.50 g | 100 ml | ACN |

| | Standards (ERG-006) | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 0.631 | 119.7 | 513.1 | 0.429 |
| 2,4-DNDPA | 50.0 | 3.438 | 959.4 | 17.4 | 0.002 |
| 2,2' DNDPA | 50.0 | 5.235 | 1727.8 | 25268 | 0.000 |
| 2,4' DNDPA | 50.0 | 7.619 | 1043.1 | 0 | 0.000 |
| 4NDPA | 50.0 | 9.163 | 1669.9 | 77.7 | 0.005 |
| 2NDPA | 50.0 | 10.427 | 3002.4 | 153.6 | 0.005 |
| DPA | 200.0 | 11.959 | 5688.4 | 920.8 | 0.065 |
| N-NitrosoDPA | 75.0 | 12.823 | 1409.6 | 0 | 0.000 |

| | | |
|---|---|---|
| | | 0.505 |
| Avg. % Stabilizer for Lot | | **0.505** |

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | | |
|---|---|---|
| **Analyst** KISHA DICKERSON | Avg. Tot. Stabilizers | **0.50** % |
| Analyst Signature | Stable YES | Unstable |
| | Comments | |
| Lab. Supervisor Signature | **CATEGORY:** | **A** |
| | Actions to be Taken | |

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND81L070072** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 29 MAY 2012** |

| Other Information | Sample Data | | | Solvent |
|---|---|---|---|---|
| M6 Propellant | #1 | 0.50 g | 100 ml | ACN |

| Standards (ERG-006) | | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 0.86 | 235.9 | 624.2 | 0.265 |
| 2,4-DNDPA | 50.0 | 3.398 | 913.2 | 0 | 0.000 |
| 2,2' DNDPA | 50.0 | 5.133 | 1007.2 | 37338 | 0.000 |
| 2,4' DNDPA | 50.0 | 7.409 | 1002.4 | 0 | 0.000 |
| 4NDPA | 50.0 | 8.917 | 1612.8 | 156.8 | 0.010 |
| 2NDPA | 50.0 | 10.112 | 2882.2 | 297.6 | 0.010 |
| DPA | 200.0 | 11.607 | 5642.3 | 1100.9 | 0.078 |
| N-NitrosoDPA | 75.0 | 12.414 | 1351.4 | | 0.000 |
| | | | | | 0.363 |
| | | | Avg. % Stabilizer for Lot | | **0.363** |

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | |
|---|---|
| **Analyst** Takisha Dickerson | Avg. Tot. Stabilizers **0.36** % |
| Analyst Signature | Stable YES \| Unstable |
| | Comments |
| Lab. Supervisor Signature | **CATEGORY: A** |
| | Actions to be Taken |

CONTAINS HAZARDOUS MATERIALS

# STRAIGHT BILL OF LADING

## NOT NEGOTIABLE

Rod 31

RECEIVED, subject to the classification and tariffs in effect on the date of the issue of this Original Bill of Lading.
The property described below, in apparent good order, except as noted (contents and condition of contents of packages unknown) consigned, and destined as indicated below, ch said carrier (the word carrier being understood throughout this contract meaning any person or corporation in possession of the property under the contract) agrees to curry s usual place of delivery of said destination. It on its route, otherwise to deliver to another carrier on the route to said destination. It is mutually agreed, as to each of all or any of said property over all or any portion of said route to destination, and as to each party at any time interested in all or any of said property, that every service lobe performed hereunder shall be subject to all the terms and conditions of the Uniform Domestic Straight Bill of Lading Set forth (t) in Uniform Freight Classification in effect on the date hereof, it this is a rail or rail-water shipment, or (2) in the applicable motor carrier classification or tariff it this is a motor carrier shipment.
Shipper hereby certifies that he is familiar with all the terms and conditions of the said bill of lading, set forth in the classification or tariff which governs the transportation of this shipment, and the sold terms and conditions are hereby agreed to by the shipper and accept for himself and his assigns.

Shipper: Explo Systems, Inc.
1600 Java Road
Minden, LA 71055

Shipper's No. 2888

Shipping Date 3/28/13

At

Purchase Order No.

By RRK

Freight Charges: Collect _____ Prepaid XXX

Location No. 2320

(Mail or Street Address of Consignee — For purposes of notification only)

Consigned to Austin Powder Co

Destination Zee in Bossier

State

County Bossier

Route

Charge Account of

Fed Lic. 5-LA-103-20-5E-00139 Exp. Date 5/1/15

State Lic. Exp. Date

Customer No.

Customer P.O. No. Rel. No.

| SHIPPED No. of PKGS | SHIPPED No. of UNITS | PROPER SHIPPING NAME AND HAZARD CLASS | RETURNED No. of PKGS | RETURNED No. of UNITS | EMERGENCY RESPONSE PROCEDURE GUIDE NO. | EXEMPTION DOT-E | H M | Placards Applied to Railcar or Motor Vehicle |
|---|---|---|---|---|---|---|---|---|
| 8244 | 8244 | UN0161, Powder, Smokeless, 1.3C, PG II | | | #112 | | | EXPLOSIVES 1.3 |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | Truck No. 246 |
| | | | | | | | | Trailer No. G410057 |
| | | | | | | | | Mileage |
| | | | | | | | | Total 352,410 @ pallet Packages |
| | | | | | | | | Gross Weight # 3902 |
| | | Seal 7083415/7143846 | | | | | | Net Explosive Weight |
| | | | | | | | | 25,750 |

RECEIVED
MAR 28 2013
AUSTIN POWDER COMPANY
EAST CAMDEN PLANT

CANCELLED 4/01/13

This is to certify that the above-named materials are properly classified, described, packaged, marked, and labeled and are in proper condition for transportation, according to the applicable regulations of the Department of Transportation.

Signature _____ Invoice No. _____

FOR CHEMICAL EMERGENCY, SPILL, LEAK, FIRE, EXPOSURE OR ACCIDENT CALL CHEMTREC — DAY OR NIGHT
IN THE USA CALL 800-424-9300 IN CANADA (ERP #2-0040) 800-561-3636 ELSEWHERE CALL (703) 527-3887

Permanent Address of Shipper:
**Explo Systems, Inc.**
1600 Java Road
den, Louisiana 71055
) 382-8700

Per _____

DOT Hazardous Material Handling Number _____
Local Federal Explosives License No. 5-LA-119-20-1A-00057
(Shipper)

I have been offered placards identifying the shipment as Specified in 49CFR Subpart F of Part 172. I have received the above goods in apparent good order and condition.

Received By _____ Date _____
❑ CONSIGNEE ❑ CARRIER

By _____ Date _____
AUTHORIZED RECEIVER

CONTAINS HAZARDOUS MATERIALS

Agent must detach and retain this Shipping Order

020061

EXP_001695

AUSTIN POWDER PACKING LIST

SHIPMENT DATE 3-28-13

B/L# 2888 TRL 6810057

M-6

IND81L-070072 3 PTS
IND84G-070326 6 PTS
IND83F-070276 10 PTS
IND83F-070274 4 PTS
IND83E-070273 4 PT
IND81F-070024 3 PTS
IND81G-070061 1 PT
IND83F-070278 1 PT
IND82G-070164 3 PTS
IND87D-070450 5 PTS
IND86E-070616 2 PTS

42 PTS WITH 6 FB @140 LBS PER DRUM

TOTAL 35,280 LBS 35,280 lbs.

LIONEL KOONS

EXPLO SYSTEMS INC

AUSTIN POWDER PACKING LIST

SHIPMENT DATE 3-28-13

B/L# 2888 TRL 6810057

M-6

IND81L-070072 3 PTS
IND84G-070326 6 PTS
IND83F-070276 10 PTS
IND83F-070274 4 PTS
IND83E-070273 4 PT
IND81F-070024 3 PTS
IND81G-070061 1 PT
IND83F-070278 1 PT
IND82G-070164 3 PTS
IND87D-070450 5 PTS
IND86E-070616 2 PTS

42 PTS WITH 6 FB @140 LBS PER DRUM

TOTAL 35,280 LBS

LIONEL KOONS

EXPLO SYSTEMS INC

# MOTOR VEHICLE INSPECTION (TRANSPORTING HAZARDOUS MATERIALS)

*(Read Instructions before completing this form.)*

This form applies to all vehicles which must be marked or placarded in accordance with Title 49 CFR.

1. BILL OF LADING/TRANSPORTATION CONTROL NUMBER: 2888

| SECTION 1 - DOCUMENTATION | ORIGIN a. | DESTINATION b. |
|---|---|---|
| 2. CARRIER/GOVERNMENT ORGANIZATION | RRK | |
| 3. DATE/TIME OF INSPECTION | 3/28/13 | |
| 4. LOCATION OF INSPECTION | EXDIO SYSTEMS INC | |
| 5. OPERATOR(S) NAME(S) | [illegible] THOMAS | |
| 6. OPERATOR(S) LICENSE NUMBER(S) | P320825490060 FL | |
| 7. MEDICAL EXAMINER'S CERTIFICATE* | 2/25/15 | |

| 8. (X if satisfactory at origin) | | | | | | 9. CVSA DECAL DISPLAYED ON COMMERCIAL EQUIPMENT* | YES | NO |
|---|---|---|---|---|---|---|---|---|
| a. MILITARY HAZMAT ENDORSEMENT | | d. ERG OR EQUIVALENT COMMERCIAL: | YES | | NO | | | |
| b. VALID LEASE* | ✓ | e. DRIVER'S VEHICLE INSPECTION REPORT* | | ✓ | | a. TRUCK/TRACTOR | ✓ | |
| c. ROUTE PLAN | ✓ | f. COPY OF 49 CFR PART 397 | | | | b. TRAILER | | |

## SECTION II - MECHANICAL INSPECTION

*All items shall be checked on empty equipment prior to loading. Items with an asterisk shall be checked on all incoming loaded equipment.*

10. TYPE OF VEHICLE(S): TRACTOR / TRAILER / DROM

11. VEHICLE NUMBER(S): TRAC #306 / TRL # 681005 7

| 12. PART INSPECTED (X as applicable) | ORIGIN (1) SAT | ORIGIN (1) UNSAT | DESTINATION (2) SAT | DESTINATION (2) UNSAT | | ORIGIN (1) SAT | ORIGIN (1) UNSAT | DESTINATION (2) SAT | DESTINATION (2) UNSAT | COMMENTS (3) |
|---|---|---|---|---|---|---|---|---|---|---|
| a. SPARE ELECTRICAL FUSES | | | | | k. EXHAUST SYSTEM | | | | | |
| b. HORN OPERATIVE | | | | | l. BRAKE SYSTEM* | | | | | |
| c. STEERING SYSTEM | | | | | m. SUSPENSION | | | | | |
| d. WINDSHIELD/WIPERS | | | | | n. COUPLING DEVICES | | | | | |
| e. MIRRORS | | | | | o. CARGO SPACE | | | | | |
| f. WARNING EQUIPMENT | | | | | p. LANDING GEAR* | | | | | |
| g. FIRE EXTINGUISHER* | | | | | q. TIRES, WHEELS, RIMS | | | | | |
| h. ELECTRICAL WIRING | | | | | r. TAILGATE/DOORS* | | | | | |
| i. LIGHTS AND REFLECTORS | | | | | s. TARPAULIN* | N/A | | | | |
| j. FUEL SYSTEM* | | | | | t. OTHER (Specify) | | | | | |

13. INSPECTION RESULTS (X one) ACCEPTED ✓ REJECTED

*(If rejected give reason under "Remarks". Equipment will be approved if deficiencies are corrected prior to loading.)*

14. SATELLITE MOTOR SURVEILLANCE SYSTEM: (X one) ACCEPTED N/A REJECTED

15. REMARKS

16. INSPECTOR SIGNATURE *(Origin)* [signature]

17. INSPECTOR SIGNATURE *(Destination)*

## SECTION III - POST LOADING INSPECTION

This section applies to Commercial and Government/Military vehicles. All items will be checked prior to release of loaded equipment and shall be checked on all incoming loaded equipment.

| | ORIGIN (1) SAT | ORIGIN (1) UNSAT | DESTINATION (2) SAT | DESTINATION (2) UNSAT | COMMENTS (3) |
|---|---|---|---|---|---|
| 18. LOADED IAW APPLICABLE SEGREGATION/COMPATIBILITY TABLE OF 49 CFR | | | | | |
| 19. LOAD PROPERLY SECURED TO PREVENT MOVEMENT | | | | | |
| 20. SEALS APPLIED TO CLOSED VEHICLE; TARPAULIN APPLIED ON OPEN EQUIPMENT | | | | | |
| 21. PROPER PLACARDS APPLIED | | | | | |
| 22. SHIPPING PAPERS/DD FORM 836 FOR GOVERNMENT VEHICLE SHIPMENTS | N/A | | | | |
| 23. COPY OF DD FORM 626 FOR DRIVER | | | | | |
| 24. SHIPPED UNDER DOT SPECIAL PERMIT 868 | N/A | | | | |

25. INSPECTOR SIGNATURE *(Origin)* [signature]

26. DRIVER(S) SIGNATURE *(Origin)* [signature]

27. INSPECTOR SIGNATURE *(Destination)*

28. DRIVER(S) SIGNATURE *(Destination)*

DD FORM 836, MAR 2007 PREVIOUS EDITION IS OBSOLETE

EXPLO SYSTEMS, INC.

Explo Systems, Inc.
1600 Java Road
Minden, LA 71055

# MATERIAL SAFETY DATA SHEET

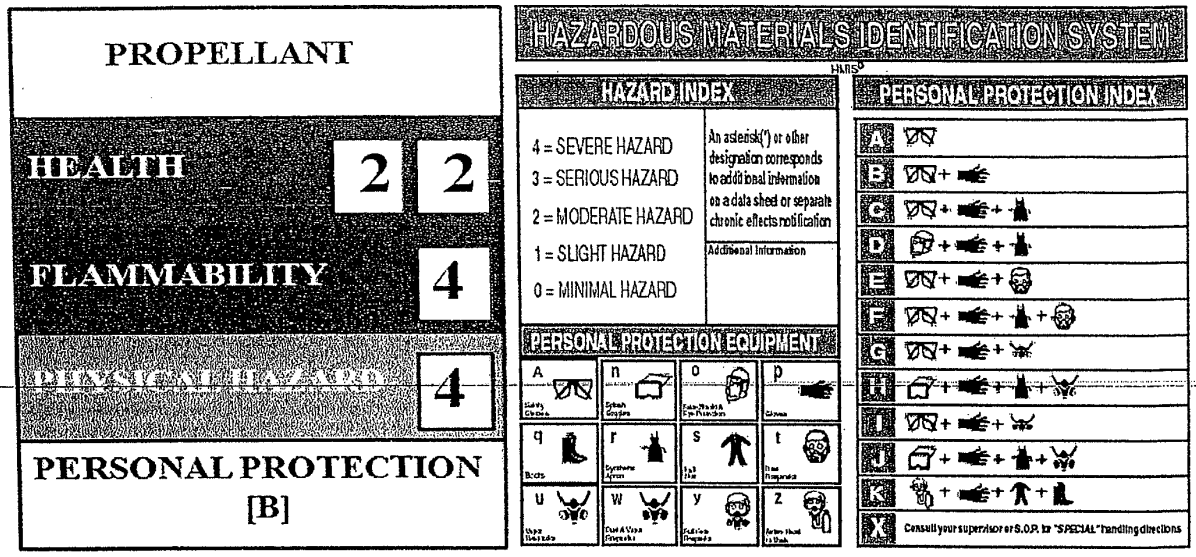
## PROPELLANT (Wetted)

## SECTION I - PRODUCT IDENTIFICATION

PRODUCT NAME: Propellant, Explosive, Solid, Wetted
Technical Information Phone No.: 318.382.8700
For Chemical Emergency (Spill, Fire, Exposure or Accident) call CHEMTREC day or night. Within the US and Canada: +1 800-424-9300. Outside the US and Canada: +1 703-527-3887 (collect calls accepted).

| **Ingredient** | **CAS No.** | **Wt. %** | **OSHA PEL**<br>**ACGIH TLV**<br>**EPA RQ (if defined)**<br>**DOT RQ (if defined)** |
|---|---|---|---|
| Dibutyl Phthalate | 84-74-2 | 3.00 | OSHA PEL 5 $mg/m^3$<br>ACGIH TLV 5 $mg/m^3$<br>EPA RQ 10 lbs<br>DOT RQ 10 lbs |
| Diphenylamine | 122-39-4 | 1.00 | OSHA PEL 10 $mg/m^3$<br>ACGIH TLV 10 $mg/m^3$<br>EPA RQ (none defined)<br>DOT RQ (none defined) |
| Potassium Sulfate | 7778-80-5 | 2.00 | OSHA PEL none published<br>ACGIH TLV none published<br>EPA RQ (none defined)<br>DOT RQ (none defined) |
| Nitrocellulose (flammable solid) | -- | 87.00 | OSHA PEL none published<br>ACGIH TLV none published<br>EPA RQ (none defined)<br>DOT RQ (none defined) |
| Dinitrotoluene | 25321-14-6 | 10.00 | OSHA PEL 10 $mg/m^3$<br>ACGIH TLV 10 $mg/m^3$<br>EPA RQ 10 lbs<br>DOT RQ 10 lbs |

## SECTION II - HAZARDS IDENTIFICATION




Routes of Entry: Inhalation; Skin; Ingestion
Carcinogenicity: None
First Aid Measures: EYES - Immediately flush with copious amount of water (low pressure) for 15 minutes, remove contact lenses; call physician. SKIN - Wash with soap and running water. INGESTION - Contact physician immediately. INHALATION - Remove to fresh air. Treat irritation symptomatically; call physician.
Firefighting Measures: Self-oxidizing, deluge with water. Will not be able to extinguish unless large quantity of water is used in very short time. Use NIOSH/MSHA approved SCBA and full protective equipment; evacuate area.
Unusual Fire/Explosion Hazard: Easily ignited, highly combustible; protect from fire and sparks and extreme heat.
Autoignition: 383°F (195°C)
Hazardous Combustion Products: Oxides of Carbon
Accidental Release Measures: SPILL - Clean immediately with soft (horsehair) brush and conductive rubber or plastic shovel. Use brass or other non-sparking tools and utensils. DO NOT hammer or otherwise cause impact forces to spilled material (explosion or autoignition could occur with impact force being applied).

## SECTION III - HANDLING AND STORAGE

Precautions: Avoid prolonged temperature above 125°F (50°C). Normal storage conditions should be 75°F (21°C) and 50% Humidity. Storage must conform to local, state and federal regulations, specifically: 29 CFR OSHA 1910.109; 27 CFR BATFE 55 subpart K.
Other Special Precautions: Flammable Solid…Keep away from heat, sparks, open flame…Keep containers closed…use with adequate ventilation.
Ventilation: Local and general ventilation necessary to keep air concentration below TLV's.
Personal Protective Equipment: Safety Glasses, Cotton or Leather Gloves, Fire Resistant Coveralls.

## SECTION IV - PHYSICAL AND CHEMICAL PROPERTIES

Specific Gravity: 1.496
Evaporation Rate: <1 (Butylacetate = 1)
Solubility in Water: negligible
Appearance and Odor: Hard Cylinder Perforated, Smooth, Greenish Yellow. Odorless.
Materials to Avoid: Oxides of Nitrogen and Carbon.

Conditions to Avoid: Open Flame, Sparks, Heat, Direct Sunlight.
Hazardous Decomposition Products: Oxides of Carbon

## SECTION V – TRANSPORTATION INFORMATION

DOT Proper Shipping Name: Smokeless Powder (wetted)
Hazard Class: 1.3C
UN No. UN0161
Packing Group: II

## SECTION VI - DISPOSAL CONSIDERATIONS

Disposal must be in accordance with federal, state and local regulations. Burn in open burning ground in accordance with regulatory requirements. It may also be burned in an incinerator approved for explosives.

## DISCLAIMER

The information contained in this MSDS (Material Safety Data Sheet) is based upon available constituent data for the components of **Propellant** and is believed to be correct. However, as this information has been obtained from various sources, including the manufacturers of its components and independent laboratories, it is provided herein without warranty or representation that it is complete, accurate and can be relied upon. Explo Systems, Inc. has not attempted to conceal in any manner the deleterious aspects of this product, and makes no warranty as such. Explo Systems, Inc. cannot anticipate nor control the many situations in which this product or this information may be used; there is no guarantee that the health and safety precautions suggested herein will be proper under all conditions. It is the sole responsibility of each user of the product to determine and comply with the requirements of all applicable laws and regulations regarding its use. This information is given solely for the purposes of safety to persons and property. Any other use of this information is expressly prohibited.

## AUTHOR

This MSDS was prepared by: Ferris Callihan, PE - Director Support Technology - Explo Systems, Inc. - 1600 Java Road - Minden, LA 71055 - Tel 318 382 8700 - E-mail: fcallihan@explosystems.com

U.S. Department
of Transportation

Pipeline and Hazardous
Materials Safety Administration

East Building, PHH – 32
1200 New Jersey Avenue, Southeast
Washington, D.C. 20590

The US Department of Transportation
Competent Authority for the United States

CLASSIFICATION OF EXPLOSIVES
FIRST REVISION

Based upon a request by Explo Systems Inc., 1600 Java Road, Minden, LA 71055, United States the following items are classed in accordance with Section 173.56, Title 49, Code of Federal Regulations (49 CFR). A copy of your application, all supporting documentation and a copy of this approval must be retained and made available to DOT upon request.

**U.N. PROPER SHIPPING NAME AND NUMBER:**
Powder, smokeless, UN0161

**U.N. CLASSIFICATION CODE**: 1.3C

| REFERENCE NUMBER | PRODUCT DESIGNATION/PART NUMBER |
|---|---|
| EX2010040603 | Reclaimed M6 Propellant |

**NOTES:** This classification is only valid when the smokeless powder has been tested and found to have sufficient residual stabilizers present per US Army Safety Bulletin: "Inspection of Supplies and Equipment, Ammunition Surveillance Procedures" (SB 742-1). The following packaging methods are assigned:
Packaging Method A: Inner Packaging - Not necessary. Outer Packaging – UN 1G fiberdrum, each containing not more than one hundred and forty (140) pounds of smokeless propellant.
Packaging Method B: Inner Packaging: Flexible static-resistant reinforced plastic cloth and strapping lifting bag, each containing not more than eight hundred and eighty (880) pounds of smokeless propellant. Outer Packaging - UN 4G heavy-wall fiberboard box with a volumetric capacity of 119 gallons or less. (see 49 CFR Section 171.8 Definition for "Non-bulk packaging")

**DATED:** 05/05/2011

Harpreet S Virgh

For Dr. Magdy El-Sibaie
Associate Administrator for Hazardous Materials Safety

Tracking No: 2011040848



020068

EXP_001702

31
2888

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND87D070450** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 23 AUG 2010** |

| Other Information | Sample Data | | Solvent |
|---|---|---|---|
| M6 Propellant | #1 | 0.5000 g 100 ml | ACN |

| Standards (ERG-006) | | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | | 0 | | |
| 2,4-DNDPA | 50.0 | 4.884 | 715.1 | 0 | 0.000 |
| 2,2' DNDPA | 50.0 | 9.663 | 794.8 | 5124.3 | 0.645 |
| 2,4' DNDPA | 50.0 | 11.213 | 1155.8 | 0 | 0.000 |
| 4NDPA | 50.0 | 11.899 | 750.7 | 0 | 0.000 |
| 2NDPA | 50.0 | 12.536 | 1565 | 0 | 0.000 |
| DPA | 200.0 | 13.934 | 4151.3 | 0 | 0.000 |
| N-NitrosoDPA | 75.0 | 14.875 | 1080.5 | 46.7 | 0.006 |

0.651

| Avg. % Stabilizer for Lot | **0.651** |
|---|---|

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | |
|---|---|
| **Analyst** Kisha Dickerson | Avg. Tot. Stabilizers **0.65** % |
| Analyst Signature | Stable YES / Unstable |
| Lab. Supervisor Signature | Comments **CATEGORY: A** |
| | Actions to be Taken |

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND86E070616** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 19 NOV 2010** |

| Other Information | Sample Data | | Solvent |
|---|---|---|---|
| M6 Propellant | #1 | 0.5000 g 100 ml | ACN |

| | Standards (ERG-006) | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 2.068 | 135.8 | 654.4 | 0.482 |
| 2,4-DNDPA | 50.0 | 5.182 | 717.3 | 0 | 0.000 |
| 2,2' DNDPA | 50.0 | 7.635 | 736.3 | 13022.2 | 0.000 |
| 2,4' DNDPA | 50.0 | 11.713 | 779 | 0 | 0.000 |
| 4NDPA | 50.0 | 13.454 | 462.4 | 0 | 0.000 |
| 2NDPA | 50.0 | 15.161 | 1164.1 | 0 | 0.000 |
| DPA | 200.0 | 16.583 | 4078.5 | 221.2 | 0.022 |
| N-NitrosoDPA | 75.0 | 18.033 | 1011.7 | 0 | 0.000 |

0.504

| Avg. % Stabilizer for Lot | **0.504** |
|---|---|

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| **Analyst** Kisha Dickerson | Avg. Tot. Stabilizers **0.50** % |
|---|---|
| Analyst Signature | Stable YES / Unstable |
| Lab. Supervisor Signature | Comments **CATEGORY: A** |
| | Actions to be Taken |

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND84G070326** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 3 MAY 2012** |

| Other Information | Sample Data | | Solvent |
|---|---|---|---|
| M6 Propellant | #1 | 0.50 g 100 ml | ACN |

| Standards (ERG-006) | | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 0.867 | 104.4 | 324.4 | 0.311 |
| 2,4-DNDPA | 50.0 | 3.335 | 1105.6 | 0 | 0.000 |
| 2,2' DNDPA | 50.0 | 5.007 | 4986.7 | 23068 | 0.000 |
| 2,4' DNDPA | 50.0 | 7.137 | 1206.9 | 0 | 0.000 |
| 4NDPA | 50.0 | 8.593 | 1969.2 | 87.1 | 0.004 |
| 2NDPA | 50.0 | 9.688 | 3527.8 | 151.4 | 0.004 |
| DPA | 200.0 | 11.153 | 7041.6 | 785.8 | 0.045 |
| N-NitrosoDPA | 75.0 | 11.897 | 1704.5 | | 0.000 |
| | | | | | 0.364 |
| | | | Avg. % Stabilizer for Lot | | **0.364** |

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | |
|---|---|
| **Analyst** Takisha Dickerson | Avg. Tot. Stabilizers **0.36** % |
| Analyst Signature | Stable YES / Unstable |
| Lab. Supervisor Signature | Comments **CATEGORY: A** |
| | Actions to be Taken |

Form #158

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND83F070278** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 11 JULY 2012** |

| Other Information | Sample Data | | Solvent |
|---|---|---|---|
| M6 Propellant | #1 | 0.50 g 100 ml | ACN |

| Standards (ERG-006) | | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 0.803 | 32.3 | 256.2 | 0.793 |
| 2,4-DNDPA | 50.0 | 3.397 | 945.1 | 0 | 0.000 |
| 2,2' DNDPA | 50.0 | 5.155 | 1995.1 | 21574 | 0.000 |
| 2,4' DNDPA | 50.0 | 7.525 | 949.2 | 0 | 0.000 |
| 4NDPA | 50.0 | 9.04 | 1580.4 | 89.7 | 0.006 |
| 2NDPA | 50.0 | 10.278 | 2854 | 35.4 | 0.001 |
| DPA | 200.0 | 11.761 | 5473.7 | 589.5 | 0.043 |
| N-NitrosoDPA | 75.0 | 12.606 | 1672.4 | 0 | 0.000 |

| | | |
|---|---|---|
| | | 0.843 |
| | Avg. % Stabilizer for Lot | **0.843** |

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | | |
|---|---|---|
| **Analyst** Takisha Dickerson | Avg. Tot. Stabilizers | **0.84** % |
| Analyst Signature | Stable YES | Unstable |
| | Comments | |
| Lab. Supervisor Signature | **CATEGORY:** | **A** |
| | Actions to be Taken | |

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND83F070274** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 27 JULY 2011** |

| Other Information | Sample Data | | Solvent |
|---|---|---|---|
| M6 Propellant | #1 | 0.50 g 100 ml | ACN |

| Standards (ERG-006) | | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 0.694 | 112.8 | 622.1 | 0.552 |
| 2,4-DNDPA | 50.0 | 3.477 | 942.8 | 0 | 0.000 |
| 2,2' DNDPA | 50.0 | 5.339 | 77.4 | 22209 | 0.000 |
| 2,4' DNDPA | 50.0 | 7.842 | 1020.3 | 0 | 0.000 |
| 4NDPA | 50.0 | 9.392 | 1634.2 | 48.5 | 0.003 |
| 2NDPA | 50.0 | 10.693 | 2956.2 | 98.3 | 0.003 |
| DPA | 200.0 | 12.201 | 5630.5 | 451.4 | 0.032 |
| N-NitrosoDPA | 75.0 | 13.103 | 1385.2 | 0 | 0.000 |

0.590

Avg. % Stabilizer for Lot **0.590**

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | |
|---|---|
| **Analyst** Takisha Dickerson | Avg. Tot. Stabilizers **0.59** % |
| Analyst Signature | Stable YES / Unstable |
| Lab. Supervisor Signature | Comments **CATEGORY: A** |
| | Actions to be Taken |

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND83F070276** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 4 Sep 2012** |

| Other Information | Sample Data | | Solvent |
|---|---|---|---|
| M6 Propellant | #1 | 0.50 g 100 ml | ACN |

| Standards (ERG-006) | | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 0.889 | 48.8 | 578.6 | 1.186 |
| 2,4-DNDPA | 50.0 | 3.418 | 914.3 | 0 | 0.000 |
| 2,2' DNDPA | 50.0 | 5.22 | 777.3 | 23990 | 0.000 |
| 2,4' DNDPA | 50.0 | 7.622 | 980.5 | 0 | 0.000 |
| 4NDPA | 50.0 | 9.134 | 1586.8 | 40.6 | 0.003 |
| 2NDPA | 50.0 | 10.417 | 2826.3 | 88.7 | 0.003 |
| DPA | 200.0 | 11.797 | 5671.5 | 812.6 | 0.057 |
| N-NitrosoDPA | 75.0 | 12.757 | 1337.5 | 0 | 0.000 |

| | | |
|---|---|---|
| | | 1.249 |
| | Avg. % Stabilizer for Lot | **1.249** |

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | |
|---|---|
| **Analyst** Mike Kile | Avg. Tot. Stabilizers **1.25** % |
| Analyst Signature | Stable YES / Unstable |
| | Comments **CATEGORY: A** |
| Lab. Supervisor Signature | |
| | Actions to be Taken |

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND82G070164** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 22 Dec 2010** |

Other Information
M6 Propellant

| Sample Data | | | Solvent |
|---|---|---|---|
| #1 | 0.5000 g | 100 ml | ACN |

| Standards (ERG-006) | | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 4.041 | 1072.9 | 2489.9 | 0.232 |
| 2,4-DNDPA | 50.0 | 9.403 | 1132.4 | 28529 | 2.519 |
| 2,2' DNDPA | 50.0 | 11.071 | 1654.7 | 76.5 | 0.000 |
| 2,4' DNDPA | 50.0 | 11.863 | 1176.6 | 131 | 0.011 |
| 4NDPA | 50.0 | 12.612 | 2267.7 | 0 | 0.000 |
| 2NDPA | 50.0 | 14.156 | 6085.2 | 504.4 | 0.008 |
| DPA | 200.0 | 15.296 | 1602.1 | 0 | 0.000 |
| N-NitrosoDPA | 75.0 | 19.37 | 2345.7 | 612.7 | 0.000 |

2.771

| Avg. % Stabilizer for Lot | **2.771** |
|---|---|

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | |
|---|---|
| **Analyst** Mike Kile | Avg. Tot. Stabilizers **2.77** % |
| Analyst Signature | Stable YES / Unstable |
| | Comments **CATEGORY: A** |
| Lab. Supervisor Signature | |
| | Actions to be Taken |

Form #158

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND81G070061** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 12 JULY 2011** |

| Other Information | Sample Data | | Solvent |
|---|---|---|---|
| M6 Propellant | #1 | 0.50 g 100 ml | ACN |

| Standards (ERG-006) | | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 0.71 | 111 | 358.1 | 0.323 |
| 2,4-DNDPA | 50.0 | 3.475 | 1001 | 79.1 | 0.008 |
| 2,2' DNDPA | 50.0 | 5.325 | 95 | 18335 | 0.000 |
| 2,4' DNDPA | 50.0 | 7.791 | 1061.3 | 83.2 | 0.008 |
| 4NDPA | 50.0 | 9.345 | 1700.8 | 167.7 | 0.010 |
| 2NDPA | 50.0 | 10.629 | 3041.2 | 330.5 | 0.011 |
| DPA | 200.0 | 12.152 | 5943.4 | 913.3 | 0.061 |
| N-NitrosoDPA | 75.0 | 13.034 | 1443.1 | 111.8 | 0.000 |

0.421

| Avg. % Stabilizer for Lot | **0.421** |
|---|---|

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| **Analyst** Mike Kile | Avg. Tot. Stabilizers **0.42** % |
|---|---|
| Analyst Signature | Stable YES / Unstable |
| Lab. Supervisor Signature | Comments **CATEGORY: A** |
| | Actions to be Taken |

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND81F070024** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 9 DEC 2011** |

| Other Information | Sample Data | | Solvent |
|---|---|---|---|
| M6 Propellant | #1 | 0.50 g 100 ml | ACN |

| Standards (ERG-006) | | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 0.748 | 166.8 | 892.3 | 0.535 |
| 2,4-DNDPA | 50.0 | 3.333 | 991.5 | 0 | 0.000 |
| 2,2' DNDPA | 50.0 | 5.039 | 624.7 | 22530 | 0.000 |
| 2,4' DNDPA | 50.0 | 7.221 | 1076.5 | 0 | 0.000 |
| 4NDPA | 50.0 | 8.681 | 1747.7 | 46.9 | 0.003 |
| 2NDPA | 50.0 | 9.803 | 3112 | 109.9 | 0.004 |
| DPA | 200.0 | 11.276 | 5985.4 | 604.1 | 0.040 |
| N-NitrosoDPA | 75.0 | 12.035 | 1482.1 | 0 | 0.000 |

| | | |
|---|---|---|
| | | 0.582 |
| Avg. % Stabilizer for Lot | | **0.582** |

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | | |
|---|---|---|
| **Analyst** TAKISHA DICKERSON | Avg. Tot. Stabilizers | **0.58** % |
| Analyst Signature | Stable YES | Unstable |
| | Comments | |
| Lab. Supervisor Signature | **CATEGORY:** | **A** |
| | Actions to be Taken | |

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND81L070072** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 29 MAY 2012** |

| Other Information | Sample Data | | Solvent |
|---|---|---|---|
| M6 Propellant | #1 | 0.50 g 100 ml | ACN |

| Standards (ERG-006) | | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 0.86 | 235.9 | 624.2 | 0.265 |
| 2,4-DNDPA | 50.0 | 3.398 | 913.2 | 0 | 0.000 |
| 2,2' DNDPA | 50.0 | 5.133 | 1007.2 | 37338 | 0.000 |
| 2,4' DNDPA | 50.0 | 7.409 | 1002.4 | 0 | 0.000 |
| 4NDPA | 50.0 | 8.917 | 1612.8 | 156.8 | 0.010 |
| 2NDPA | 50.0 | 10.112 | 2882.2 | 297.6 | 0.010 |
| DPA | 200.0 | 11.607 | 5642.3 | 1100.9 | 0.078 |
| N-NitrosoDPA | 75.0 | 12.414 | 1351.4 | | 0.000 |
| | | | | | 0.363 |
| | | | Avg. % Stabilizer for Lot | | **0.363** |

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | |
|---|---|
| **Analyst** Takisha Dickerson | Avg. Tot. Stabilizers **0.36** % |
| Analyst Signature | Stable YES / Unstable |
| Lab. Supervisor Signature | Comments **CATEGORY: A** |
| | Actions to be Taken |

CONTAINS HAZARDOUS MATERIALS

# STRAIGHT BILL OF LADING

**NOT NEGOTIABLE** Load 30

RECEIVED, subject to the classification and tariffs in effect on the date of the issue of this Original Bill of Lading.
The property described below, in apparent good order, except as noted (contents and condition of contents of packages unknown) consigned, end destined as indicated below, which said carrier (the word carrier being understood throughout this contract meaning any person or corporation in possession of the property under the contract) agrees to curry its usual place of delivery of said destination. It on its route, otherwise to deliver to another carrier on the route to said destination. It is mutually agreed, as to each of all or any of said property over all or any portion of said route to destination, and as to each party at any time interested in all or any of said property, that every service lobe performed hereunder shall be subject to all the terms and conditions of the Uniform Domestic Straight Bill of Lading Set forth (t) in Uniform Freight Classification in effect on the date hereof, It this is a rail or rail-water shipment, or (2) in the applicable motor carrier classification or tariff it this is a motor carrier shipment.
Shipper hereby certifies that he is familiar with all the terms and conditions of the said bill of lading, set forth in the classification or tariff which governs the transportation of this shipment, and the sold terms and conditions are hereby agreed to by the shipper and accept for himself and his assigns.

Shipper: Explo Systems, Inc.
1600 Java Road
Minden, LA 71055

Shipper's No. 2889

Shipping Date 3/28/13

At

Purchase Order No.

By [illegible] RRUK

Freight Charges: Collect _____ Prepaid YYY

Location No. 2370/2319

(Mail or Street Address of Consignee — For purposes of notification only)

Consigned to Austin Powder Co
Destination 7 16 to Blanchard Rd
County East Camden AR 74
Route
Charge Account of 1 870 574 1580

State

Fed Lic. 5 AR 103 70 57 00139
State Lic.
Customer No.
Customer P.O. No.

Exp. Date 5/1/15
Exp. Date
Rel. No.

| SHIPPED No. of PKGS | SHIPPED No. of UNITS | PROPER SHIPPING NAME AND HAZARD CLASS | RETURNED No. of PKGS | RETURNED No. of UNITS | EMERGENCY RESPONSE PROCEDURE GUIDE NO. | EXEMPTION DOT-E | HM | Placards Applied to Railcar or Motor Vehicle |
|---|---|---|---|---|---|---|---|---|
| 252/16 | 4225 | UN0161, Powder, Smokeless, 1.3C, PG II | | | #112 | [illegible] | X | EXPLOSIVES 1.3 |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | Truck No. 6177 |
| | | | | | | | | Trailer No. 7310099 |
| | | | | | | | | Mileage |
| | | | | | | | | Total 252 16 FR [illegible] Packages |
| | | | | | | | | Gross Weight # [illegible] |
| | | Seal | | | | | | Net Explosive Weight |
| | | 7083847 / 7083848 | | | | | | 35180 |

RECEIVED
MAR 28 2013
6LC14
AUSTIN POWDER COMPANY
EAST CAMDEN PLANT

ENTERED 4/01/13

This is to certify that the above-named materials are properly classified, described, packaged, marked, and labeled and are in proper condition for transportation, according to the applicable regulations of the Department of Transportation.

Signature [illegible]

Invoice No. _____

FOR CHEMICAL EMERGENCY, SPILL, LEAK, FIRE, EXPOSURE OR ACCIDENT CALL CHEMTREC — DAY OR NIGHT
IN THE USA CALL 800-424-9300 IN CANADA (ERP #2-0040) 800-561-3636 ELSEWHERE CALL (703) 527-3887 [illegible]

Permanent Address of Shipper:
**Explo Systems, Inc.**
1600 Java Road
Minden, Louisiana 71055
(3) 382-8700

Per _____

DOT Hazardous Material Handling Number _____
Local Federal Explosives License No. 5-LA-119-20-1A-00057
(Shipper)

I have been offered placards identifying the shipment as Specified in 49CFR Subpart F of Part 172. I have received the above goods in apparent good order and condition.

Received By [illegible] Date 3-28-13
☐ CONSIGNEE ☐ CARRIER

By _____ Date _____
AUTHORIZED RECEIVER

CONTAINS HAZARDOUS MATERIALS

Agent must detach and retain this Shipping Order

020080

EXP_001714

AUSTIN POWDER PACKING LIST

SHIPMENT DATE 3-28-13

B/L# 2889 TRL 7810099

M-6

IND84G-070326 3 PTS
IND83E-0709273 2 PTS
IND83F-070276 9 PTS
IND81L-070072 5 PTS
IND83F-070274 1 PT
IND83D-070139 12 PTS
IND81D-070015 3 PTS
IND81H-070063 2 PTS
IND86E-070616 1 PT
IND83M-070322 4 PTS

42 PTS WITH 6 FB @140 LBS PER DRUM

TOTAL 35,280 LBS 35,280 lbs

LIONEL KOONS

EXPLO SYSTEMS INC

AUSTIN POWDER PACKING LIST

SHIPMENT DATE 3-28-13

B/L# 2889 TRL 7810099

M-6

IND84G-070326 3 PTS
IND83E-0709273 2 PTS
IND83F-070276 9 PTS
IND81L-070072 5 PTS
IND83F-070274 1 PT
IND83D-070139 12 PTS
IND81D-070015 3 PTS
IND81H-070063 2 PTS
IND86E-070616 1 PT
IND83M-070322 4 PTS

42 PTS WITH 6 FB @140 LBS PER DRUM

TOTAL 35,280 LBS

LIONEL KOONS

EXPLO SYSTEMS INC

# CSA Cargo-Related / HazMat BASIC Checklist

## Truck #:_____ Trip #:_____ Date:_____

## Initial Your Verifications

### Loading Checks

| | |
|---|---|
| ____ | Verified load count, package condition & securement - cargo immobilized from shifting, falling, or spilling. 171.2; 392.9; 393.100; or, |
| ____ | When applicable, paperwork marked by driver, "Shipment Pre-Loaded, Counted & Sealed by Shipper", add your name & date; or |
| ____ | When applicable, paperwork marked by driver, "SLC - Shipper Load and Count". You must still secure or verify securement. |
| ____ | Tie-downs are sufficient and are not damaged; all packages are secure in or on the trailer. 177.834; 173.24; 393.104; 393.100 |
| ____ | Placards applied as required and are securely affixed; placards are not damaged, deteriorated, or obscured. 172.504; 172516; 177.823 |

### Shipping Papers (SP), Emergency Response Guidebook and other Required Documents Entries for Dispatch

| | |
|---|---|
| ____ | The 3 parts of HazMat paperwork to have ready at roadside: SP, Emergency Response Guidebook (ERG) & our Contingency Plan. |
| ____ | Verified Proper Shipping Name & Basic Description with the table in 172.101 |
| ____ | Verified HazMat entries on SP: a. PSN, HC, ID#, PG - good until 12/31/12; b. ID#, PSN, HC, PG mandatory compliance 1/1/13. 172.202 |
| ____ | Verified HazMat entries are listed first, or highlighted, or tabbed, "X" in the HazMat column - HazMat entries must be first. 172.202 |
| ____ | Net Explosive Weight (NEW) must be shown (this can be estimated by shipper or you) along with gross weight on the SP. 172.202 |
| ____ | Emergency Response Guidebook (ERG) tabbed or turned to the correct E R Guide; also, noted on the SP near the PSN. 172.602 |
| ____ | Emergency Response infomation on SP - a. ER provider name & phone + contract # or name; or, b. shipper name & phone; 172.600 |
| ____ | SP Accessibility: in driver's door pouch - preferred; in driver's unoccupied seat; on dash within driver's reach when belted. 177.817 |
| ____ | When applicable, Written Explosive Route Plan - completed. 397.67(d) |
| ____ | When applicable, Written Radioactive Route Plan - completed. 397.101 |
| ____ | Communications Plan for all placarded shipments: send Macros when departing, delivering, & change of duty status. 385.415 |
| ____ | Check your permit book for current Hazardous Material Safety Permit & Hazardous Material Certificate of Registration. 385.415 |
| ____ | Verified tractor and trailer annual inspections are current. 396.17 |
| ____ | A company padlock is required when loaded or empty; you may not be able to apply a company lock on some government loads. |

### Hazardous Waste Manifests

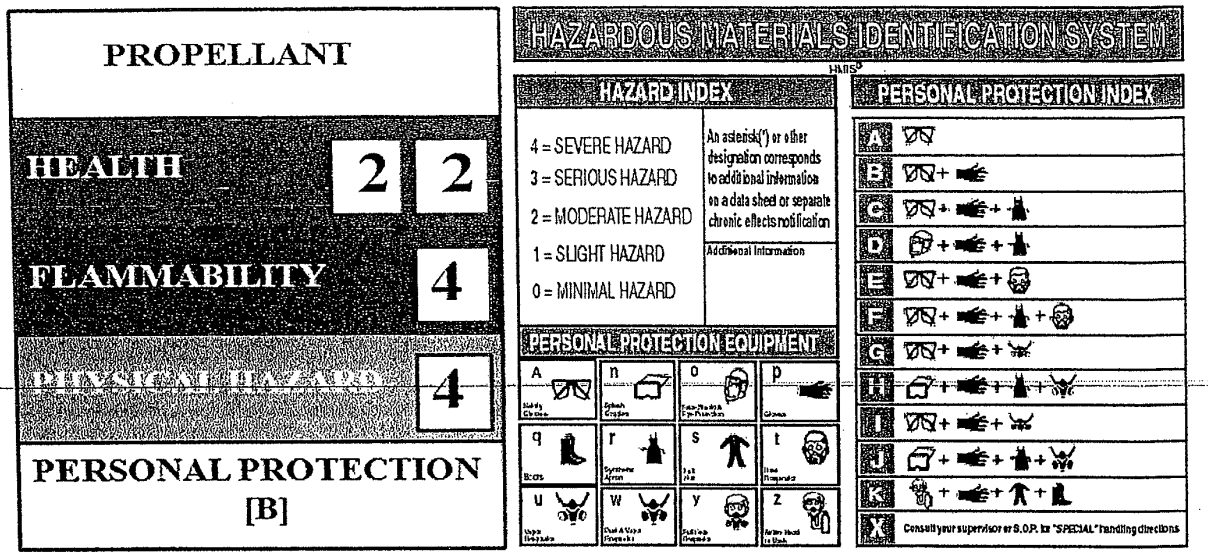
| | |
|---|---|
| ____ | Verified shipper (generator) is using correct manifest form: EPA Form 8700-22 (Rev. 3-05) and Continuation Sheet 22A, if required. |
| ____ | Verified load count, package condition & securement - cargo immobilized from shifting, falling, or spilling. 171.2; 392.9; 393.100; or, |
| ____ | Verified HazMat entries on manifest. 172.202 |
| ____ | Emergency Response Guidebook (ERG) tabbed or turned to the correct E R Guide; also, noted on manifest near the PSN. 172.602 |
| ____ | Emergency Response info on manifest - a. ER provider name & phone + contract # or name; or, b. shipper name & phone; 172.600 |
| ____ | Verified Transporter EPA ID number on manifest: R & R - MOR000501973; AATCO - MOR000501981; NEI - MOR000508838. |
| ____ | Verified with the shipper / generator they are using the correct EPA ID number (not ours). |
| ____ | Net Explosive Weight (NEW) must be shown (this can be estimated by shipper or you) along with gross weight on manifest. 172.202 |
| ____ | Only 1 driver signs the manifest, the co-driver does NOT sign as Transporter 2 - unlike a 1907 where both drivers sign. |
| ____ | Verified the entry of the total number of manifest pages - ex: Page 1 of 1; or, Page 2 of 2, etc. |

Your non-compliance at roadside directly impacts both Safety Measurement System scores (Driver and Carrier) in CSA. Non-compliance will have a greater impact on your quarterly safety incentive.

**Include this completed form with your paperwork in your next TripPak EXPRESS envelope for each shipment.**

Original 9/23/11

## SECTION II - HAZARDS IDENTIFICATION




Routes of Entry: Inhalation; Skin; Ingestion
Carcinogenicity: None
First Aid Measures: EYES - Immediately flush with copious amount of water (low pressure) for 15 minutes, remove contact lenses; call physician. SKIN - Wash with soap and running water. INGESTION - Contact physician immediately. INHALATION - Remove to fresh air. Treat irritation symptomatically; call physician.
Firefighting Measures: Self-oxidizing, deluge with water. Will not be able to extinguish unless large quantity of water is used in very short time. Use NIOSH/MSHA approved SCBA and full protective equipment; evacuate area.
Unusual Fire/Explosion Hazard: Easily ignited, highly combustible; protect from fire and sparks and extreme heat.
Autoignition: 383°F (195°C)
Hazardous Combustion Products: Oxides of Carbon
Accidental Release Measures: SPILL - Clean immediately with soft (horsehair) brush and conductive rubber or plastic shovel. Use brass or other non-sparking tools and utensils. DO NOT hammer or otherwise cause impact forces to spilled material (explosion or autoignition could occur with impact force being applied).

## SECTION III - HANDLING AND STORAGE

Precautions: Avoid prolonged temperature above 125°F (50°C). Normal storage conditions should be 75°F (21°C) and 50% Humidity. Storage must conform to local, state and federal regulations, specifically: 29 CFR OSHA 1910.109; 27 CFR BATFE 55 subpart K.
Other Special Precautions: Flammable Solid…Keep away from heat, sparks, open flame…Keep containers closed…use with adequate ventilation.
Ventilation: Local and general ventilation necessary to keep air concentration below TLV's.
Personal Protective Equipment: Safety Glasses, Cotton or Leather Gloves, Fire Resistant Coveralls.

## SECTION IV - PHYSICAL AND CHEMICAL PROPERTIES

Specific Gravity: 1.496
Evaporation Rate: <1 (Butylacetate = 1)
Solubility in Water: negligible
Appearance and Odor: Hard Cylinder Perforated, Smooth, Greenish Yellow. Odorless.
Materials to Avoid: Oxides of Nitrogen and Carbon.

Conditions to Avoid: Open Flame, Sparks, Heat, Direct Sunlight.
Hazardous Decomposition Products: Oxides of Carbon

## SECTION V – TRANSPORTATION INFORMATION

DOT Proper Shipping Name: Smokeless Powder (wetted)
Hazard Class: 1.3C
UN No. UN0161
Packing Group: II

## SECTION VI - DISPOSAL CONSIDERATIONS

Disposal must be in accordance with federal, state and local regulations. Burn in open burning ground in accordance with regulatory requirements. It may also be burned in an incinerator approved for explosives.

## DISCLAIMER

The information contained in this MSDS (Material Safety Data Sheet) is based upon available constituent data for the components of **Propellant** and is believed to be correct. However, as this information has been obtained from various sources, including the manufacturers of its components and independent laboratories, it is provided herein without warranty or representation that it is complete, accurate and can be relied upon. Explo Systems, Inc. has not attempted to conceal in any manner the deleterious aspects of this product, and makes no warranty as such. Explo Systems, Inc. cannot anticipate nor control the many situations in which this product or this information may be used; there is no guarantee that the health and safety precautions suggested herein will be proper under all conditions. It is the sole responsibility of each user of the product to determine and comply with the requirements of all applicable laws and regulations regarding its use. This information is given solely for the purposes of safety to persons and property. Any other use of this information is expressly prohibited.

## AUTHOR

This MSDS was prepared by: Ferris Callihan, PE - Director Support Technology - Explo Systems, Inc. - 1600 Java Road - Minden, LA 71055 - Tel 318 382 8700 - E-mail: fcallihan@explosystems.com

U.S. Department
of Transportation

Pipeline and Hazardous
Materials Safety Administration

East Building, PHH – 32
1200 New Jersey Avenue, Southeast
Washington, D.C. 20590

The US Department of Transportation
Competent Authority for the United States

## CLASSIFICATION OF EXPLOSIVES
## FIRST REVISION

Based upon a request by Explo Systems Inc., 1600 Java Road, Minden, LA 71055, United States the following items are classed in accordance with Section 173.56, Title 49, Code of Federal Regulations (49 CFR). A copy of your application, all supporting documentation and a copy of this approval must be retained and made available to DOT upon request.

**U.N. PROPER SHIPPING NAME AND NUMBER:**
Powder, smokeless, UN0161

**U.N. CLASSIFICATION CODE**: 1.3C

| **REFERENCE NUMBER** | **PRODUCT DESIGNATION/PART NUMBER** |
|---|---|
| EX2010040603 | Reclaimed M6 Propellant |

**NOTES:** This classification is only valid when the smokeless powder has been tested and found to have sufficient residual stabilizers present per US Army Safety Bulletin: "Inspection of Supplies and Equipment, Ammunition Surveillance Procedures" (SB 742-1). The following packaging methods are assigned:
Packaging Method A: Inner Packaging - Not necessary. Outer Packaging – UN 1G fiberdrum, each containing not more than one hundred and forty (140) pounds of smokeless propellant.
Packaging Method B: Inner Packaging: Flexible static-resistant reinforced plastic cloth and strapping lifting bag, each containing not more than eight hundred and eighty (880) pounds of smokeless propellant. Outer Packaging - UN 4G heavy-wall fiberboard box with a volumetric capacity of 119 gallons or less. (see 49 CFR Section 171.8 Definition for "Non-bulk packaging")

**DATED:** 05/05/2011

Harpreet S Virgh

For Dr. Magdy El-Sibaie
Associate Administrator for Hazardous Materials Safety

Tracking No: 2011040848

## POTENTIAL HAZARDS

### FIRE OR EXPLOSION

- **MAY EXPLODE AND THROW FRAGMENTS 1600 meters (1 MILE) OR MORE IF FIRE REACHES CARGO.**
- **For information on "Compatibility Group" letters, refer to Glossary section.**

### HEALTH

- Fire may produce irritating, corrosive and/or toxic gases.

## PUBLIC SAFETY

- **CALL Emergency Response Telephone Number on Shipping Paper first. If Shipping Paper not available or no answer, refer to appropriate telephone number listed on the inside back cover.**
- Isolate spill or leak area immediately for at least 500 meters (1/3 mile) in all directions.
- Move people out of line of sight of the scene and away from windows.
- Keep unauthorized personnel away.
- Stay upwind.
- Ventilate closed spaces before entering.

### PROTECTIVE CLOTHING

- Wear positive pressure self-contained breathing apparatus (SCBA).
- Structural firefighters' protective clothing will only provide limited protection.

### EVACUATION

**Large Spill**

- **Consider initial evacuation for 800 meters (1/2 mile) in all directions.**

**Fire**

- If rail car or trailer is involved in a fire and heavily encased explosives such as bombs or artillery projectiles are suspected, ISOLATE for 1600 meters (1 mile) in all directions; also, initiate evacuation including emergency responders for 1600 meters (1 mile) in all directions.
- When heavily encased explosives are not involved, evacuate the area for 800 meters (1/2 mile) in all directions.

*** For information on "Compatibility Group" letters, refer to the Glossary section.**





## EMERGENCY RESPONSE

### FIRE

**CARGO Fire**

- **DO NOT fight fire when fire reaches cargo! Cargo may EXPLODE!**
- Stop all traffic and clear the area for at least 1600 meters (1 mile) in all directions and let burn.
- **Do not move cargo or vehicle if cargo has been exposed to heat.**

**TIRE or VEHICLE Fire**

- **Use plenty of water - FLOOD it! If water is not available, use $CO_2$, dry chemical or dirt.**
- If possible, and WITHOUT RISK, use unmanned hose holders or monitor nozzles from maximum distance to prevent fire from spreading to cargo area.
- Pay special attention to tire fires as re-ignition may occur. Stand by with extinguisher ready.

### SPILL OR LEAK

- ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area).
- All equipment used when handling the product must be grounded.
- Do not touch or walk through spilled material.
- DO NOT OPERATE RADIO TRANSMITTERS WITHIN 100 meters (330 feet) OF ELECTRIC DETONATORS.
- **DO NOT CLEAN-UP OR DISPOSE OF, EXCEPT UNDER SUPERVISION OF A SPECIALIST.**

### FIRST AID

- Move victim to fresh air. • Call 911 or emergency medical service.
- Give artificial respiration if victim is not breathing.
- Administer oxygen if breathing is difficult.
- Remove and isolate contaminated clothing and shoes.
- In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes.
- Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves.

*** For information on "Compatibility Group" letters, refer to the Glossary section.**



EXP_001721

020087

32
2889

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND86E070616** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 19 NOV 2010** |

| Other Information | Sample Data | | Solvent |
|---|---|---|---|
| M6 Propellant | #1 | 0.5000 g 100 ml | ACN |

| Standards (ERG-006) | | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 2.068 | 135.8 | 654.4 | 0.482 |
| 2,4-DNDPA | 50.0 | 5.182 | 717.3 | 0 | 0.000 |
| 2,2' DNDPA | 50.0 | 7.635 | 736.3 | 13022.2 | 0.000 |
| 2,4' DNDPA | 50.0 | 11.713 | 779 | 0 | 0.000 |
| 4NDPA | 50.0 | 13.454 | 462.4 | 0 | 0.000 |
| 2NDPA | 50.0 | 15.161 | 1164.1 | 0 | 0.000 |
| DPA | 200.0 | 16.583 | 4078.5 | 221.2 | 0.022 |
| N-NitrosoDPA | 75.0 | 18.033 | 1011.7 | 0 | 0.000 |

0.504

Avg. % Stabilizer for Lot **0.504**

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | |
|---|---|
| **Analyst** Kisha Dickerson | Avg. Tot. Stabilizers **0.50** % |
| Analyst Signature | Stable YES / Unstable |
| | Comments **CATEGORY: A** |
| Lab. Supervisor Signature | |
| | Actions to be Taken |

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND84G070326** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 3 MAY 2012** |

| Other Information | Sample Data | | | Solvent |
|---|---|---|---|---|
| M6 Propellant | #1 | 0.50 g | 100 ml | ACN |

| | Standards (ERG-006) | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 0.867 | 104.4 | 324.4 | 0.311 |
| 2,4-DNDPA | 50.0 | 3.335 | 1105.6 | 0 | 0.000 |
| 2,2' DNDPA | 50.0 | 5.007 | 4986.7 | 23068 | 0.000 |
| 2,4' DNDPA | 50.0 | 7.137 | 1206.9 | 0 | 0.000 |
| 4NDPA | 50.0 | 8.593 | 1969.2 | 87.1 | 0.004 |
| 2NDPA | 50.0 | 9.688 | 3527.8 | 151.4 | 0.004 |
| DPA | 200.0 | 11.153 | 7041.6 | 785.8 | 0.045 |
| N-NitrosoDPA | 75.0 | 11.897 | 1704.5 | | 0.000 |
| | | | | | 0.364 |
| | | Avg. % Stabilizer for Lot | | | **0.364** |

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | |
|---|---|
| **Analyst** Takisha Dickerson | Avg. Tot. Stabilizers **0.36** % |
| Analyst Signature | Stable YES \| Unstable |
| Lab. Supervisor Signature | Comments **CATEGORY: A** |
| | Actions to be Taken |

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND83M070322** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 23 JULY 2010** |

| Other Information | Sample Data | | Solvent |
|---|---|---|---|
| M6 Propellant | #1 | 0.5000 g 100 ml | ACN |

| Standards (ERG-006) | | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 2.1 | 138.2 | 340.6 | 0.251 |
| 2,4-DNDPA | 50.0 | 4.911 | 1162.1 | 283.8 | 0.025 |
| 2,2' DNDPA | 50.0 | 6.723 | 453.3 | 0 | 0.000 |
| 2,4' DNDPA | 50.0 | 9.11 | 1583.4 | 0 | 0.000 |
| 4NDPA | 50.0 | 10.528 | 2068.9 | 0 | 0.000 |
| 2NDPA | 50.0 | 11.725 | 3520.6 | 3386 | 0.098 |
| DPA | 200.0 | 13.111 | 6312.2 | 0 | 0.000 |
| N-NitrosoDPA | 75.0 | 13.888 | 1967 | 0 | 0.000 |

| | | |
|---|---|---|
| | | 0.374 |
| | Avg. % Stabilizer for Lot | **0.374** |

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | |
|---|---|
| **Analyst** MARTY | Avg. Tot. Stabilizers **0.37** % |
| Analyst Signature | Stable YES / Unstable |
| | Comments **CATEGORY: A** |
| Lab. Supervisor Signature | |
| | Actions to be Taken |

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND83F070274** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 27 JULY 2011** |

Other Information
M6 Propellant

| Sample Data | | | Solvent |
|---|---|---|---|
| #1 | 0.50 g | 100 ml | ACN |

| Standards (ERG-006) | | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 0.694 | 112.8 | 622.1 | 0.552 |
| 2,4-DNDPA | 50.0 | 3.477 | 942.8 | 0 | 0.000 |
| 2,2' DNDPA | 50.0 | 5.339 | 77.4 | 22209 | 0.000 |
| 2,4' DNDPA | 50.0 | 7.842 | 1020.3 | 0 | 0.000 |
| 4NDPA | 50.0 | 9.392 | 1634.2 | 48.5 | 0.003 |
| 2NDPA | 50.0 | 10.693 | 2956.2 | 98.3 | 0.003 |
| DPA | 200.0 | 12.201 | 5630.5 | 451.4 | 0.032 |
| N-NitrosoDPA | 75.0 | 13.103 | 1385.2 | 0 | 0.000 |

0.590

Avg. % Stabilizer for Lot **0.590**

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | |
|---|---|
| **Analyst** Takisha Dickerson | Avg. Tot. Stabilizers **0.59** % |
| Analyst Signature | Stable YES / Unstable |
| Lab. Supervisor Signature | Comments **CATEGORY: A** |
| | Actions to be Taken |

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND83F070276** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 4 Sep 2012** |

Other Information
M6 Propellant

| Sample Data | | | Solvent |
|---|---|---|---|
| #1 | 0.50 g | 100 ml | ACN |

| Standards (ERG-006) | | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 0.889 | 48.8 | 578.6 | 1.186 |
| 2,4-DNDPA | 50.0 | 3.418 | 914.3 | 0 | 0.000 |
| 2,2' DNDPA | 50.0 | 5.22 | 777.3 | 23990 | 0.000 |
| 2,4' DNDPA | 50.0 | 7.622 | 980.5 | 0 | 0.000 |
| 4NDPA | 50.0 | 9.134 | 1586.8 | 40.6 | 0.003 |
| 2NDPA | 50.0 | 10.417 | 2826.3 | 88.7 | 0.003 |
| DPA | 200.0 | 11.797 | 5671.5 | 812.6 | 0.057 |
| N-NitrosoDPA | 75.0 | 12.757 | 1337.5 | 0 | 0.000 |

| | | |
|---|---|---|
| | | 1.249 |
| Avg. % Stabilizer for Lot | | **1.249** |

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | |
|---|---|
| **Analyst** Mike Kile | Avg. Tot. Stabilizers **1.25** % |
| Analyst Signature | Stable YES \| Unstable |
| | Comments |
| Lab. Supervisor Signature | **CATEGORY: A** |
| | Actions to be Taken |

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND81D070015** | **D533 / M6 propellant** |
| Date of analysis: | **Date:20 OCT 2010** |

| Other Information | Sample Data | | | Solvent |
|---|---|---|---|---|
| M6 Propellant | #1 | 0.5000 g | 100 ml | ACN |

| | Standards (ERG-006) | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 5.024 | 281.6 | 2363.4 | 0.839 |
| 2,4-DNDPA | 50.0 | 10.59 | 329 | 0 | 0.000 |
| 2,2' DNDPA | 50.0 | 12.176 | 376.1 | 0 | 0.000 |
| 2,4' DNDPA | 50.0 | 12.67 | 275.3 | 35.7 | 0.013 |
| 4NDPA | 50.0 | 13.632 | 664.1 | 0 | 0.000 |
| 2NDPA | 50.0 | 14.943 | 1788.8 | 34.8 | 0.002 |
| DPA | 200.0 | 16.114 | 286 | 0 | 0.000 |
| N-NitrosoDPA | 75.0 | 19.917 | 329.9 | 158.8 | 0.000 |

| | | |
|---|---|---|
| | | 0.854 |
| Avg. % Stabilizer for Lot | | **0.854** |

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | | |
|---|---|---|
| **Analyst** Kisha Dickerson | Avg. Tot. Stabilizers | **0.85** % |
| Analyst Signature | Stable YES | Unstable |
| | Comments | |
| Lab. Supervisor Signature | **CATEGORY:** | **A** |
| | Actions to be Taken | |

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND81L070072** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 29 MAY 2012** |

Other Information
M6 Propellant

| Sample Data | | | Solvent |
|---|---|---|---|
| #1 | 0.50 g | 100 ml | ACN |

| Standards (ERG-006) | | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 0.86 | 235.9 | 624.2 | 0.265 |
| 2,4-DNDPA | 50.0 | 3.398 | 913.2 | 0 | 0.000 |
| 2,2' DNDPA | 50.0 | 5.133 | 1007.2 | 37338 | 0.000 |
| 2,4' DNDPA | 50.0 | 7.409 | 1002.4 | 0 | 0.000 |
| 4NDPA | 50.0 | 8.917 | 1612.8 | 156.8 | 0.010 |
| 2NDPA | 50.0 | 10.112 | 2882.2 | 297.6 | 0.010 |
| DPA | 200.0 | 11.607 | 5642.3 | 1100.9 | 0.078 |
| N-NitrosoDPA | 75.0 | 12.414 | 1351.4 | | 0.000 |

0.363

| Avg. % Stabilizer for Lot | **0.363** |
|---|---|

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | |
|---|---|
| **Analyst** Takisha Dickerson | Avg. Tot. Stabilizers **0.36** % |
| Analyst Signature | Stable YES / Unstable |
| Lab. Supervisor Signature | Comments<br>**CATEGORY: A** |
| | Actions to be Taken |

CONTAINS HAZARDOUS MATERIALS

# STRAIGHT BILL OF LADING

**NOT NEGOTIABLE** Load 33

RECEIVED, subject to the classification and tariffs in effect on the date of the issue of this Original Bill of Lading.
The property described below, in apparent good order, except as noted (contents and condition of contents of packages unknown) consigned, and destined as indicated below, ch said carrier (the word carrier being understood throughout this contract meaning any person or corporation in possession of the property under the contract) agrees to curry .ts usual place of delivery of said destination. It on its route, otherwise to deliver to another carrier on the route to said destination. It is mutually agreed, as to each of all or any of said property over all or any portion of said route to destination, and as to each party at any time interested in all or any of said property, that every service lobe performed hereunder shall be subject to all the terms and conditions of the Uniform Domestic Straight Bill of Lading Set forth (t) in Uniform Freight Classification in effect on the date hereof, It this is a rail or rail-water shipment, or (2) in the applicable motor carrier classification or tariff it this is a motor carrier shipment.

Shipper hereby certifies that he is familiar with all the terms and conditions of the said bill of lading, set forth in the classification or tariff which governs the transportation of this shipment, and the sold terms and conditions are hereby agreed to by the shipper and accept for himself and his assigns.

Shipper: Explo Systems, Inc.
1600 Java Road
Minden, LA 71055

Shipper's No. 2893

Shipping Date 3/31/13

At

Purchase Order No.

By RPUK

Freight Charges: Collect _____ Prepaid XXX

Location No. 2363

(Mail or Street Address of Consignee — For purposes of notification only)

Consigned to Austin Powder Co 2411 Bloomfield Rd

Destination [illegible] State

County

Route

Charge Account of [illegible]

Fed Lic. [illegible] Exp. Date [illegible]

State Lic. Exp. Date

Customer No.

Customer P.O. No. Rel. No.

| SHIPPED No. of PKGS | SHIPPED No. of UNITS | PROPER SHIPPING NAME AND HAZARD CLASS | RETURNED No. of PKGS | RETURNED No. of UNITS | EMERGENCY RESPONSE PROCEDURE GUIDE NO. | EXEMPTION DOT-E | H M | Placards Applied to Railcar or Motor Vehicle |
|---|---|---|---|---|---|---|---|---|
| 352/kg | 47PT | UN0161, Powder, Smokeless, 1.3C, PG II | | | #112 | [illegible] | X | EXPLOSIVES 1.3 |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | Truck No. 7306 |
| | | | | | | | | Trailer No. 75/10059 |
| | | [illegible] Kelly | | | | | | Mileage |
| | | Marc Kelly 4/1/13 | | | | | | Total 25 2 1K FD Packages |
| No pk list | | Seal # | | | | | | Gross Weight # 39000 |
| | | 208355/208556 | | | | | | Net Explosive Weight 25 260 |

RECEIVED
APR – 1 2013
AUSTIN POWDER COMPANY
EAST CAMDEN PLANT

ENTERED
4/01/13

This is to certify that the above-named materials are properly classified, described, packaged, marked, and labeled and are in proper condition for transportation, according to the applicable regulations of the Department of Transportation.

Signature [illegible]

Invoice No. _____

FOR CHEMICAL EMERGENCY, SPILL, LEAK, FIRE, EXPOSURE OR ACCIDENT CALL CHEMTREC — DAY OR NIGHT
IN THE USA CALL 800-424-9300 IN CANADA (ERP #2-0040) 800-561-3636 ELSEWHERE CALL (703) 527-3887

Permanent Address of Shipper:
**Explo Systems, Inc.**
1600 Java Road
[illegible]len, Louisiana 71055
[illegible]) 382-8700

Per _____

DOT Hazardous Material Handling Number _____
Local Federal Explosives License No. 5-LA-119-20-1A-00057
(Shipper)

I have been offered placards identifying the shipment as Specified in 49CFR Subpart F of Part 172. I have received the above goods in apparent good order and condition.

Received By _____ Date _____
☐ CONSIGNEE ☐ CARRIER

By _____ Date _____
AUTHORIZED RECEIVER

CONTAINS HAZARDOUS MATERIALS

Agent must detach and retain this Shipping Order

020095

EXP_001729

# MOTOR VEHICLE INSPECTION (TRANSPORTING HAZARDOUS MATERIALS)

*(Read Instructions before completing this form.)*

This form applies to all vehicles which must be marked or placarded in accordance with Title 49 CFR.

1. BILL OF LADING/TRANSPORTATION CONTROL NUMBER: 2893

| SECTION 1 - DOCUMENTATION | ORIGIN a. | DESTINATION b. |
|---|---|---|
| 2. CARRIER/GOVERNMENT ORGANIZATION | RICK | |
| 3. DATE/TIME OF INSPECTION | 3/31/13 | |
| 4. LOCATION OF INSPECTION | EXPLO SYSTEMS INC | |
| 5. OPERATOR(S) NAME(S) | | |
| 6. OPERATOR(S) LICENSE NUMBER(S) | P32082549060 | |
| 7. MEDICAL EXAMINER'S CERTIFICATE* | 225-15 | |

8. *(X if satisfactory at origin)*

| | | | | | | 9. CVSA DECAL DISPLAYED ON COMMERCIAL EQUIPMENT* | YES | NO |
|---|---|---|---|---|---|---|---|---|
| a. MILITARY HAZMAT ENDORSEMENT | | d. ERG OR EQUIVALENT COMMERCIAL: | ✓ | YES | NO | a. TRUCK/TRACTOR | ✓ | |
| b. VALID LEASE* | — | e. DRIVER'S VEHICLE INSPECTION REPORT* | | | | b. TRAILER | | |
| c. ROUTE PLAN | ✓ | f. COPY OF 49 CFR PART 397 | | | | | | |

## SECTION II - MECHANICAL INSPECTION

*All items shall be checked on empty equipment prior to loading. Items with an asterisk shall be checked on all incoming loaded equipment.*

10. TYPE OF VEHICLE(S): TRACTOR / TRAILER / DROM

11. VEHICLE NUMBER(S): TRAC # / TRL # 7810099

| 12. PART INSPECTED (X as applicable) | ORIGIN (1) SAT | ORIGIN (1) UNSAT | DESTINATION (2) SAT | DESTINATION (2) UNSAT | | ORIGIN (1) SAT | ORIGIN (1) UNSAT | DESTINATION (2) SAT | DESTINATION (2) UNSAT | COMMENTS (3) |
|---|---|---|---|---|---|---|---|---|---|---|
| a. SPARE ELECTRICAL FUSES | | | | | k. EXHAUST SYSTEM | | | | | |
| b. HORN OPERATIVE | | | | | L. BRAKE SYSTEM* | | | | | |
| c. STEERING SYSTEM | | | | | m. SUSPENSION | | | | | |
| d. WINDSHIELD/WIPERS | | | | | n. COUPLING DEVICES | | | | | |
| e. MIRRORS | | | | | o. CARGO SPACE | | | | | |
| f. WARNING EQUIPMENT | | | | | p. LANDING GEAR* | | | | | |
| g. FIRE EXTINGUISHER* | | | | | q. TIRES, WHEELS, RIMS | | | | | |
| h. ELECTRICAL WIRING | | | | | r. TAILGATE/DOORS* | | | | | |
| i. LIGHTS AND REFLECTORS | | | | | s. TARPAULIN* | N/A | | | | |
| j. FUEL SYSTEM* | | | | | t. OTHER (Specify) | | | | | |

13. INSPECTION RESULTS (X one) ACCEPTED ✓ REJECTED

*(If rejected give reason under "Remarks". Equipment will be approved if deficiencies are corrected prior to loading.)*

14. SATELLITE MOTOR SURVEILLANCE SYSTEM: (X one) ACCEPTED N/A REJECTED

15. REMARKS

16. INSPECTOR SIGNATURE (Origin) 4/1/13

17. INSPECTOR SIGNATURE (Destination)

## SECTION III - POST LOADING INSPECTION

This section applies to Commercial and Government/Military vehicles. All items will be checked prior to release of loaded equipment and shall be checked on all incoming loaded equipment.

| | ORIGIN (1) SAT | ORIGIN (1) UNSAT | DESTINATION (2) SAT | DESTINATION (2) UNSAT | COMMENTS (3) |
|---|---|---|---|---|---|
| 18. LOADED IAW APPLICABLE SEGREGATION/COMPATIBILITY TABLE OF 49 CFR | | | | | |
| 19. LOAD PROPERLY SECURED TO PREVENT MOVEMENT | | | | | |
| 20. SEALS APPLIED TO CLOSED VEHICLE; TARPAULIN APPLIED ON OPEN EQUIPMENT | | | | | |
| 21. PROPER PLACARDS APPLIED | | | | | |
| 22. SHIPPING PAPERS/DD FORM 836 FOR GOVERNMENT VEHICLE SHIPMENTS | N/A | | | | |
| 23. COPY OF DD FORM 626 FOR DRIVER | | | | | |
| 24. SHIPPED UNDER DOT SPECIAL PERMIT 868 | N/A | | | | |

25. INSPECTOR SIGNATURE (Origin)

26. DRIVER(S) SIGNATURE (Origin)

27. INSPECTOR SIGNATURE (Destination)

28. DRIVER(S) SIGNATURE (Destination)

EXPLO SYSTEMS, INC.

**Explo Systems, Inc.**
**1600 Java Road**
**Minden, LA 71055**

# MATERIAL SAFETY DATA SHEET

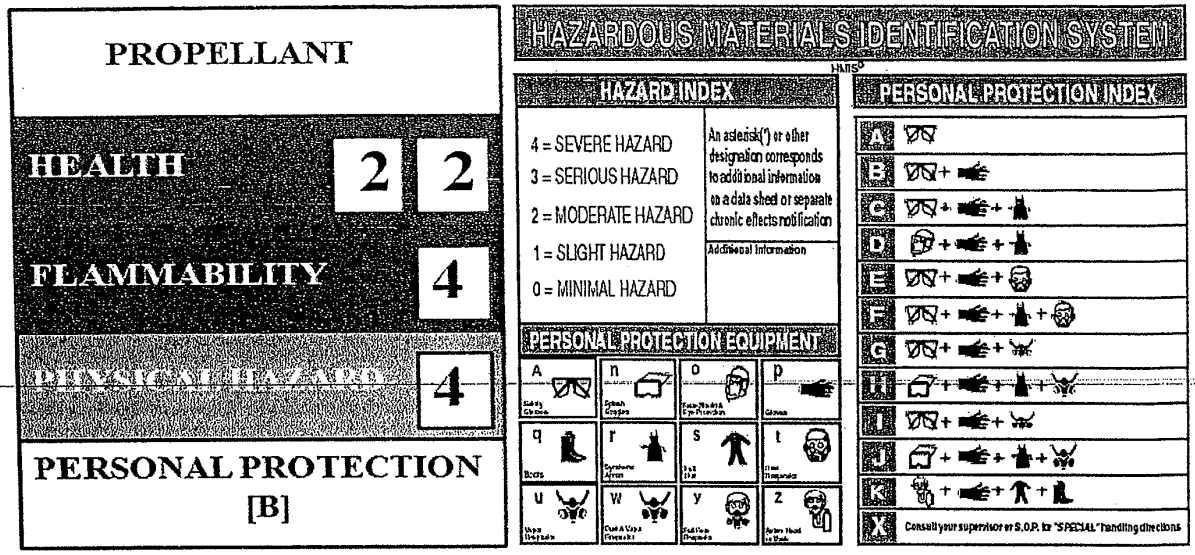
## PROPELLANT (Wetted)

## SECTION I - PRODUCT IDENTIFICATION

PRODUCT NAME: Propellant, Explosive, Solid, Wetted
Technical Information Phone No.: 318.382.8700
For Chemical Emergency (Spill, Fire, Exposure or Accident) call CHEMTREC day or night. Within the US and Canada: +1 800-424-9300. Outside the US and Canada: +1 703-527-3887 (collect calls accepted).

| **Ingredient** | **CAS No.** | **Wt. %** | **OSHA PEL**<br>**ACGIH TLV**<br>**EPA RQ (if defined)**<br>**DOT RQ (if defined)** |
|---|---|---|---|
| Dibutyl Phthalate | 84-74-2 | 3.00 | OSHA PEL 5 mg/m$^3$<br>ACGIH TLV 5 mg/m$^3$<br>EPA RQ 10 lbs<br>DOT RQ 10 lbs |
| Diphenylamine | 122-39-4 | 1.00 | OSHA PEL 10 mg/m$^3$<br>ACGIH TLV 10 mg/m$^3$<br>EPA RQ (none defined)<br>DOT RQ (none defined) |
| Potassium Sulfate | 7778-80-5 | 2.00 | OSHA PEL none published<br>ACGIH TLV none published<br>EPA RQ (none defined)<br>DOT RQ (none defined) |
| Nitrocellulose (flammable solid) | -- | 87.00 | OSHA PEL none published<br>ACGIH TLV none published<br>EPA RQ (none defined)<br>DOT RQ (none defined) |
| Dinitrotoluene | 25321-14-6 | 10.00 | OSHA PEL 10 mg/m$^3$<br>ACGIH TLV 10 mg/m$^3$<br>EPA RQ 10 lbs<br>DOT RQ 10 lbs |

## SECTION II - HAZARDS IDENTIFICATION




Routes of Entry: Inhalation; Skin; Ingestion
Carcinogenicity: None
First Aid Measures: EYES - Immediately flush with copious amount of water (low pressure) for 15 minutes, remove contact lenses; call physician. SKIN - Wash with soap and running water. INGESTION - Contact physician immediately. INHALATION - Remove to fresh air. Treat irritation symptomatically; call physician.
Firefighting Measures: Self-oxidizing, deluge with water. Will not be able to extinguish unless large quantity of water is used in very short time. Use NIOSH/MSHA approved SCBA and full protective equipment; evacuate area.
Unusual Fire/Explosion Hazard: Easily ignited, highly combustible; protect from fire and sparks and extreme heat.
Autoignition: 383°F (195°C)
Hazardous Combustion Products: Oxides of Carbon
Accidental Release Measures: SPILL - Clean immediately with soft (horsehair) brush and conductive rubber or plastic shovel. Use brass or other non-sparking tools and utensils. DO NOT hammer or otherwise cause impact forces to spilled material (explosion or autoignition could occur with impact force being applied).

## SECTION III - HANDLING AND STORAGE

Precautions: Avoid prolonged temperature above 125°F (50°C). Normal storage conditions should be 75°F (21°C) and 50% Humidity. Storage must conform to local, state and federal regulations, specifically: 29 CFR OSHA 1910.109; 27 CFR BATFE 55 subpart K.
Other Special Precautions: Flammable Solid…Keep away from heat, sparks, open flame…Keep containers closed…use with adequate ventilation.
Ventilation: Local and general ventilation necessary to keep air concentration below TLV's.
Personal Protective Equipment: Safety Glasses, Cotton or Leather Gloves, Fire Resistant Coveralls.

## SECTION IV - PHYSICAL AND CHEMICAL PROPERTIES

Specific Gravity: 1.496
Evaporation Rate: <1 (Butylacetate = 1)
Solubility in Water: negligible
Appearance and Odor: Hard Cylinder Perforated, Smooth, Greenish Yellow. Odorless.
Materials to Avoid: Oxides of Nitrogen and Carbon.

Conditions to Avoid: Open Flame, Sparks, Heat, Direct Sunlight.
Hazardous Decomposition Products: Oxides of Carbon

## SECTION V – TRANSPORTATION INFORMATION

DOT Proper Shipping Name: Smokeless Powder (wetted)
Hazard Class: 1.3C
UN No. UN0161
Packing Group: II

## SECTION VI - DISPOSAL CONSIDERATIONS

Disposal must be in accordance with federal, state and local regulations. Burn in open burning ground in accordance with regulatory requirements. It may also be burned in an incinerator approved for explosives.

## DISCLAIMER

The information contained in this MSDS (Material Safety Data Sheet) is based upon available constituent data for the components of **Propellant** and is believed to be correct. However, as this information has been obtained from various sources, including the manufacturers of its components and independent laboratories, it is provided herein without warranty or representation that it is complete, accurate and can be relied upon. Explo Systems, Inc. has not attempted to conceal in any manner the deleterious aspects of this product, and makes no warranty as such. Explo Systems, Inc. cannot anticipate nor control the many situations in which this product or this information may be used; there is no guarantee that the health and safety precautions suggested herein will be proper under all conditions. It is the sole responsibility of each user of the product to determine and comply with the requirements of all applicable laws and regulations regarding its use. This information is given solely for the purposes of safety to persons and property. Any other use of this information is expressly prohibited.

## AUTHOR

This MSDS was prepared by: Ferris Callihan, PE - Director Support Technology - Explo Systems, Inc. - 1600 Java Road - Minden, LA 71055 - Tel 318 382 8700 - E-mail: fcallihan@explosystems.com

U.S. Department
of Transportation

Pipeline and Hazardous
Materials Safety Administration

East Building, PHH – 32
1200 New Jersey Avenue, Southeast
Washington, D.C. 20590

The US Department of Transportation
Competent Authority for the United States

## CLASSIFICATION OF EXPLOSIVES
## FIRST REVISION

Based upon a request by Explo Systems Inc., 1600 Java Road, Minden, LA 71055, United States the following items are classed in accordance with Section 173.56, Title 49, Code of Federal Regulations (49 CFR). A copy of your application, all supporting documentation and a copy of this approval must be retained and made available to DOT upon request.

**U.N. PROPER SHIPPING NAME AND NUMBER:**
Powder, smokeless, UN0161

**U.N. CLASSIFICATION CODE**: 1.3C

| REFERENCE NUMBER | PRODUCT DESIGNATION/PART NUMBER |
|---|---|
| EX2010040603 | Reclaimed M6 Propellant |

**NOTES:** This classification is only valid when the smokeless powder has been tested and found to have sufficient residual stabilizers present per US Army Safety Bulletin: "Inspection of Supplies and Equipment, Ammunition Surveillance Procedures" (SB 742-1). The following packaging methods are assigned:
Packaging Method A: Inner Packaging - Not necessary. Outer Packaging – UN 1G fiberdrum, each containing not more than one hundred and forty (140) pounds of smokeless propellant.
Packaging Method B: Inner Packaging: Flexible static-resistant reinforced plastic cloth and strapping lifting bag, each containing not more than eight hundred and eighty (880) pounds of smokeless propellant. Outer Packaging - UN 4G heavy-wall fiberboard box with a volumetric capacity of 119 gallons or less. (see 49 CFR Section 171.8 Definition for "Non-bulk packaging")

**DATED:** 05/05/2011

Harpreet S Virgh

For Dr. Magdy El-Sibaie
Associate Administrator for Hazardous Materials Safety

Tracking No: 2011040848



020100

EXP_001734

CONTAINS HAZARDOUS MATERIALS

# STRAIGHT BILL OF LADING

**NOT NEGOTIABLE** Load 34

RECEIVED, subject to the classification and tariffs in effect on the date of the issue of this Original Bill of Lading.
The property described below, in apparent good order, except as noted (contents and condition of contents of packages unknown) consigned, end destined as indicated below, which said carrier (the word carrier being understood throughout this contract meaning any person or corporation in possession of the property under the contract) agrees to curry to its usual place of delivery of said destination. It on its route, otherwise to deliver to another carrier on the route to said destination. It is mutually agreed, as to each of all or any of said property over all or any portion of said route to destination, and as to each party at any time interested in all or any of said property, that every service lobe performed hereunder shall be subject to all the terms and conditions of the Uniform Domestic Straight Bill of Lading Set forth (t) in Uniform Freight Classification in effect on the date hereof, It this is a rail or rail-water shipment, or (2) in the applicable motor carrier classification or tariff it this is a motor carrier shipment.

Shipper hereby certifies that he is familiar with all the terms and conditions of the said bill of lading, set forth in the classification or tariff which governs the transportation of this shipment, and the sold terms and conditions are hereby agreed to by the shipper and accept for himself and his assigns.

Shipper: Explo Systems, Inc.
1600 Java Road
Minden, LA 71055

WO# 215590

Shipper's No. 2891

Shipping Date 3/31/13

At

Purchase Order No.

By RRW

Freight Charges: Collect _____ Prepaid XXX

Location No. 2319

(Mail or Street Address of Consignee — For purposes of notification only)

Consigned to Austin Powder Co

Destination Pleasant Grove

State

County Camden

Route

Charge Account of Austin Powder Co

Fed Lic. 5-LA-119-20-1A-00057 Exp. Date 5/1/15

State Lic. Exp. Date

Customer No.

Customer P.O. No. Rel. No.

| SHIPPED No. of PKGS | SHIPPED No. of UNITS | PROPER SHIPPING NAME AND HAZARD CLASS | RETURNED No. of PKGS | RETURNED No. of UNITS | EMERGENCY RESPONSE PROCEDURE GUIDE NO. | EXEMPTION DOT-E | H M | Placards Applied to Railcar or Motor Vehicle |
|---|---|---|---|---|---|---|---|---|
| | | UN0161, Powder, Smokeless, 1.3C, PG II | | | #112 | | | EXPLOSIVES 1.3 |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | Truck No. 2077 |
| | | | | | | | | Trailer No. |
| | | | | | | | | Mileage |
| | | | | | | | | Total Packages |
| | | | | | | | | Gross Weight # |
| | | Seal | | | | | | Net Explosive Weight |
| | | 20K Rail Car Base | | | | | | 25,200 |

RECEIVED
6CC14
APR - 1 2013
AUSTIN POWDER COMPANY
CAMDEN PLANT

ENTERED
4/01/13

This is to certify that the above-named materials are properly classified, described, packaged, marked, and labeled and are in proper condition for transportation, according to the applicable regulations of the Department of Transportation.

Signature _____

Invoice No. _____

FOR CHEMICAL EMERGENCY, SPILL, LEAK, FIRE, EXPOSURE OR ACCIDENT CALL CHEMTREC — DAY OR NIGHT
IN THE USA CALL 800-424-9300 IN CANADA (ERP #2-0040) 800-561-3636 ELSEWHERE CALL (703) 527-3887

Permanent Address of Shipper:
**Explo Systems, Inc.**
1600 Java Road
Minden, Louisiana 71055
(318) 382-8700

Per _____

DOT Hazardous Material Handling Number _____
Local Federal Explosives License No. 5-LA-119-20-1A-00057
(Shipper)

I have been offered placards identifying the shipment as Specified in 49CFR Subpart F of Part 172. I have received the above goods in apparent good order and condition.

Received By _____ Date 4-1-13
☐ CONSIGNEE ☐ CARRIER

By _____ Date _____
AUTHORIZED RECEIVER

CONTAINS HAZARDOUS MATERIALS

Agent must detach and retain this Shipping Order

020102

EXP_001736

AUSTIN POWDER PACKING LIST

SHIPMENT DATE 3-31-13

B/L# 2891 TRL 181004

M-6

Load 34
6CC14

IND89D-071039 14 PTS
IND85C-070512 3 PTS
IND82E-070115 6 PTS
IND82H-070167 1 PT
IND87B-070678 1 PT
IND83E-070273 6 PTS
IND81H-070063 9 PTS
IND83K-070319 1 PT
IND81L-070072 1 PT

42 PTS WITH 6 FB @140 LBS PER DRUM

TOTAL 35,280 LBS

LIONEL KOONS

EXPLO SYSTEMS INC

# MOTOR VEHICLE INSPECTION (TRANSPORTING HAZARDOUS MATERIALS)

*(Read Instructions before completing this form.)*

This form applies to all vehicles which must be marked or placarded in accordance with Title 49 CFR.

1. BILL OF LADING/TRANSPORTATION CONTROL NUMBER: 289

| SECTION 1 - DOCUMENTATION | ORIGIN a. | DESTINATION b. |
|---|---|---|
| 2. CARRIER/GOVERNMENT ORGANIZATION | RRVC | |
| 3. DATE/TIME OF INSPECTION | 3/31/13 | |
| 4. LOCATION OF INSPECTION | EXPLO SYSTEMS INC | |
| 5. OPERATOR(S) NAME(S) | | |
| 6. OPERATOR(S) LICENSE NUMBER(S) | 13631449 | |
| 7. MEDICAL EXAMINER'S CERTIFICATE* | MA00238 | |

8. *(X if satisfactory at origin)*

| | | | | | |
|---|---|---|---|---|---|
| a. MILITARY HAZMAT ENDORSEMENT | ✓ | d. ERG OR EQUIVALENT COMMERCIAL: | (YES | NO | |
| b. VALID LEASE* | ✓ | e. DRIVER'S VEHICLE INSPECTION REPORT* | | ✓ | |
| c. ROUTE PLAN | ✓ | f. COPY OF 49 CFR PART 397 | | ✓ | |

9. CVSA DECAL DISPLAYED ON COMMERCIAL EQUIPMENT*

| | YES | NO |
|---|---|---|
| a. TRUCK/TRACTOR | ✓ | |
| b. TRAILER | | |

## SECTION II - MECHANICAL INSPECTION

*All items shall be checked on empty equipment prior to loading. Items with an asterisk shall be checked on all incoming loaded equipment.*

10. TYPE OF VEHICLE(S): TRACTOR / TRAILER / DROM

11. VEHICLE NUMBER(S): TRAC # / TRL #

| 12. PART INSPECTED (X as applicable) | ORIGIN (1) SAT | ORIGIN (1) UNSAT | DESTINATION (2) SAT | DESTINATION (2) UNSAT | | ORIGIN (1) SAT | ORIGIN (1) UNSAT | DESTINATION (2) SAT | DESTINATION (2) UNSAT | COMMENTS (3) |
|---|---|---|---|---|---|---|---|---|---|---|
| a. SPARE ELECTRICAL FUSES | | | | | k. EXHAUST SYSTEM | | | | | |
| b. HORN OPERATIVE | | | | | l. BRAKE SYSTEM* | | | | | |
| c. STEERING SYSTEM | | | | | m. SUSPENSION | | | | | |
| d. WINDSHIELD/WIPERS | | | | | n. COUPLING DEVICES | | | | | |
| e. MIRRORS | | | | | o. CARGO SPACE | | | | | |
| f. WARNING EQUIPMENT | | | | | p. LANDING GEAR* | | | | | |
| g. FIRE EXTINGUISHER* | | | | | q. TIRES, WHEELS, RIMS | | | | | |
| h. ELECTRICAL WIRING | | | | | r. TAILGATE/DOORS* | | | | | |
| i. LIGHTS AND REFLECTORS | | | | | s. TARPAULIN* | N/A | | | | |
| j. FUEL SYSTEM* | | | | | t. OTHER (Specify) | | | | | |

13. INSPECTION RESULTS (X one) ACCEPTED ✓ REJECTED

*(If rejected give reason under "Remarks". Equipment will be approved if deficiencies are corrected prior to loading.)*

14. SATELLITE MOTOR SURVEILLANCE SYSTEM: (X one) ACCEPTED N/A REJECTED

15. REMARKS

16. INSPECTOR SIGNATURE *(Origin)*

17. INSPECTOR SIGNATURE *(Destination)*

## SECTION III - POST LOADING INSPECTION

This section applies to Commercial and Government/Military vehicles. All items will be checked prior to release of loaded equipment and shall be checked on all incoming loaded equipment.

| | ORIGIN (1) SAT | ORIGIN (1) UNSAT | DESTINATION (2) SAT | DESTINATION (2) UNSAT | COMMENTS (3) |
|---|---|---|---|---|---|
| 18. LOADED IAW APPLICABLE SEGREGATION/COMPATIBILITY TABLE OF 49 CFR | | | | | |
| 19. LOAD PROPERLY SECURED TO PREVENT MOVEMENT | | | | | |
| 20. SEALS APPLIED TO CLOSED VEHICLE; TARPAULIN APPLIED ON OPEN EQUIPMENT | | | | | |
| 21. PROPER PLACARDS APPLIED | | | | | |
| 22. SHIPPING PAPERS/DD FORM 836 FOR GOVERNMENT VEHICLE SHIPMENTS | N/A | | | | |
| 23. COPY OF DD FORM 626 FOR DRIVER | | | | | |
| 24. SHIPPED UNDER DOT SPECIAL PERMIT 868 | N/A | | | | |

25. INSPECTOR SIGNATURE *(Origin)*

26. DRIVER(S) SIGNATURE *(Origin)* T. Frank 4.1.13

27. INSPECTOR SIGNATURE *(Destination)*

28. DRIVER(S) SIGNATURE *(Destination)*



020104

EXP_001738

EXPLO SYSTEMS, INC.

Explo Systems, Inc.
1600 Java Road
Minden, LA 71055

# MATERIAL SAFETY DATA SHEET

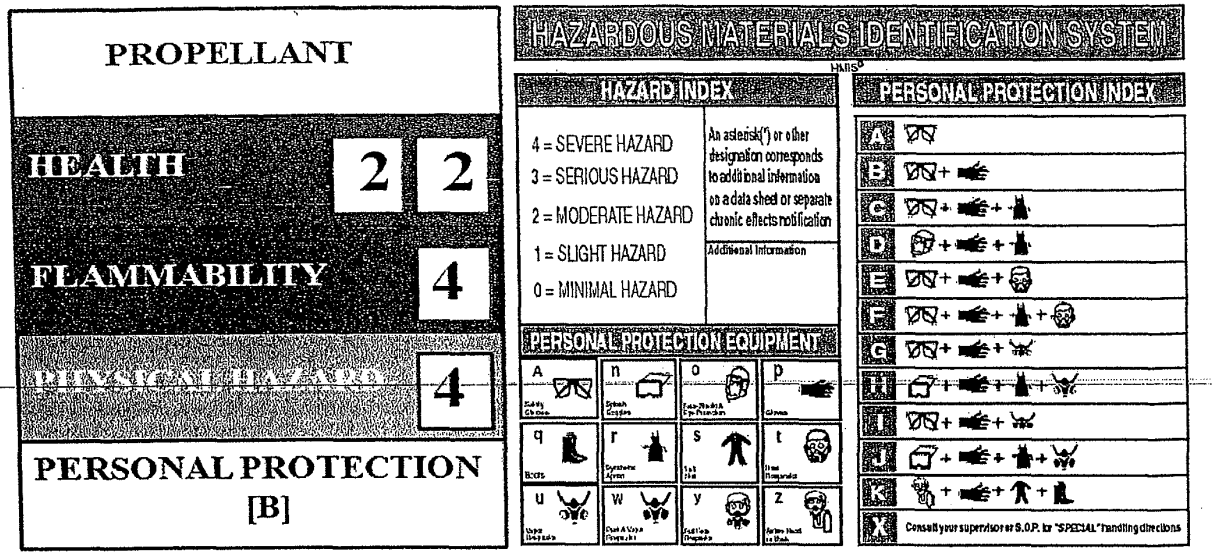
## PROPELLANT (Wetted)

## SECTION I - PRODUCT IDENTIFICATION

PRODUCT NAME: Propellant, Explosive, Solid, Wetted
Technical Information Phone No.: 318.382.8700
For Chemical Emergency (Spill, Fire, Exposure or Accident) call CHEMTREC day or night. Within the US and Canada: +1 800-424-9300. Outside the US and Canada: +1 703-527-3887 (collect calls accepted).

| **Ingredient** | **CAS No.** | **Wt. %** | **OSHA PEL**<br>**ACGIH TLV**<br>**EPA RQ (if defined)**<br>**DOT RQ (if defined)** |
|---|---|---|---|
| Dibutyl Phthalate | 84-74-2 | 3.00 | OSHA PEL 5 $mg/m^3$<br>ACGIH TLV 5 $mg/m^3$<br>EPA RQ 10 lbs<br>DOT RQ 10 lbs |
| Diphenylamine | 122-39-4 | 1.00 | OSHA PEL 10 $mg/m^3$<br>ACGIH TLV 10 $mg/m^3$<br>EPA RQ (none defined)<br>DOT RQ (none defined) |
| Potassium Sulfate | 7778-80-5 | 2.00 | OSHA PEL none published<br>ACGIH TLV none published<br>EPA RQ (none defined)<br>DOT RQ (none defined) |
| Nitrocellulose (flammable solid) | -- | 87.00 | OSHA PEL none published<br>ACGIH TLV none published<br>EPA RQ (none defined)<br>DOT RQ (none defined) |
| Dinitrotoluene | 25321-14-6 | 10.00 | OSHA PEL 10 $mg/m^3$<br>ACGIH TLV 10 $mg/m^3$<br>EPA RQ 10 lbs<br>DOT RQ 10 lbs |

## SECTION II - HAZARDS IDENTIFICATION




Routes of Entry: Inhalation; Skin; Ingestion
Carcinogenicity: None
First Aid Measures: EYES - Immediately flush with copious amount of water (low pressure) for 15 minutes, remove contact lenses; call physician. SKIN - Wash with soap and running water. INGESTION - Contact physician immediately. INHALATION - Remove to fresh air. Treat irritation symptomatically; call physician.
Firefighting Measures: Self-oxidizing, deluge with water. Will not be able to extinguish unless large quantity of water is used in very short time. Use NIOSH/MSHA approved SCBA and full protective equipment; evacuate area.
Unusual Fire/Explosion Hazard: Easily ignited, highly combustible; protect from fire and sparks and extreme heat.
Autoignition: 383°F (195°C)
Hazardous Combustion Products: Oxides of Carbon
Accidental Release Measures: SPILL - Clean immediately with soft (horsehair) brush and conductive rubber or plastic shovel. Use brass or other non-sparking tools and utensils. DO NOT hammer or otherwise cause impact forces to spilled material (explosion or autoignition could occur with impact force being applied).

## SECTION III - HANDLING AND STORAGE

Precautions: Avoid prolonged temperature above 125°F (50°C). Normal storage conditions should be 75°F (21°C) and 50% Humidity. Storage must conform to local, state and federal regulations, specifically: 29 CFR OSHA 1910.109; 27 CFR BATFE 55 subpart K.
Other Special Precautions: Flammable Solid…Keep away from heat, sparks, open flame…Keep containers closed…use with adequate ventilation.
Ventilation: Local and general ventilation necessary to keep air concentration below TLV's.
Personal Protective Equipment: Safety Glasses, Cotton or Leather Gloves, Fire Resistant Coveralls.

## SECTION IV - PHYSICAL AND CHEMICAL PROPERTIES

Specific Gravity: 1.496
Evaporation Rate: <1 (Butylacetate = 1)
Solubility in Water: negligible
Appearance and Odor: Hard Cylinder Perforated, Smooth, Greenish Yellow. Odorless.
Materials to Avoid: Oxides of Nitrogen and Carbon.

Conditions to Avoid: Open Flame, Sparks, Heat, Direct Sunlight.
Hazardous Decomposition Products: Oxides of Carbon

## SECTION V – TRANSPORTATION INFORMATION

DOT Proper Shipping Name: Smokeless Powder (wetted)
Hazard Class: 1.3C
UN No. UN0161
Packing Group: II

## SECTION VI - DISPOSAL CONSIDERATIONS

Disposal must be in accordance with federal, state and local regulations. Burn in open burning ground in accordance with regulatory requirements. It may also be burned in an incinerator approved for explosives.

## DISCLAIMER

The information contained in this MSDS (Material Safety Data Sheet) is based upon available constituent data for the components of **Propellant** and is believed to be correct. However, as this information has been obtained from various sources, including the manufacturers of its components and independent laboratories, it is provided herein without warranty or representation that it is complete, accurate and can be relied upon. Explo Systems, Inc. has not attempted to conceal in any manner the deleterious aspects of this product, and makes no warranty as such. Explo Systems, Inc. cannot anticipate nor control the many situations in which this product or this information may be used; there is no guarantee that the health and safety precautions suggested herein will be proper under all conditions. It is the sole responsibility of each user of the product to determine and comply with the requirements of all applicable laws and regulations regarding its use. This information is given solely for the purposes of safety to persons and property. Any other use of this information is expressly prohibited.

## AUTHOR

This MSDS was prepared by: Ferris Callihan, PE - Director Support Technology - Explo Systems, Inc. - 1600 Java Road - Minden, LA 71055 - Tel 318 382 8700 - E-mail: fcallihan@explosystems.com

U.S. Department
of Transportation

Pipeline and Hazardous
Materials Safety Administration

East Building, PHH – 32
1200 New Jersey Avenue, Southeast
Washington, D.C. 20590

The US Department of Transportation
Competent Authority for the United States

## CLASSIFICATION OF EXPLOSIVES
## FIRST REVISION

Based upon a request by Explo Systems Inc., 1600 Java Road, Minden, LA 71055, United States the following items are classed in accordance with Section 173.56, Title 49, Code of Federal Regulations (49 CFR). A copy of your application, all supporting documentation and a copy of this approval must be retained and made available to DOT upon request.

**U.N. PROPER SHIPPING NAME AND NUMBER:**
Powder, smokeless, UN0161

**U.N. CLASSIFICATION CODE**: 1.3C

| REFERENCE NUMBER | PRODUCT DESIGNATION/PART NUMBER |
|---|---|
| EX2010040603 | Reclaimed M6 Propellant |

**NOTES:** This classification is only valid when the smokeless powder has been tested and found to have sufficient residual stabilizers present per US Army Safety Bulletin: "Inspection of Supplies and Equipment, Ammunition Surveillance Procedures" (SB 742-1). The following packaging methods are assigned:
Packaging Method A: Inner Packaging - Not necessary. Outer Packaging – UN 1G fiberdrum, each containing not more than one hundred and forty (140) pounds of smokeless propellant.
Packaging Method B: Inner Packaging: Flexible static-resistant reinforced plastic cloth and strapping lifting bag, each containing not more than eight hundred and eighty (880) pounds of smokeless propellant. Outer Packaging - UN 4G heavy-wall fiberboard box with a volumetric capacity of 119 gallons or less. (see 49 CFR Section 171.8 Definition for "Non-bulk packaging")

**DATED:** 05/05/2011

For Dr. Magdy El-Sibaie
Associate Administrator for Hazardous Materials Safety

Tracking No: 2011040848



020108

EXP_001742

020109



## POTENTIAL HAZARDS

### FIRE OR EXPLOSION

- **MAY EXPLODE AND THROW FRAGMENTS 1600 meters (1 MILE) OR MORE IF FIRE REACHES CARGO.**
- **For information on "Compatibility Group" letters, refer to Glossary section.**

### HEALTH

- Fire may produce irritating, corrosive and/or toxic gases.

## PUBLIC SAFETY

- **CALL Emergency Response Telephone Number on Shipping Paper first. If Shipping Paper not available or no answer, refer to appropriate telephone number listed on the inside back cover.**
- Isolate spill or leak area immediately for at least 500 meters (1/3 mile) in all directions.
- Move people out of line of sight of the scene and away from windows.
- Keep unauthorized personnel away.
- Stay upwind.
- Ventilate closed spaces before entering.

### PROTECTIVE CLOTHING

- Wear positive pressure self-contained breathing apparatus (SCBA).
- Structural firefighters' protective clothing will only provide limited protection.

### EVACUATION

**Large Spill**

- **Consider initial evacuation for 800 meters (1/2 mile) in all directions.**

**Fire**

- If rail car or trailer is involved in a fire and heavily encased explosives such as bombs or artillery projectiles are suspected, ISOLATE for 1600 meters (1 mile) in all directions; also, initiate evacuation including emergency responders for 1600 meters (1 mile) in all directions.
- When heavily encased explosives are not involved, evacuate the area for 800 meters (1/2 mile) in all directions.

*** For information on "Compatibility Group" letters, refer to the Glossary section.**





## EMERGENCY RESPONSE

### FIRE

**CARGO Fire**

- **DO NOT fight fire when fire reaches cargo! Cargo may EXPLODE!**
- Stop all traffic and clear the area for at least 1600 meters (1 mile) in all directions and let burn.
- **Do not move cargo or vehicle if cargo has been exposed to heat.**

**TIRE or VEHICLE Fire**

- **Use plenty of water - FLOOD it! If water is not available, use $CO_2$, dry chemical or dirt.**
- If possible, and WITHOUT RISK, use unmanned hose holders or monitor nozzles from maximum distance to prevent fire from spreading to cargo area.
- Pay special attention to tire fires as re-ignition may occur. Stand by with extinguisher ready.

### SPILL OR LEAK

- ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area).
- All equipment used when handling the product must be grounded.
- Do not touch or walk through spilled material.
- DO NOT OPERATE RADIO TRANSMITTERS WITHIN 100 meters (330 feet) OF ELECTRIC DETONATORS.
- **DO NOT CLEAN-UP OR DISPOSE OF, EXCEPT UNDER SUPERVISION OF A SPECIALIST.**

### FIRST AID

- Move victim to fresh air. • Call 911 or emergency medical service.
- Give artificial respiration if victim is not breathing.
- Administer oxygen if breathing is difficult.
- Remove and isolate contaminated clothing and shoes.
- In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes.
- Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves.

*** For information on "Compatibility Group" letters, refer to the Glossary section.**



EXP_001743

AUSTIN POWDER PACKING LIST

SHIPMENT DATE 3-31-13

Load 34
6CC14

B/L# 2891 TRL 181004

M-6

IND89D-071039 14 PTS
IND85C-070512 3 PTS
IND82E-070115 6 PTS
IND82H-070167 1 PT
IND87B-070678 1 PT
IND83E-070273 6 PTS
IND81H-070063 9 PTS
IND83K-070319 1 PT
IND81L-070072 1 PT

42 PTS WITH 6 FB @140 LBS PER DRUM

TOTAL 35,280 LBS

35,280 lbs

LIONEL KOONS

EXPLO SYSTEMS INC

34
2891

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND89D071039** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 21 SEP 2012** |

| Other Information | Sample Data | | Solvent |
|---|---|---|---|
| M6 Propellant | #1 | 0.50 g 100 ml | ACN |

| Standards (ERG-006) | | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 0.878 | 38 | 188.9 | 0.497 |
| 2,4-DNDPA | 50.0 | 3.469 | 956.6 | 0 | 0.000 |
| 2,2' DNDPA | 50.0 | 5.366 | 516.6 | 21344 | 0.000 |
| 2,4' DNDPA | 50.0 | 7.936 | 1019.9 | 0 | 0.000 |
| 4NDPA | 50.0 | 9.415 | 1618.4 | 80.3 | 0.005 |
| 2NDPA | 50.0 | 10.707 | 2844 | 100.2 | 0.004 |
| DPA | 200.0 | 12.006 | 5780.2 | 973.6 | 0.067 |
| N-NitrosoDPA | 75.0 | 13.019 | 1452.3 | 0 | 0.000 |

0.573

| Avg. % Stabilizer for Lot | **0.573** |
|---|---|

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| **Analyst** MIKE KILE | Avg. Tot. Stabilizers **0.57** % |
|---|---|
| Analyst Signature | Stable YES / Unstable |
| Lab. Supervisor Signature | Comments **CATEGORY: A** |
| | Actions to be Taken |

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND85C070512** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 10 AUGUST 2012** |

| Other Information | Sample Data | | Solvent |
|---|---|---|---|
| M6 Propellant | #1 | 0.50 g 100 ml | ACN |

| Standards (ERG-006) | | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 0.882 | 8.8 | 112.9 | 1.283 |
| 2,4-DNDPA | 50.0 | 3.343 | 910.9 | 0 | 0.000 |
| 2,2' DNDPA | 50.0 | 5.034 | 3858.6 | 22576 | 0.000 |
| 2,4' DNDPA | 50.0 | 7.363 | 1013.2 | 0 | 0.000 |
| 4NDPA | 50.0 | 8.784 | 1647.3 | 59.7 | 0.004 |
| 2NDPA | 50.0 | 9.95 | 2919.6 | 95.5 | 0.003 |
| DPA | 200.0 | 11.386 | 5857.1 | 714.1 | 0.049 |
| N-NitrosoDPA | 75.0 | 12.173 | 1371.4 | 0 | 0.000 |
| | | | | | 1.339 |
| | | Avg. % Stabilizer for Lot | | | **1.339** |

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | |
|---|---|
| **Analyst** Takisha Dickerson | Avg. Tot. Stabilizers **1.34** % |
| Analyst Signature Dickerson | Stable YES / Unstable |
| Lab. Supervisor Signature | Comments **CATEGORY: A** |
| | Actions to be Taken |

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND83K070319** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 1 FEB 2011** |

| Other Information | Sample Data | | Solvent |
|---|---|---|---|
| M6 Propellant | #1 | 0.5000 g 100 ml | ACN |

| Standards (ERG-006) | | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 4.156 | 1116 | 2244 | 0.201 |
| 2,4-DNDPA | 50.0 | 9.388 | 1191.2 | 26030.5 | 2.185 |
| 2,2' DNDPA | 50.0 | 10.987 | 1694.7 | 71.6 | 0.000 |
| 2,4' DNDPA | 50.0 | 11.73 | 1272.3 | 94.4 | 0.007 |
| 4NDPA | 50.0 | 12.459 | 2443.3 | 0 | 0.000 |
| 2NDPA | 50.0 | 13.939 | 5852.1 | 562.5 | 0.010 |
| DPA | 200.0 | 15.022 | 1753.1 | 319.5 | 0.073 |
| N-NitrosoDPA | 75.0 | 18.932 | 2535.1 | 438.3 | 0.000 |

| | | |
|---|---|---|
| | | 2.476 |
| Avg. % Stabilizer for Lot | | **2.476** |

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | |
|---|---|
| **Analyst** Mike Kile | Avg. Tot. Stabilizers **2.48** % |
| Analyst Signature | Stable YES / Unstable |
| | Comments **CATEGORY: A** |
| Lab. Supervisor Signature | |
| | Actions to be Taken |

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND82H070167** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 6 JAN 2012** |

| Other Information | Sample Data | | Solvent |
|---|---|---|---|
| M6 Propellant | #1 | 0.50 g 100 ml | ACN |

| Standards (ERG-006) | | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 0.65 | 119.1 | 308.2 | 0.259 |
| 2,4-DNDPA | 50.0 | 3.304 | 1019.8 | 0 | 0.000 |
| 2,2' DNDPA | 50.0 | 4.943 | 1734.6 | 23824 | 0.000 |
| 2,4' DNDPA | 50.0 | 7.018 | 1103.9 | 404.1 | 0.037 |
| 4NDPA | 50.0 | 8.439 | 1782.5 | 50.5 | 0.003 |
| 2NDPA | 50.0 | 9.513 | 3182.1 | 79.6 | 0.003 |
| DPA | 200.0 | 10.956 | 6219.8 | 750.3 | 0.048 |
| N-NitrosoDPA | 75.0 | 11.669 | 1532.4 | 0 | 0.000 |

0.349

| Avg. % Stabilizer for Lot | **0.349** |
|---|---|

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | | |
|---|---|---|
| **Analyst** TAKISHA DICKERSON | Avg. Tot. Stabilizers | **0.35** % |
| Analyst Signature | Stable YES | Unstable |
| | Comments | |
| Lab. Supervisor Signature | **CATEGORY:** | **A** |
| | Actions to be Taken | |

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND82E070115** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 2 SEPTEMBER 2** |

| Other Information | Sample Data | | Solvent |
|---|---|---|---|
| M6 Propellant | #1 | 0.50 g 100 ml | ACN |

| Standards (ERG-006) | | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 0.631 | 119.7 | 513.1 | 0.429 |
| 2,4-DNDPA | 50.0 | 3.438 | 959.4 | 17.4 | 0.002 |
| 2,2' DNDPA | 50.0 | 5.235 | 1727.8 | 25268 | 0.000 |
| 2,4' DNDPA | 50.0 | 7.619 | 1043.1 | 0 | 0.000 |
| 4NDPA | 50.0 | 9.163 | 1669.9 | 77.7 | 0.005 |
| 2NDPA | 50.0 | 10.427 | 3002.4 | 153.6 | 0.005 |
| DPA | 200.0 | 11.959 | 5688.4 | 920.8 | 0.065 |
| N-NitrosoDPA | 75.0 | 12.823 | 1409.6 | 0 | 0.000 |

| | |
|---|---|
| | 0.505 |
| Avg. % Stabilizer for Lot | **0.505** |

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | |
|---|---|
| **Analyst** KISHA DICKERSON | Avg. Tot. Stabilizers **0.50** % |
| Analyst Signature | Stable YES \| Unstable |
| Lab. Supervisor Signature | Comments **CATEGORY: A** |
| | Actions to be Taken |

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND81L070072** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 29 MAY 2012** |

| Other Information | Sample Data | | Solvent |
|---|---|---|---|
| M6 Propellant | #1 | 0.50 g 100 ml | ACN |

| | Standards (ERG-006) | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 0.86 | 235.9 | 624.2 | 0.265 |
| 2,4-DNDPA | 50.0 | 3.398 | 913.2 | 0 | 0.000 |
| 2,2' DNDPA | 50.0 | 5.133 | 1007.2 | 37338 | 0.000 |
| 2,4' DNDPA | 50.0 | 7.409 | 1002.4 | 0 | 0.000 |
| 4NDPA | 50.0 | 8.917 | 1612.8 | 156.8 | 0.010 |
| 2NDPA | 50.0 | 10.112 | 2882.2 | 297.6 | 0.010 |
| DPA | 200.0 | 11.607 | 5642.3 | 1100.9 | 0.078 |
| N-NitrosoDPA | 75.0 | 12.414 | 1351.4 | | 0.000 |
| | | | | | 0.363 |
| | | Avg. % Stabilizer for Lot | | | **0.363** |

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | |
|---|---|
| **Analyst** Takisha Dickerson | Avg. Tot. Stabilizers **0.36** % |
| Analyst Signature | Stable YES \| Unstable |
| Lab. Supervisor Signature | Comments **CATEGORY: A** |
| | Actions to be Taken |

CONTAINS HAZARDOUS MATERIALS

# STRAIGHT BILL OF LADING — NOT NEGOTIABLE

Load 35

RECEIVED, subject to the classification and tariffs in effect on the date of the issue of this Original Bill of Lading.
The property described below, in apparent good order, except as noted (contents and condition of contents of packages unknown) consigned, end destined as indicated below, ich said carrier (the word carrier being understood throughout this contract meaning any person or corporation in possession of the property under the contract) agrees to curry ts usual place of delivery of said destination. It on its route, otherwise to deliver to another carrier on the route to said destination. It is mutually agreed, as to each of all or any of said property over all or any portion of said route to destination, and as to each party at any time interested in all or any of said property, that every service lobe performed hereunder shall be subject to all the terms and conditions of the Uniform Domestic Straight Bill of Lading Set forth (t) in Uniform Freight Classification in effect on the date hereof, lt this is a rail or rail-water shipment, or (2) in the applicable motor carrier classification or tariff it this is a motor carrier shipment.

Shipper hereby certifies that he is familiar with all the terms and conditions of the said bill of lading, set forth in the classification or tariff which governs the transportation of this shipment, and the sold terms and conditions are hereby agreed to by the shipper and accept for himself and his assigns.

Shipper: Explo Systems, Inc.
1600 Java Road
Minden, LA 71055

Shipper's No. 2892

Shipping Date 3/13/13

At

Purchase Order No.

By CRuK

Freight Charges: Collect _____ Prepaid Inv

Location No. 2263

(Mail or Street Address of Consignee — For purposes of notification only)

Consigned to Acme Powder Co
Destination Acme Plant
County Post Office Box 201
Route

State

Fed Lic. 5-MR-103-20-5F-00129 Exp. Date 5/1/15

State Lic. Exp. Date

Customer No.

Charge Account of

Customer P.O. No.

Rel. No.

| SHIPPED No. of PKGS | SHIPPED No. of UNITS | PROPER SHIPPING NAME AND HAZARD CLASS | RETURNED No. of PKGS | RETURNED No. of UNITS | EMERGENCY RESPONSE PROCEDURE GUIDE NO. | EXEMPTION DOT-E | H M | Placards Applied to Railcar or Motor Vehicle |
|---|---|---|---|---|---|---|---|---|
| | | UN0161, Powder, Smokeless, 1.3C, PG II | | | #112 | | | EXPLOSIVES 1.3 |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | Truck No. |
| | | | | | | | | Trailer No. |
| | | | | | | | | Mileage |
| | | | | | | | | Total Packages |
| | | | | | | | | Gross Weight # |
| | | | | | | | | Net Explosive Weight |
| | | | | | | | | |

No Padlock List

ENTERED 4/02/13 mle

RECEIVED 6CC14 APR - 1 2013 AUSTIN POWDER COMPANY CAMDEN PLANT

This is to certify that the above-named materials are properly classified, described, packaged, marked, and labeled and are in proper condition for transportation, according to the applicable regulations of the Department of Transportation.

Signature _____ Invoice No. _____

FOR CHEMICAL EMERGENCY, SPILL, LEAK, FIRE, EXPOSURE OR ACCIDENT CALL CHEMTREC — DAY OR NIGHT
IN THE USA CALL 800-424-9300 IN CANADA (ERP #2-0040) 800-561-3636 ELSEWHERE CALL (703) 527-3887

Permanent Address of Shipper:
**Explo Systems, Inc.**
1600 Java Road
den, Louisiana 71055
8) 382-8700

Per _____

DOT Hazardous Material Handling Number _____
Local Federal Explosives License No. 5-LA-119-20-1A-00057
(Shipper)

I have been offered placards identifying the shipment as Specified in 49CFR Subpart F of Part 172. I have received the above goods in apparent good order and condition.

Received By _____ Date _____
❑ CONSIGNEE ❑ CARRIER

By _____ Date _____
AUTHORIZED RECEIVER

CONTAINS HAZARDOUS MATERIALS

Agent must detach and retain this Shipping Order

020117

EXP_001751

Load 35

6CC14

AUSTIN POWDER PACKING LIST

SHIPMENT DATE 3-31-13

B/L# 2892 TRL 6810057

M-6

IND89D-071039 7 PTS
IND85C-070512 2 PTS
IND81L-070072 2 PTS
IND85F-070587 8 PTS
IND83G-070281 1 PT
IND81E-070022 1 PT
IND83F-070274 1 PT
IND83F-070278 6 PTS
IND82H-070168 3 PTS
IND86E-070617 8 PTS
IND87D-070450 2 PTS
IND83F-070276 1 PT

42 PTS WITH 6 FB @140 LBS PER DRUM

TOTAL 35,280 LBS

LIONEL KOONS

EXPLO SYSTEMS INC

# MOTOR VEHICLE INSPECTION (TRANSPORTING HAZARDOUS MATERIALS)

*(Read Instructions before completing this form.)*

This form applies to all vehicles which must be marked or placarded in accordance with Title 49 CFR.

1. BILL OF LADING/TRANSPORTATION CONTROL NUMBER: 2892

| SECTION 1 - DOCUMENTATION | ORIGIN a. | DESTINATION b. |
|---|---|---|
| 2. CARRIER/GOVERNMENT ORGANIZATION | RDLR | |
| 3. DATE/TIME OF INSPECTION | 3/31/13 | |
| 4. LOCATION OF INSPECTION | EXPLO SYSTEMS INC | |
| 5. OPERATOR(S) NAME(S) | | |
| 6. OPERATOR(S) LICENSE NUMBER(S) | 13631449 | |
| 7. MEDICAL EXAMINER'S CERTIFICATE* | PA00253 | |

8. *(X if satisfactory at origin)*

| | | | | | | 9. CVSA DECAL DISPLAYED ON COMMERCIAL EQUIPMENT* | YES | NO |
|---|---|---|---|---|---|---|---|---|
| a. MILITARY HAZMAT ENDORSEMENT | ✓ | d. ERG OR EQUIVALENT COMMERCIAL: | | YES | NO | | | |
| b. VALID LEASE* | | e. DRIVER'S VEHICLE INSPECTION REPORT* | | | | a. TRUCK/TRACTOR | ✓ | |
| c. ROUTE PLAN | | f. COPY OF 49 CFR PART 397 | | | | b. TRAILER | ✓ | |

## SECTION II - MECHANICAL INSPECTION

*All items shall be checked on empty equipment prior to loading. Items with an asterisk shall be checked on all incoming loaded equipment.*

10. TYPE OF VEHICLE(S): TRACTOR / TRAILER / DROM

11. VEHICLE NUMBER(S): TRAC # / TRL # 681005 7

| 12. PART INSPECTED (X as applicable) | ORIGIN (1) SAT | ORIGIN (1) UNSAT | DESTINATION (2) SAT | DESTINATION (2) UNSAT | | ORIGIN (1) SAT | ORIGIN (1) UNSAT | DESTINATION (2) SAT | DESTINATION (2) UNSAT | COMMENTS (3) |
|---|---|---|---|---|---|---|---|---|---|---|
| a. SPARE ELECTRICAL FUSES | | | | | k. EXHAUST SYSTEM | | | | | |
| b. HORN OPERATIVE | | | | | l. BRAKE SYSTEM* | | | | | |
| c. STEERING SYSTEM | | | | | m. SUSPENSION | | | | | |
| d. WINDSHIELD/WIPERS | | | | | n. COUPLING DEVICES | | | | | |
| e. MIRRORS | | | | | o. CARGO SPACE | | | | | |
| f. WARNING EQUIPMENT | | | | | p. LANDING GEAR* | | | | | |
| g. FIRE EXTINGUISHER* | | | | | q. TIRES, WHEELS, RIMS | | | | | |
| h. ELECTRICAL WIRING | | | | | r. TAILGATE/DOORS* | | | | | |
| i. LIGHTS AND REFLECTORS | | | | | s. TARPAULIN* | N/A | | | | |
| j. FUEL SYSTEM* | | | | | t. OTHER (Specify) | | | | | |

13. INSPECTION RESULTS (X one) ACCEPTED ✓ REJECTED

*(If rejected give reason under "Remarks". Equipment will be approved if deficiencies are corrected prior to loading.)*

14. SATELLITE MOTOR SURVEILLANCE SYSTEM: (X one) ACCEPTED N/A REJECTED

15. REMARKS

16. INSPECTOR SIGNATURE *(Origin)*

17. INSPECTOR SIGNATURE *(Destination)*

## SECTION III - POST LOADING INSPECTION

This section applies to Commercial and Government/Military vehicles. All items will be checked prior to release of loaded equipment and shall be checked on all incoming loaded equipment.

| | ORIGIN (1) SAT | ORIGIN (1) UNSAT | DESTINATION (2) SAT | DESTINATION (2) UNSAT | COMMENTS (3) |
|---|---|---|---|---|---|
| 18. LOADED IAW APPLICABLE SEGREGATION/COMPATIBILITY TABLE OF 49 CFR | | | | | |
| 19. LOAD PROPERLY SECURED TO PREVENT MOVEMENT | | | | | |
| 20. SEALS APPLIED TO CLOSED VEHICLE; TARPAULIN APPLIED ON OPEN EQUIPMENT | | | | | |
| 21. PROPER PLACARDS APPLIED | | | | | |
| 22. SHIPPING PAPERS/DD FORM 836 FOR GOVERNMENT VEHICLE SHIPMENTS | N/A | | | | |
| 23. COPY OF DD FORM 626 FOR DRIVER | | | | | |
| 24. SHIPPED UNDER DOT SPECIAL PERMIT 868 | N/A | | | | |

25. INSPECTOR SIGNATURE *(Origin)*

26. DRIVER(S) SIGNATURE *(Origin)*

27. INSPECTOR SIGNATURE *(Destination)*

28. DRIVER(S) SIGNATURE *(Destination)*



020119

EXP_001753

EXPLO SYSTEMS, INC.

Explo Systems, Inc.
1600 Java Road
Minden, LA 71055

# MATERIAL SAFETY DATA SHEET

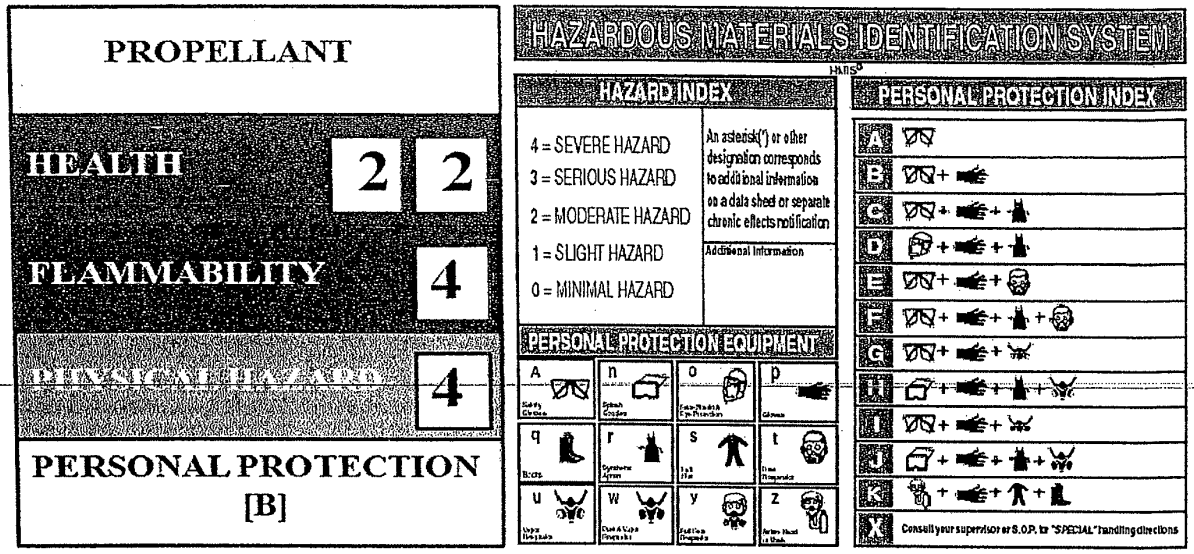
## PROPELLANT (Wetted)

## SECTION I - PRODUCT IDENTIFICATION

PRODUCT NAME: Propellant, Explosive, Solid, Wetted
Technical Information Phone No.: 318 382 8700
For Chemical Emergency (Spill, Fire, Exposure or Accident) call CHEMTREC day or night. Within the US and Canada: +1 800-424-9300. Outside the US and Canada: +1 703-527-3887 (collect calls accepted).

| Ingredient | CAS No. | Wt. % | OSHA PEL<br>ACGIH TLV<br>EPA RQ (if defined)<br>DOT RQ (if defined) |
|---|---|---|---|
| Dibutyl Phthalate | 84-74-2 | 3.00 | OSHA PEL 5 mg/m$^3$<br>ACGIH TLV 5 mg/m$^3$<br>EPA RQ 10 lbs<br>DOT RQ 10 lbs |
| Diphenylamine | 122-39-4 | 1.00 | OSHA PEL 10 mg/m$^3$<br>ACGIH TLV 10 mg/m$^3$<br>EPA RQ (none defined)<br>DOT RQ (none defined) |
| Potassium Sulfate | 7778-80-5 | 2.00 | OSHA PEL none published<br>ACGIH TLV none published<br>EPA RQ (none defined)<br>DOT RQ (none defined) |
| Nitrocellulose (flammable solid) | -- | 87.00 | OSHA PEL none published<br>ACGIH TLV none published<br>EPA RQ (none defined)<br>DOT RQ (none defined) |
| Dinitrotoluene | 25321-14-6 | 10.00 | OSHA PEL 10 mg/m$^3$<br>ACGIH TLV 10 mg/m$^3$<br>EPA RQ 10 lbs<br>DOT RQ 10 lbs |

## SECTION II - HAZARDS IDENTIFICATION




Routes of Entry: Inhalation; Skin; Ingestion
Carcinogenicity: None
First Aid Measures: EYES - Immediately flush with copious amount of water (low pressure) for 15 minutes, remove contact lenses; call physician. SKIN - Wash with soap and running water. INGESTION - Contact physician immediately. INHALATION - Remove to fresh air. Treat irritation symptomatically; call physician.
Firefighting Measures: Self-oxidizing, deluge with water. Will not be able to extinguish unless large quantity of water is used in very short time. Use NIOSH/MSHA approved SCBA and full protective equipment; evacuate area.
Unusual Fire/Explosion Hazard: Easily ignited, highly combustible; protect from fire and sparks and extreme heat.
Autoignition: 383°F (195°C)
Hazardous Combustion Products: Oxides of Carbon
Accidental Release Measures: SPILL - Clean immediately with soft (horsehair) brush and conductive rubber or plastic shovel. Use brass or other non-sparking tools and utensils. DO NOT hammer or otherwise cause impact forces to spilled material (explosion or autoignition could occur with impact force being applied).

## SECTION III - HANDLING AND STORAGE

Precautions: Avoid prolonged temperature above 125°F (50°C). Normal storage conditions should be 75°F (21°C) and 50% Humidity. Storage must conform to local, state and federal regulations, specifically: 29 CFR OSHA 1910.109; 27 CFR BATFE 55 subpart K.
Other Special Precautions: Flammable Solid…Keep away from heat, sparks, open flame…Keep containers closed…use with adequate ventilation.
Ventilation: Local and general ventilation necessary to keep air concentration below TLV's.
Personal Protective Equipment: Safety Glasses, Cotton or Leather Gloves, Fire Resistant Coveralls.

## SECTION IV - PHYSICAL AND CHEMICAL PROPERTIES

Specific Gravity: 1.496
Evaporation Rate: <1 (Butylacetate = 1)
Solubility in Water: negligible
Appearance and Odor: Hard Cylinder Perforated, Smooth, Greenish Yellow. Odorless.
Materials to Avoid: Oxides of Nitrogen and Carbon.

## POTENTIAL HAZARDS

### FIRE OR EXPLOSION

- **MAY EXPLODE AND THROW FRAGMENTS 1600 meters (1 MILE) OR MORE IF FIRE REACHES CARGO.**
- **For information on "Compatibility Group" letters, refer to Glossary section.**

### HEALTH

- Fire may produce irritating, corrosive and/or toxic gases.

## PUBLIC SAFETY

- **CALL Emergency Response Telephone Number on Shipping Paper first. If Shipping Paper not available or no answer, refer to appropriate telephone number listed on the inside back cover.**
- Isolate spill or leak area immediately for at least 500 meters (1/3 mile) in all directions.
- Move people out of line of sight of the scene and away from windows.
- Keep unauthorized personnel away.
- Stay upwind.
- Ventilate closed spaces before entering.

### PROTECTIVE CLOTHING

- Wear positive pressure self-contained breathing apparatus (SCBA).
- Structural firefighters' protective clothing will only provide limited protection.

### EVACUATION

**Large Spill**

- **Consider initial evacuation for 800 meters (1/2 mile) in all directions.**

**Fire**

- If rail car or trailer is involved in a fire and heavily encased explosives such as bombs or artillery projectiles are suspected, ISOLATE for 1600 meters (1 mile) in all directions; also, initiate evacuation including emergency responders for 1600 meters (1 mile) in all directions.
- When heavily encased explosives are not involved, evacuate the area for 800 meters (1/2 mile) in all directions.

*** For information on "Compatibility Group" letters, refer to the Glossary section.**





## EMERGENCY RESPONSE

### FIRE

**CARGO Fire**

- **DO NOT fight fire when fire reaches cargo! Cargo may EXPLODE!**
- Stop all traffic and clear the area for at least 1600 meters (1 mile) in all directions and let burn.
- **Do not move cargo or vehicle if cargo has been exposed to heat.**

**TIRE or VEHICLE Fire**

- **Use plenty of water - FLOOD it! If water is not available, use $CO_2$, dry chemical or dirt.**
- If possible, and WITHOUT RISK, use unmanned hose holders or monitor nozzles from maximum distance to prevent fire from spreading to cargo area.
- Pay special attention to tire fires as re-ignition may occur. Stand by with extinguisher ready.

### SPILL OR LEAK

- ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area).
- All equipment used when handling the product must be grounded.
- Do not touch or walk through spilled material.
- DO NOT OPERATE RADIO TRANSMITTERS WITHIN 100 meters (330 feet) OF ELECTRIC DETONATORS.
- **DO NOT CLEAN-UP OR DISPOSE OF, EXCEPT UNDER SUPERVISION OF A SPECIALIST.**

### FIRST AID

- Move victim to fresh air. • Call 911 or emergency medical service.
- Give artificial respiration if victim is not breathing.
- Administer oxygen if breathing is difficult.
- Remove and isolate contaminated clothing and shoes.
- In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes.
- Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves.

*** For information on "Compatibility Group" letters, refer to the Glossary section.**



EXP_001756

020122

35
2892

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND89D071039** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 21 SEP 2012** |

| Other Information | Sample Data | | Solvent |
|---|---|---|---|
| M6 Propellant | #1 | 0.50 g 100 ml | ACN |

| Standards (ERG-006) | | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 0.878 | 38 | 188.9 | 0.497 |
| 2,4-DNDPA | 50.0 | 3.469 | 956.6 | 0 | 0.000 |
| 2,2' DNDPA | 50.0 | 5.366 | 516.6 | 21344 | 0.000 |
| 2,4' DNDPA | 50.0 | 7.936 | 1019.9 | 0 | 0.000 |
| 4NDPA | 50.0 | 9.415 | 1618.4 | 80.3 | 0.005 |
| 2NDPA | 50.0 | 10.707 | 2844 | 100.2 | 0.004 |
| DPA | 200.0 | 12.006 | 5780.2 | 973.6 | 0.067 |
| N-NitrosoDPA | 75.0 | 13.019 | 1452.3 | 0 | 0.000 |

| | | |
|---|---|---|
| | | 0.573 |
| Avg. % Stabilizer for Lot | | **0.573** |

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | |
|---|---|
| **Analyst** MIKE KILE | Avg. Tot. Stabilizers **0.57** % |
| Analyst Signature MK | Stable YES / Unstable |
| Lab. Supervisor Signature | Comments **CATEGORY: A** |
| | Actions to be Taken |

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND87D070450** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 23 AUG 2010** |

| Other Information | Sample Data | | Solvent |
|---|---|---|---|
| M6 Propellant | #1 | 0.5000 g 100 ml | ACN |

| | Standards (ERG-006) | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | | 0 | | |
| 2,4-DNDPA | 50.0 | 4.884 | 715.1 | 0 | 0.000 |
| 2,2' DNDPA | 50.0 | 9.663 | 794.8 | 5124.3 | 0.645 |
| 2,4' DNDPA | 50.0 | 11.213 | 1155.8 | 0 | 0.000 |
| 4NDPA | 50.0 | 11.899 | 750.7 | 0 | 0.000 |
| 2NDPA | 50.0 | 12.536 | 1565 | 0 | 0.000 |
| DPA | 200.0 | 13.934 | 4151.3 | 0 | 0.000 |
| N-NitrosoDPA | 75.0 | 14.875 | 1080.5 | 46.7 | 0.006 |

| | | |
|---|---|---|
| | | 0.651 |
| | Avg. % Stabilizer for Lot | **0.651** |

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | |
|---|---|
| **Analyst** Kisha Dickerson | Avg. Tot. Stabilizers **0.65** % |
| Analyst Signature | Stable YES / Unstable |
| Lab. Supervisor Signature | Comments **CATEGORY: A** |
| | Actions to be Taken |

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND86E070617** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 18 JULY 2012** |

| Other Information | Sample Data | | Solvent |
|---|---|---|---|
| M6 Propellant | #1 | 0.50 g 100 ml | ACN |

| Standards (ERG-006) | | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 0.863 | 133.9 | 389.2 | 0.291 |
| 2,4-DNDPA | 50.0 | 3.365 | 949.7 | 0 | 0.000 |
| 2,2' DNDPA | 50.0 | 5.091 | 2605.4 | 22628 | 0.000 |
| 2,4' DNDPA | 50.0 | 7.514 | 1047.9 | 0 | 0.000 |
| 4NDPA | 50.0 | 8.946 | 1698.8 | 45.3 | 0.003 |
| 2NDPA | 50.0 | 10.142 | 3039.5 | 80.7 | 0.003 |
| DPA | 200.0 | 11.585 | 6044.7 | 861.6 | 0.057 |
| N-NitrosoDPA | 75.0 | 12.4 | 1395.6 | 0 | 0.000 |

0.353

| Avg. % Stabilizer for Lot | **0.353** |
|---|---|

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| **Analyst** Takisha Dickerson | Avg. Tot. Stabilizers **0.35** % |
|---|---|
| Analyst Signature | Stable YES / Unstable |
| Lab. Supervisor Signature | Comments **CATEGORY: A** |
| | Actions to be Taken |

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND85F070587** | **D533 / M6 propellant** |
| Date of analysis: | **Date:25 AUG 2010** |

| Other Information | Sample Data | | Solvent |
|---|---|---|---|
| M6 Propellant | #1 | 0.5000 g 100 ml | ACN |

| | Standards (ERG-006) | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 2.177 | 146.5 | 1821.4 | 1.243 |
| 2,4-DNDPA | 50.0 | 5.001 | 961.7 | 0 | 0.000 |
| 2,2' DNDPA | 50.0 | 7.038 | 2567.5 | 14427.7 | 0.000 |
| 2,4' DNDPA | 50.0 | 9.931 | 938.5 | 0 | 0.000 |
| 4NDPA | 50.0 | 11.434 | 1325.8 | 0 | 0.000 |
| 2NDPA | 50.0 | 12.813 | 1809.7 | 0 | 0.000 |
| DPA | 200.0 | 14.19 | 4886.9 | 225 | 0.018 |
| N-NitrosoDPA | 75.0 | 15.18 | 1296.7 | 0 | 0.000 |

| | | |
|---|---|---|
| | | 1.262 |
| | Avg. % Stabilizer for Lot | **1.262** |

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | |
|---|---|
| **Analyst** Kisha Dickerson | Avg. Tot. Stabilizers **1.26** % |
| Analyst Signature | Stable YES / Unstable |
| | Comments **CATEGORY: A** |
| Lab. Supervisor Signature | |
| | Actions to be Taken |

# HPLC PROPELLANT STABILITY REPORT

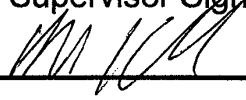
| | |
|---|---|
| **Lot Number:IND85C070512** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 10 AUGUST 2012** |

| Other Information | Sample Data | | Solvent |
|---|---|---|---|
| M6 Propellant | #1 | 0.50 g 100 ml | ACN |

| Standards (ERG-006) | | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 0.882 | 8.8 | 112.9 | 1.283 |
| 2,4-DNDPA | 50.0 | 3.343 | 910.9 | 0 | 0.000 |
| 2,2' DNDPA | 50.0 | 5.034 | 3858.6 | 22576 | 0.000 |
| 2,4' DNDPA | 50.0 | 7.363 | 1013.2 | 0 | 0.000 |
| 4NDPA | 50.0 | 8.784 | 1647.3 | 59.7 | 0.004 |
| 2NDPA | 50.0 | 9.95 | 2919.6 | 95.5 | 0.003 |
| DPA | 200.0 | 11.386 | 5857.1 | 714.1 | 0.049 |
| N-NitrosoDPA | 75.0 | 12.173 | 1371.4 | 0 | 0.000 |

| | | |
|---|---|---|
| | | 1.339 |
| Avg. % Stabilizer for Lot | | **1.339** |

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | |
|---|---|
| **Analyst** Takisha Dickerson | Avg. Tot. Stabilizers **1.34** % |
| Analyst Signature | Stable YES / Unstable |
| Lab. Supervisor Signature  | Comments **CATEGORY: A** |
| | Actions to be Taken |

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND83F070274** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 27 JULY 2011** |

Other Information
M6 Propellant

| Sample Data | | | Solvent |
|---|---|---|---|
| #1 | 0.50 g | 100 ml | ACN |

| Standards (ERG-006) | | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 0.694 | 112.8 | 622.1 | 0.552 |
| 2,4-DNDPA | 50.0 | 3.477 | 942.8 | 0 | 0.000 |
| 2,2' DNDPA | 50.0 | 5.339 | 77.4 | 22209 | 0.000 |
| 2,4' DNDPA | 50.0 | 7.842 | 1020.3 | 0 | 0.000 |
| 4NDPA | 50.0 | 9.392 | 1634.2 | 48.5 | 0.003 |
| 2NDPA | 50.0 | 10.693 | 2956.2 | 98.3 | 0.003 |
| DPA | 200.0 | 12.201 | 5630.5 | 451.4 | 0.032 |
| N-NitrosoDPA | 75.0 | 13.103 | 1385.2 | 0 | 0.000 |

| | |
|---|---|
| | 0.590 |
| Avg. % Stabilizer for Lot | **0.590** |

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | |
|---|---|
| **Analyst** Takisha Dickerson | Avg. Tot. Stabilizers **0.59** % |
| Analyst Signature | Stable YES / Unstable |
| Lab. Supervisor Signature | Comments **CATEGORY: A** |
| | Actions to be Taken |

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND83F070276** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 4 Sep 2012** |

| Other Information | Sample Data | | | Solvent |
|---|---|---|---|---|
| M6 Propellant | #1 | 0.50 g | 100 ml | ACN |

| | Standards (ERG-006) | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 0.889 | 48.8 | 578.6 | 1.186 |
| 2,4-DNDPA | 50.0 | 3.418 | 914.3 | 0 | 0.000 |
| 2,2' DNDPA | 50.0 | 5.22 | 777.3 | 23990 | 0.000 |
| 2,4' DNDPA | 50.0 | 7.622 | 980.5 | 0 | 0.000 |
| 4NDPA | 50.0 | 9.134 | 1586.8 | 40.6 | 0.003 |
| 2NDPA | 50.0 | 10.417 | 2826.3 | 88.7 | 0.003 |
| DPA | 200.0 | 11.797 | 5671.5 | 812.6 | 0.057 |
| N-NitrosoDPA | 75.0 | 12.757 | 1337.5 | 0 | 0.000 |
| | | | | | 1.249 |
| | | Avg. % Stabilizer for Lot | | | **1.249** |

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | |
|---|---|
| **Analyst** Mike Kile | Avg. Tot. Stabilizers **1.25** % |
| Analyst Signature | Stable YES \| Unstable |
| Lab. Supervisor Signature | Comments **CATEGORY: A** |
| | Actions to be Taken |

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND83F070278** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 11 JULY 2012** |

| Other Information | Sample Data | | Solvent |
|---|---|---|---|
| M6 Propellant | #1 | 0.50 g 100 ml | ACN |

| | Standards (ERG-006) | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 0.803 | 32.3 | 256.2 | 0.793 |
| 2,4-DNDPA | 50.0 | 3.397 | 945.1 | 0 | 0.000 |
| 2,2' DNDPA | 50.0 | 5.155 | 1995.1 | 21574 | 0.000 |
| 2,4' DNDPA | 50.0 | 7.525 | 949.2 | 0 | 0.000 |
| 4NDPA | 50.0 | 9.04 | 1580.4 | 89.7 | 0.006 |
| 2NDPA | 50.0 | 10.278 | 2854 | 35.4 | 0.001 |
| DPA | 200.0 | 11.761 | 5473.7 | 589.5 | 0.043 |
| N-NitrosoDPA | 75.0 | 12.606 | 1672.4 | 0 | 0.000 |

| | |
|---|---|
| | 0.843 |
| Avg. % Stabilizer for Lot | **0.843** |

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | |
|---|---|
| **Analyst** Takisha Dickerson | Avg. Tot. Stabilizers **0.84** % |
| Analyst Signature | Stable YES / Unstable |
| Lab. Supervisor Signature | Comments **CATEGORY: A** |
| | Actions to be Taken |

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND83G070281** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 4 April 2012** |

| Other Information | Sample Data | | Solvent |
|---|---|---|---|
| M6 Propellant | #1 | 0.50 g 100 ml | ACN |

| Standards (ERG-006) | | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 0.881 | 40.9 | 93.7 | 0.229 |
| 2,4-DNDPA | 50.0 | 3.279 | 928 | 0 | 0.000 |
| 2,2' DNDPA | 50.0 | 4.66 | 26957 | 26191 | 0.000 |
| 2,4' DNDPA | 50.0 | 6.571 | 992.8 | 0 | 0.000 |
| 4NDPA | 50.0 | 7.798 | 1662.7 | 158.3 | 0.010 |
| 2NDPA | 50.0 | 8.806 | 2938.9 | 98.9 | 0.003 |
| DPA | 200.0 | 10.221 | 5774.5 | 1004.4 | 0.070 |
| N-NitrosoDPA | 75.0 | 10.895 | 1475.9 | 0 | 0.000 |

| | | |
|---|---|---|
| | | 0.312 |
| | Avg. % Stabilizer for Lot | **0.312** |

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | |
|---|---|
| **Analyst** Takisha Dickerson | Avg. Tot. Stabilizers **0.31** % |
| Analyst Signature | Stable YES \| Unstable |
| | Comments |
| Lab. Supervisor Signature | **CATEGORY:** **A** |
| | Actions to be Taken |

Form #158

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND82H070168** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 1 FEB 2011** |

| Other Information | Sample Data | | Solvent |
|---|---|---|---|
| M6 Propellant | #1 | 0.5000 g 100 ml | ACN |

| Standards (ERG-006) | | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 4.156 | 1116 | 2540.4 | 0.228 |
| 2,4-DNDPA | 50.0 | 9.388 | 1191.2 | 31231.4 | 2.622 |
| 2,2' DNDPA | 50.0 | 10.987 | 1694.7 | 51.5 | 0.000 |
| 2,4' DNDPA | 50.0 | 11.73 | 1272.3 | 143.2 | 0.011 |
| 4NDPA | 50.0 | 12.459 | 2443.3 | 0 | 0.000 |
| 2NDPA | 50.0 | 13.939 | 5852.1 | 838.5 | 0.014 |
| DPA | 200.0 | 15.022 | 1753.1 | 0 | 0.000 |
| N-NitrosoDPA | 75.0 | 18.932 | 2535.1 | 985.4 | 0.000 |

| | | |
|---|---|---|
| | | 2.875 |
| Avg. % Stabilizer for Lot | | **2.875** |

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | |
|---|---|
| **Analyst** Mike Kile | Avg. Tot. Stabilizers **2.88** % |
| Analyst Signature | Stable YES / Unstable |
| Lab. Supervisor Signature | Comments<br>**CATEGORY: A** |
| | Actions to be Taken |

Form #158

020132

EXP_001766

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND81L070072** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 29 MAY 2012** |

| Other Information | Sample Data | | Solvent |
|---|---|---|---|
| M6 Propellant | #1 | 0.50 g 100 ml | ACN |

| Standards (ERG-006) | | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 0.86 | 235.9 | 624.2 | 0.265 |
| 2,4-DNDPA | 50.0 | 3.398 | 913.2 | 0 | 0.000 |
| 2,2' DNDPA | 50.0 | 5.133 | 1007.2 | 37338 | 0.000 |
| 2,4' DNDPA | 50.0 | 7.409 | 1002.4 | 0 | 0.000 |
| 4NDPA | 50.0 | 8.917 | 1612.8 | 156.8 | 0.010 |
| 2NDPA | 50.0 | 10.112 | 2882.2 | 297.6 | 0.010 |
| DPA | 200.0 | 11.607 | 5642.3 | 1100.9 | 0.078 |
| N-NitrosoDPA | 75.0 | 12.414 | 1351.4 | | 0.000 |

| | |
|---|---|
| | 0.363 |
| Avg. % Stabilizer for Lot | **0.363** |

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | |
|---|---|
| **Analyst** Takisha Dickerson | Avg. Tot. Stabilizers **0.36** % |
| Analyst Signature | Stable YES / Unstable |
| Lab. Supervisor Signature | Comments **CATEGORY: A** |
| | Actions to be Taken |

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND81E070022** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 23 AUG 2010** |

| Other Information | Sample Data | | Solvent |
|---|---|---|---|
| M6 Propellant | #1 | 0.5000 g 100 ml | ACN |

| | Standards (ERG-006) | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | | 0 | | |
| 2,4-DNDPA | 50.0 | 4.884 | 715.1 | 0 | 0.000 |
| 2,2' DNDPA | 50.0 | 9.663 | 794.8 | 17278.9 | 2.174 |
| 2,4' DNDPA | 50.0 | 11.213 | 1155.8 | 0 | 0.000 |
| 4NDPA | 50.0 | 11.899 | 750.7 | 0 | 0.000 |
| 2NDPA | 50.0 | 12.536 | 1565 | 0 | 0.000 |
| DPA | 200.0 | 13.934 | 4151.3 | 0 | 0.000 |
| N-NitrosoDPA | 75.0 | 14.875 | 1080.5 | 451.1 | 0.063 |

2.237

| Avg. % Stabilizer for Lot | **2.237** |
|---|---|

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | |
|---|---|
| **Analyst** Kisha Dickerson | Avg. Tot. Stabilizers **2.24** % |
| Analyst Signature | Stable YES / Unstable |
| | Comments **CATEGORY: A** |
| Lab. Supervisor Signature | |
| | Actions to be Taken |

CONTAINS HAZARDOUS MATERIALS

# STRAIGHT BILL OF LADING

**NOT NEGOTIABLE** Load 36

RECEIVED, subject to the classification and tariffs in effect on the date of the issue of this Original Bill of Lading.
The property described below, in apparent good order, except as noted (contents and condition of contents of packages unknown) consigned, end destined as indicated below, ich said carrier (the word carrier being understood throughout this contract meaning any person or corporation in possession of the property under the contract) agrees to curry s usual place of delivery of said destination. It on its route, otherwise to deliver to another carrier on the route to said destination. It is mutually agreed, as to each of all or any of said property over all or any portion of said route to destination, and as to each party at any time interested in all or any of said property, that every service lobe performed hereunder shall be subject to all the terms and conditions of the Uniform Domestic Straight Bill of Lading Set forth (t) in Uniform Freight Classification in effect on the date hereof, It this is a rail or rail-water shipment, or (2) in the applicable motor carrier classification or tariff it this is a motor carrier shipment.
Shipper hereby certifies that he is familiar with all the terms and conditions of the said bill of lading, set forth in the classification or tariff which governs the transportation of this shipment, and the sold terms and conditions are hereby agreed to by the shipper and accept for himself and his assigns.

Shipper: Explo Systems, Inc.
1600 Java Road
Minden, LA 71055

Shipper's No. 2895

Shipping Date 4/1/13

At

Purchase Order No.

By

Freight Charges: Collect _____ Prepaid XXX

Location No. 2319/2363

(Mail or Street Address of Consignee — For purposes of notification only)

Consigned to Austin Powder Co.

Fed Lic. 5-AR-103-20-5E-00139 Exp. Date 5/1/15

Destination 7LC10 Blanny

State

State Lic.

Exp. Date

County East Camden, Ar

Customer No.

Route

Charge Account of

Customer P.O. No.

Rel. No.

| SHIPPED No. of PKGS | SHIPPED No. of UNITS | PROPER SHIPPING NAME AND HAZARD CLASS | RETURNED No. of PKGS | RETURNED No. of UNITS | EMERGENCY RESPONSE PROCEDURE GUIDE NO. | EXEMPTION DOT-E | H M | Placards Applied to Railcar or Motor Vehicle |
|---|---|---|---|---|---|---|---|---|
| 252/16 | 42 plt | UN0161, Powder, Smokeless, 1.3C, PG II | | | #112 | [illegible] | XX | EXPLOSIVES 1.3 |
| | | | | | | | | |
| | | [illegible] | | | | | | |
| | | | | | | | | Truck No. 7306 |
| | | [illegible] 4/2/13 | | | | | | Trailer No. 48613CH |
| | | | | | | | | Mileage |
| | | | | | | | | Total 252 16 FD |
| | | | | | | | | Packages |
| | | | | | | | | Gross |
| | | | | | | | | Weight # 39,000 |
| | | Seal # | | | | | | Net Explosive Weight 35,280 |
| | | 9004890 / 9004889 | | | | | | |

ENTERED 4/02/13

RECEIVED 6CC16 APR - 2 2013 AUSTIN POWDER COMPANY EAST CAMDEN PLANT

This is to certify that the above-named materials are properly classified, described, packaged, marked, and labeled and are in proper condition for transportation, according to the applicable regulations of the Department of Transportation.

Signature [signature]

Invoice No. _____

FOR CHEMICAL EMERGENCY, SPILL, LEAK, FIRE, EXPOSURE OR ACCIDENT CALL CHEMTREC — DAY OR NIGHT
IN THE USA CALL 800-424-9300 IN CANADA (ERP #2-0040) 800-561-3636 ELSEWHERE CALL (703) 527-3887

Permanent Address of Shipper:
**Explo Systems, Inc.**
1600 Java Road
Minden, Louisiana 71055
(703) 382-8700

Per _____

DOT Hazardous Material Handling Number _____
Local Federal Explosives License No. 5-LA-119-20-1A-00057
(Shipper)

I have been offered placards identifying the shipment as Specified in 49CFR Subpart F of Part 172. I have received the above goods in apparent good order and condition.

Received By _____ Date _____
☐ CONSIGNEE ☐ CARRIER

By _____ Date _____
AUTHORIZED RECEIVER

CONTAINS HAZARDOUS MATERIALS

Agent must detach and retain this Shipping Order

020135

EXP_001769

EXPLO SYSTEMS, INC.

Load 36
6CC16

# LOAD/UNLOAD FORM

| CUSTOMER: | TRUCK LINE: Explo | TRUCK# 612 |
|---|---|---|
| DATE RECEIVED/LOADED: 4-1-13 | | |

| DATE | PRODUCT DESCRIPTION | FROM | TO | TRL# R/R | LOT# | NUMBER OF PLTS | NUMBER OF DRUMS | TOTAL WEIGHTS NET | TOTAL WEIGHTS GROSS |
|---|---|---|---|---|---|---|---|---|---|
| 4-1-13 | M-6 Propellant | 0363 | Quilship | [illegible] | IND83C070512 | 3 | 18 | 2520 | |
| | 140lb V6 bris | | | | IND87D070450 | 3 | 18 | 2520 | |
| | | | | | IND83F070587 | 1 | 6 | 840 | |
| | | | | | Total | 7 | 42 | 5880 | |

SIGNATURE
Form #54

PAPERWORK PREPARED BY:

Original Print Date: 10/30/2012

EXPLO SYSTEMS, INC.

Load 36
6CC16

# LOAD/UNLOAD FORM

| CUSTOMER: | TRUCK LINE: Explo | TRUCK# 612 |
|---|---|---|
| DATE RECEIVED/LOADED: 4-1-13 | | |

| DATE | PRODUCT DESCRIPTION | FROM | TO | TRL# R&R | LOT# | NUMBER OF PLTS | NUMBER OF DRUMS | TOTAL WEIGHTS NET | TOTAL WEIGHTS GROSS |
|---|---|---|---|---|---|---|---|---|---|
| 4-1-13 | M-6 Propellant | 2319 | Outship | 48613CH | IND82E070115 | 6 | 36 | 5,040 | |
| | 140lb x 6 brls | | | | IND89D071039 | 5 | 30 | 4,200 | |
| | | | | | IND84K070452 | 2 | 12 | 1,680 | |
| | | | | | IND81H070063 | 2 | 12 | 1,680 | |
| | | | | | IND85C070512 | 4 | 24 | 3,360 | |
| | | | | | IND83M070322 | 9 | 54 | 7,560 | |
| | | | | | IND84G070326 | 2 | 12 | 1,680 | |
| | | | | | IND85C070513 | 1 | 6 | 840 | |
| | | | | | IND87D070450 | 3 | 18 | 2520 | |
| | | | | | IND86C070616 | 1 | 6 | 840 | |
| | | | | | Total | 35 | 210 | 29,400 | |

SIGNATURE
Form #54

PAPERWORK PREPARED BY:

Original Print Date: 10/30/2012

36

2895

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND87D070450** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 23 AUG 2010** |

| Other Information | Sample Data | | Solvent |
|---|---|---|---|
| M6 Propellant | #1 | 0.5000 g 100 ml | ACN |

| Standards (ERG-006) | | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | | 0 | | |
| 2,4-DNDPA | 50.0 | 4.884 | 715.1 | 0 | 0.000 |
| 2,2' DNDPA | 50.0 | 9.663 | 794.8 | 5124.3 | 0.645 |
| 2,4' DNDPA | 50.0 | 11.213 | 1155.8 | 0 | 0.000 |
| 4NDPA | 50.0 | 11.899 | 750.7 | 0 | 0.000 |
| 2NDPA | 50.0 | 12.536 | 1565 | 0 | 0.000 |
| DPA | 200.0 | 13.934 | 4151.3 | 0 | 0.000 |
| N-NitrosoDPA | 75.0 | 14.875 | 1080.5 | 46.7 | 0.006 |

0.651

Avg. % Stabilizer for Lot **0.651**

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | |
|---|---|
| **Analyst** Kisha Dickerson | Avg. Tot. Stabilizers **0.65** % |
| Analyst Signature | Stable YES / Unstable |
| Lab. Supervisor Signature | Comments **CATEGORY: A** |
| | Actions to be Taken |

Form #159

020138

EXP_001772

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND85C070512** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 10 AUGUST 2012** |

| Other Information | Sample Data | | Solvent |
|---|---|---|---|
| M6 Propellant | #1 | 0.50 g 100 ml | ACN |

| Standards (ERG-006) | | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 0.882 | 8.8 | 112.9 | 1.283 |
| 2,4-DNDPA | 50.0 | 3.343 | 910.9 | 0 | 0.000 |
| 2,2' DNDPA | 50.0 | 5.034 | 3858.6 | 22576 | 0.000 |
| 2,4' DNDPA | 50.0 | 7.363 | 1013.2 | 0 | 0.000 |
| 4NDPA | 50.0 | 8.784 | 1647.3 | 59.7 | 0.004 |
| 2NDPA | 50.0 | 9.95 | 2919.6 | 95.5 | 0.003 |
| DPA | 200.0 | 11.386 | 5857.1 | 714.1 | 0.049 |
| N-NitrosoDPA | 75.0 | 12.173 | 1371.4 | 0 | 0.000 |

1.339

| Avg. % Stabilizer for Lot | **1.339** |
|---|---|

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| **Analyst** Takisha Dickerson | Avg. Tot. Stabilizers **1.34** % |
|---|---|
| Analyst Signature Dickerson | Stable YES / Unstable |
| Lab. Supervisor Signature | Comments **CATEGORY: A** |
| | Actions to be Taken |

CONTAINS HAZARDOUS MATERIALS

# STRAIGHT BILL OF LADING

**NOT NEGOTIABLE** Load 37

RECEIVED, subject to the classification and tariffs in effect on the date of the issue of this Original Bill of Lading.
The property described below, in apparent good order, except as noted (contents and condition of contents of packages unknown) consigned, end destined as indicated below, ch said carrier (the word carrier being understood throughout this contract meaning any person or corporation in possession of the property under the contract) agrees to curry s usual place of delivery of said destination. It on its route, otherwise to deliver to another carrier on the route to said destination. It is mutually agreed, as to each of all or any of said property over all or any portion of said route to destination, and as to each party at any time interested in all or any of said property, that every service lobe performed hereunder shall be subject to all the terms and conditions of the Uniform Domestic Straight Bill of Lading Set forth (t) in Uniform Freight Classification in effect on the date hereof, It this is a rail or rail-water shipment, or (2) in the applicable motor carrier classification or tariff it this is a motor carrier shipment.
Shipper hereby certifies that he is familiar with all the terms and conditions of the said bill of lading, set forth in the classification or tariff which governs the transportation of this shipment, and the sold terms and conditions are hereby agreed to by the shipper and accept for himself and his assigns.

Shipper: Explo Systems, Inc.
1600 Java Road
Minden, LA 71055

WO# 215589

Shipper's No. 2894

Shipping Date 3/31/13

At

Purchase Order No.

By RNK

Freight Charges: Collect _____ Prepaid XX

Location No. 2263

(Mail or Street Address of Consignee — For purposes of notification only)

Consigned to Austin Powder Co

Destination 7-11 10 Shipyard

State

County 1957 Camden Rd

Route

Charge Account of 1570 - 5 - 0510

Fed Lic. 5-LA-119-20-1A-00125 Exp. Date 5/1/15

State Lic. Exp. Date

Customer No.

Customer P.O. No. Rel. No.

| SHIPPED No. of PKGS | SHIPPED No. of UNITS | PROPER SHIPPING NAME AND HAZARD CLASS | RETURNED No. of PKGS | RETURNED No. of UNITS | EMERGENCY RESPONSE PROCEDURE GUIDE NO. | EXEMPTION DOT-E | H M | Placards Applied to Railcar or Motor Vehicle |
|---|---|---|---|---|---|---|---|---|
| | | UN0161, Powder, Smokeless, 1.3C, PG II | | | #112 | | | EXPLOSIVES 1.3 |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | Truck No. 2306 |
| | | | | | | | | Trailer No. 18753 |
| | | | | | | | | Mileage |
| | | | | | | | | Total |
| | | | | | | | | Packages |
| | | | | | | | | Gross |
| | | | | | | | | Weight # |
| | | | | | | | | Net Explosive Weight |
| | | 70835T 20838B | | | | | | 35,280 |

RECEIVED
6C16
APR - 2 2013
AUSTIN POWDER COMPANY
EAST CAMDEN PLANT

ENTERED
4/02/13

Shipment Preloaded, Counted & Sealed By Shipper 4-1-13

This is to certify that the above-named materials are properly classified, described, packaged, marked, and labeled and are in proper condition for transportation, according to the applicable regulations of the Department of Transportation.

Signature _____ Invoice No. _____

FOR CHEMICAL EMERGENCY, SPILL, LEAK, FIRE, EXPOSURE OR ACCIDENT CALL CHEMTREC — DAY OR NIGHT
IN THE USA CALL 800-424-9300 IN CANADA (ERP #2-0040) 800-561-3636 ELSEWHERE CALL (703) 527-3887

Permanent Address of Shipper:
**Explo Systems, Inc.**
1600 Java Road
Minden, Louisiana 71055
(318) 382-8700

Per _____

DOT Hazardous Material Handling Number _____
Local Federal Explosives License No. 5-LA-119-20-1A-00057
(Shipper)

I have been offered placards identifying the shipment as Specified in 49CFR Subpart F of Part 172. I have received the above goods in apparent good order and condition.

Received By _____ Date _____
❑ CONSIGNEE ❑ CARRIER

By _____ Date _____
AUTHORIZED RECEIVER

CONTAINS HAZARDOUS MATERIALS

Agent must detach and retain this Shipping Order

020140

EXP_001774

Load 37
6/6/16

AUSTIN POWDER PACKING LIST

SHIPMENT DATE 3-31-13

B/L# 2894 TRL 18483

M-6

IND86E-070617 12 PTS
IND83G-070281 4 PTS
IND85C-070512 1 PT
IND85F-070588 1 PT
IND87D-070450 6 PTS
IND84K-070452 4 PTS
IND81D-070019 7 PTS
IND81D-070015 1 PT
IND82H-070168 6 PTS

42 PTS WITH 6 FB @140 LBS PER DRUM

TOTAL 35,280 LBS

LIONEL KOONS

EXPLO SYSTEMS INC

# MOTOR VEHICLE INSPECTION (TRANSPORTING HAZARDOUS MATERIALS)

*(Read Instructions before completing this form.)*

This form applies to all vehicles which must be marked or placarded in accordance with Title 49 CFR.

1. BILL OF LADING/TRANSPORTATION CONTROL NUMBER: 2894

| SECTION 1 - DOCUMENTATION | ORIGIN a. | DESTINATION b. |
|---|---|---|
| 2. CARRIER/GOVERNMENT ORGANIZATION | RRU K | |
| 3. DATE/TIME OF INSPECTION | 3/13/13 | |
| 4. LOCATION OF INSPECTION | EXPLO SYSTEMS INC | |
| 5. OPERATOR(S) NAME(S) | | |
| 6. OPERATOR(S) LICENSE NUMBER(S) | P320 8254 90060 | |
| 7. MEDICAL EXAMINER'S CERTIFICATE* | 22515 | |

8. *(X if satisfactory at origin)*

| | | | | | |
|---|---|---|---|---|---|
| a. MILITARY HAZMAT ENDORSEMENT | | d. ERG OR EQUIVALENT COMMERCIAL: | YES | NO | |
| b. VALID LEASE* | | e. DRIVER'S VEHICLE INSPECTION REPORT* | | | |
| c. ROUTE PLAN | | f. COPY OF 49 CFR PART 397 | | | |

9. CVSA DECAL DISPLAYED ON COMMERCIAL EQUIPMENT*

| | YES | NO |
|---|---|---|
| a. TRUCK/TRACTOR | ✓ | |
| b. TRAILER | | |

## SECTION II - MECHANICAL INSPECTION

*All items shall be checked on empty equipment prior to loading. Items with an asterisk shall be checked on all incoming loaded equipment.*

10. TYPE OF VEHICLE(S): TRACTOR / TRAILER / DROM

11. VEHICLE NUMBER(S): TRAC # / TRL # 18483

| 12. PART INSPECTED (X as applicable) | ORIGIN (1) SAT | ORIGIN (1) UNSAT | DESTINATION (2) SAT | DESTINATION (2) UNSAT | | ORIGIN (1) SAT | ORIGIN (1) UNSAT | DESTINATION (2) SAT | DESTINATION (2) UNSAT | COMMENTS (3) |
|---|---|---|---|---|---|---|---|---|---|---|
| a. SPARE ELECTRICAL FUSES | ✓ | | | | k. EXHAUST SYSTEM | ✓ | | | | |
| b. HORN OPERATIVE | ✓ | | | | l. BRAKE SYSTEM* | ✓ | | | | |
| c. STEERING SYSTEM | ✓ | | | | m. SUSPENSION | ✓ | | | | |
| d. WINDSHIELD/WIPERS | ✓ | | | | n. COUPLING DEVICES | ✓ | | | | |
| e. MIRRORS | ✓ | | | | o. CARGO SPACE | ✓ | | | | |
| f. WARNING EQUIPMENT | ✓ | | | | p. LANDING GEAR* | ✓ | | | | |
| g. FIRE EXTINGUISHER* | ✓ | | | | q. TIRES, WHEELS, RIMS | ✓ | | | | |
| h. ELECTRICAL WIRING | ✓ | | | | r. TAILGATE/DOORS* | ✓ | | | | |
| i. LIGHTS AND REFLECTORS | ✓ | | | | s. TARPAULIN* | N/A | | | | |
| j. FUEL SYSTEM* | ✓ | | | | t. OTHER (Specify) | | | | | |

13. INSPECTION RESULTS (X one) ACCEPTED ✓ REJECTED

*(If rejected give reason under "Remarks". Equipment will be approved if deficiencies are corrected prior to loading.)*

14. SATELLITE MOTOR SURVEILLANCE SYSTEM: (X one) ACCEPTED N/A REJECTED

15. REMARKS

16. INSPECTOR SIGNATURE *(Origin)*

17. INSPECTOR SIGNATURE *(Destination)*

## SECTION III - POST LOADING INSPECTION

This section applies to Commercial and Government/Military vehicles. All items will be checked prior to release of loaded equipment and shall be checked on all incoming loaded equipment.

| | ORIGIN (1) SAT | ORIGIN (1) UNSAT | DESTINATION (2) SAT | DESTINATION (2) UNSAT | COMMENTS (3) |
|---|---|---|---|---|---|
| 18. LOADED IAW APPLICABLE SEGREGATION/COMPATIBILITY TABLE OF 49 CFR | | | | | |
| 19. LOAD PROPERLY SECURED TO PREVENT MOVEMENT | | | | | |
| 20. SEALS APPLIED TO CLOSED VEHICLE; TARPAULIN APPLIED ON OPEN EQUIPMENT | | | | | |
| 21. PROPER PLACARDS APPLIED | | | | | |
| 22. SHIPPING PAPERS/DD FORM 836 FOR GOVERNMENT VEHICLE SHIPMENTS | N/A | | | | |
| 23. COPY OF DD FORM 626 FOR DRIVER | | | | | |
| 24. SHIPPED UNDER DOT SPECIAL PERMIT 868 | N/A | | | | |

25. INSPECTOR SIGNATURE *(Origin)*

26. DRIVER(S) SIGNATURE *(Origin)*

27. INSPECTOR SIGNATURE *(Destination)*

28. DRIVER(S) SIGNATURE *(Destination)*

020143



## POTENTIAL HAZARDS

### FIRE OR EXPLOSION

- **MAY EXPLODE AND THROW FRAGMENTS 1600 meters (1 MILE) OR MORE IF FIRE REACHES CARGO.**
- **For information on "Compatibility Group" letters, refer to Glossary section.**

### HEALTH

- Fire may produce irritating, corrosive and/or toxic gases.

## PUBLIC SAFETY

- **CALL Emergency Response Telephone Number on Shipping Paper first. If Shipping Paper not available or no answer, refer to appropriate telephone number listed on the inside back cover.**
- Isolate spill or leak area immediately for at least 500 meters (1/3 mile) in all directions.
- Move people out of line of sight of the scene and away from windows.
- Keep unauthorized personnel away.
- Stay upwind.
- Ventilate closed spaces before entering.

### PROTECTIVE CLOTHING

- Wear positive pressure self-contained breathing apparatus (SCBA).
- Structural firefighters' protective clothing will only provide limited protection.

### EVACUATION

**Large Spill**

- **Consider initial evacuation for 800 meters (1/2 mile) in all directions.**

**Fire**

- If rail car or trailer is involved in a fire and heavily encased explosives such as bombs or artillery projectiles are suspected, ISOLATE for 1600 meters (1 mile) in all directions; also, initiate evacuation including emergency responders for 1600 meters (1 mile) in all directions.
- When heavily encased explosives are not involved, evacuate the area for 800 meters (1/2 mile) in all directions.

*** For information on "Compatibility Group" letters, refer to the Glossary section.**





## EMERGENCY RESPONSE

### FIRE

**CARGO Fire**

- **DO NOT fight fire when fire reaches cargo! Cargo may EXPLODE!**
- Stop all traffic and clear the area for at least 1600 meters (1 mile) in all directions and let burn.
- **Do not move cargo or vehicle if cargo has been exposed to heat.**

**TIRE or VEHICLE Fire**

- **Use plenty of water - FLOOD it! If water is not available, use $CO_2$, dry chemical or dirt.**
- If possible, and WITHOUT RISK, use unmanned hose holders or monitor nozzles from maximum distance to prevent fire from spreading to cargo area.
- Pay special attention to tire fires as re-ignition may occur. Stand by with extinguisher ready.

### SPILL OR LEAK

- ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area).
- All equipment used when handling the product must be grounded.
- Do not touch or walk through spilled material.
- DO NOT OPERATE RADIO TRANSMITTERS WITHIN 100 meters (330 feet) OF ELECTRIC DETONATORS.
- **DO NOT CLEAN-UP OR DISPOSE OF, EXCEPT UNDER SUPERVISION OF A SPECIALIST.**

### FIRST AID

- Move victim to fresh air. • Call 911 or emergency medical service.
- Give artificial respiration if victim is not breathing.
- Administer oxygen if breathing is difficult.
- Remove and isolate contaminated clothing and shoes.
- In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes.
- Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves.

*** For information on "Compatibility Group" letters, refer to the Glossary section.**



EXP_001777

EXPLO SYSTEMS, INC.

Explo Systems, Inc.
1600 Java Road
Minden, LA 71055

# MATERIAL SAFETY DATA SHEET

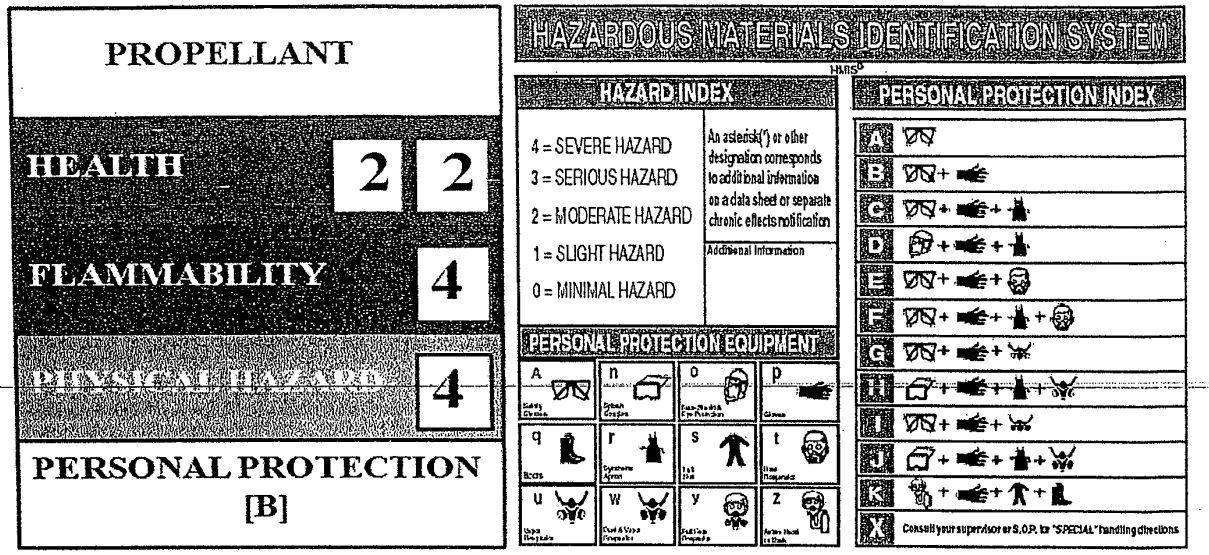
## PROPELLANT (Wetted)

## SECTION I - PRODUCT IDENTIFICATION

PRODUCT NAME: Propellant, Explosive, Solid, Wetted
Technical Information Phone No.: 318.382.8700
For Chemical Emergency (Spill, Fire, Exposure or Accident) call CHEMTREC day or night. Within the US and Canada: +1 800-424-9300. Outside the US and Canada: +1 703-527-3887 (collect calls accepted).

| Ingredient | CAS No. | Wt. % | OSHA PEL<br>ACGIH TLV<br>EPA RQ (if defined)<br>DOT RQ (if defined) |
|---|---|---|---|
| Dibutyl Phthalate | 84-74-2 | 3.00 | OSHA PEL 5 mg/m$^3$<br>ACGIH TLV 5 mg/m$^3$<br>EPA RQ 10 lbs<br>DOT RQ 10 lbs |
| Diphenylamine | 122-39-4 | 1.00 | OSHA PEL 10 mg/m$^3$<br>ACGIH TLV 10 mg/m$^3$<br>EPA RQ (none defined)<br>DOT RQ (none defined) |
| Potassium Sulfate | 7778-80-5 | 2.00 | OSHA PEL none published<br>ACGIH TLV none published<br>EPA RQ (none defined)<br>DOT RQ (none defined) |
| Nitrocellulose (flammable solid) | -- | 87.00 | OSHA PEL none published<br>ACGIH TLV none published<br>EPA RQ (none defined)<br>DOT RQ (none defined) |
| Dinitrotoluene | 25321-14-6 | 10.00 | OSHA PEL 10 mg/m$^3$<br>ACGIH TLV 10 mg/m$^3$<br>EPA RQ 10 lbs<br>DOT RQ 10 lbs |

## SECTION II - HAZARDS IDENTIFICATION




Routes of Entry: Inhalation; Skin; Ingestion
Carcinogenicity: None
First Aid Measures: EYES - Immediately flush with copious amount of water (low pressure) for 15 minutes, remove contact lenses; call physician. SKIN - Wash with soap and running water. INGESTION - Contact physician immediately. INHALATION - Remove to fresh air. Treat irritation symptomatically; call physician.
Firefighting Measures: Self-oxidizing, deluge with water. Will not be able to extinguish unless large quantity of water is used in very short time. Use NIOSH/MSHA approved SCBA and full protective equipment; evacuate area.
Unusual Fire/Explosion Hazard: Easily ignited, highly combustible; protect from fire and sparks and extreme heat.
Autoignition: 383°F (195°C)
Hazardous Combustion Products: Oxides of Carbon
Accidental Release Measures: SPILL - Clean immediately with soft (horsehair) brush and conductive rubber or plastic shovel. Use brass or other non-sparking tools and utensils. DO NOT hammer or otherwise cause impact forces to spilled material (explosion or autoignition could occur with impact force being applied).

## SECTION III - HANDLING AND STORAGE

Precautions: Avoid prolonged temperature above 125°F (50°C). Normal storage conditions should be 75°F (21°C) and 50% Humidity. Storage must conform to local, state and federal regulations, specifically: 29 CFR OSHA 1910.109; 27 CFR BATFE 55 subpart K.
Other Special Precautions: Flammable Solid…Keep away from heat, sparks, open flame…Keep containers closed…use with adequate ventilation.
Ventilation: Local and general ventilation necessary to keep air concentration below TLV's.
Personal Protective Equipment: Safety Glasses, Cotton or Leather Gloves, Fire Resistant Coveralls.

## SECTION IV - PHYSICAL AND CHEMICAL PROPERTIES

Specific Gravity: 1.496
Evaporation Rate: <1 (Butylacetate = 1)
Solubility in Water: negligible
Appearance and Odor: Hard Cylinder Perforated, Smooth, Greenish Yellow. Odorless.
Materials to Avoid: Oxides of Nitrogen and Carbon.

Conditions to Avoid: Open Flame, Sparks, Heat, Direct Sunlight.
Hazardous Decomposition Products: Oxides of Carbon

## SECTION V – TRANSPORTATION INFORMATION

DOT Proper Shipping Name: Smokeless Powder (wetted)
Hazard Class: 1.3C
UN No. UN0161
Packing Group: II

## SECTION VI - DISPOSAL CONSIDERATIONS

Disposal must be in accordance with federal, state and local regulations. Burn in open burning ground in accordance with regulatory requirements. It may also be burned in an incinerator approved for explosives.

## DISCLAIMER

The information contained in this MSDS (Material Safety Data Sheet) is based upon available constituent data for the components of **Propellant** and is believed to be correct. However, as this information has been obtained from various sources, including the manufacturers of its components and independent laboratories, it is provided herein without warranty or representation that it is complete, accurate and can be relied upon. Explo Systems, Inc. has not attempted to conceal in any manner the deleterious aspects of this product, and makes no warranty as such. Explo Systems, Inc. cannot anticipate nor control the many situations in which this product or this information may be used; there is no guarantee that the health and safety precautions suggested herein will be proper under all conditions. It is the sole responsibility of each user of the product to determine and comply with the requirements of all applicable laws and regulations regarding its use. This information is given solely for the purposes of safety to persons and property. Any other use of this information is expressly prohibited.

## AUTHOR

This MSDS was prepared by: Ferris Callihan, PE - Director Support Technology - Explo Systems, Inc. - 1600 Java Road - Minden, LA 71055 - Tel 318 382 8700 - E-mail: fcallihan@explosystems.com

U.S. Department
of Transportation

Pipeline and Hazardous
Materials Safety Administration

East Building, PHH – 32
1200 New Jersey Avenue, Southeast
Washington, D.C. 20590

The US Department of Transportation
Competent Authority for the United States

## CLASSIFICATION OF EXPLOSIVES
## FIRST REVISION

Based upon a request by Explo Systems Inc., 1600 Java Road, Minden, LA 71055, United States the following items are classed in accordance with Section 173.56, Title 49, Code of Federal Regulations (49 CFR). A copy of your application, all supporting documentation and a copy of this approval must be retained and made available to DOT upon request.

**U.N. PROPER SHIPPING NAME AND NUMBER:**
Powder, smokeless, UN0161

**U.N. CLASSIFICATION CODE**: 1.3C

| REFERENCE NUMBER | PRODUCT DESIGNATION/PART NUMBER |
|---|---|
| EX2010040603 | Reclaimed M6 Propellant |

**NOTES:** This classification is only valid when the smokeless powder has been tested and found to have sufficient residual stabilizers present per US Army Safety Bulletin: "Inspection of Supplies and Equipment, Ammunition Surveillance Procedures" (SB 742-1). The following packaging methods are assigned:
Packaging Method A: Inner Packaging - Not necessary. Outer Packaging – UN 1G fiberdrum, each containing not more than one hundred and forty (140) pounds of smokeless propellant.
Packaging Method B: Inner Packaging: Flexible static-resistant reinforced plastic cloth and strapping lifting bag, each containing not more than eight hundred and eighty (880) pounds of smokeless propellant. Outer Packaging - UN 4G heavy-wall fiberboard box with a volumetric capacity of 119 gallons or less. (see 49 CFR Section 171.8 Definition for "Non-bulk packaging")

**DATED:** 05/05/2011

Harpreet S Virgh

For Dr. Magdy El-Sibaie
Associate Administrator for Hazardous Materials Safety

Tracking No: 2011040848



020148

EXP_001782

37
2894

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND87D070450** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 23 AUG 2010** |

| Other Information | Sample Data | | Solvent |
|---|---|---|---|
| M6 Propellant | #1 | 0.5000 g 100 ml | ACN |

| Standards (ERG-006) | | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | | 0 | | |
| 2,4-DNDPA | 50.0 | 4.884 | 715.1 | 0 | 0.000 |
| 2,2' DNDPA | 50.0 | 9.663 | 794.8 | 5124.3 | 0.645 |
| 2,4' DNDPA | 50.0 | 11.213 | 1155.8 | 0 | 0.000 |
| 4NDPA | 50.0 | 11.899 | 750.7 | 0 | 0.000 |
| 2NDPA | 50.0 | 12.536 | 1565 | 0 | 0.000 |
| DPA | 200.0 | 13.934 | 4151.3 | 0 | 0.000 |
| N-NitrosoDPA | 75.0 | 14.875 | 1080.5 | 46.7 | 0.006 |

0.651

Avg. % Stabilizer for Lot **0.651**

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | |
|---|---|
| **Analyst** Kisha Dickerson | Avg. Tot. Stabilizers **0.65** % |
| Analyst Signature | Stable YES \| Unstable |
| | Comments |
| Lab. Supervisor Signature | **CATEGORY: A** |
| | Actions to be Taken |

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND86E070617** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 18 JULY 2012** |

| Other Information | Sample Data | | Solvent |
|---|---|---|---|
| M6 Propellant | #1 | 0.50 g 100 ml | ACN |

| Standards (ERG-006) | | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 0.863 | 133.9 | 389.2 | 0.291 |
| 2,4-DNDPA | 50.0 | 3.365 | 949.7 | 0 | 0.000 |
| 2,2' DNDPA | 50.0 | 5.091 | 2605.4 | 22628 | 0.000 |
| 2,4' DNDPA | 50.0 | 7.514 | 1047.9 | 0 | 0.000 |
| 4NDPA | 50.0 | 8.946 | 1698.8 | 45.3 | 0.003 |
| 2NDPA | 50.0 | 10.142 | 3039.5 | 80.7 | 0.003 |
| DPA | 200.0 | 11.585 | 6044.7 | 861.6 | 0.057 |
| N-NitrosoDPA | 75.0 | 12.4 | 1395.6 | 0 | 0.000 |

| | |
|---|---|
| | 0.353 |
| Avg. % Stabilizer for Lot | **0.353** |

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | |
|---|---|
| **Analyst** Takisha Dickerson | Avg. Tot. Stabilizers **0.35** % |
| Analyst Signature TDickerson | Stable YES / Unstable |
| Lab. Supervisor Signature | Comments **CATEGORY: A** |
| | Actions to be Taken |

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND85F070588** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 20 Dec 2010** |

Other Information
M6 Propellant

| Sample Data | | | Solvent |
|---|---|---|---|
| #1 | 0.5000 g | 100 ml | ACN |

| Standards (ERG-006) | | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 2.059 | 87.1 | 1411.1 | 1.620 |
| 2,4-DNDPA | 50.0 | 5.198 | 631.9 | 845.8 | 0.134 |
| 2,2' DNDPA | 50.0 | 7.699 | 1074.2 | 15722.5 | 0.000 |
| 2,4' DNDPA | 50.0 | 11.782 | 545 | 0 | 0.000 |
| 4NDPA | 50.0 | 13.513 | 1464.9 | 246.8 | 0.017 |
| 2NDPA | 50.0 | 15.189 | 1011.6 | 0 | 0.000 |
| DPA | 200.0 | 16.638 | 2894.7 | 309.8 | 0.043 |
| N-NitrosoDPA | 75.0 | 18.069 | 720.1 | 0 | 0.000 |

1.814

Avg. % Stabilizer for Lot **1.814**

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | |
|---|---|
| **Analyst** Kisha Dickerson | Avg. Tot. Stabilizers **1.81** % |
| Analyst Signature | Stable YES / Unstable |
| Lab. Supervisor Signature | Comments **CATEGORY: A** |
| | Actions to be Taken |

# HPLC PROPELLANT STABILITY REPORT

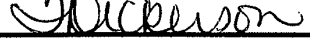
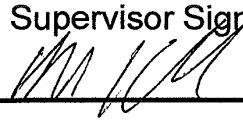
| | |
|---|---|
| **Lot Number:IND85C070512** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 10 AUGUST 2012** |

| Other Information | Sample Data | | | Solvent |
|---|---|---|---|---|
| M6 Propellant | #1 | 0.50 g | 100 ml | ACN |

| Standards (ERG-006) | | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 0.882 | 8.8 | 112.9 | 1.283 |
| 2,4-DNDPA | 50.0 | 3.343 | 910.9 | 0 | 0.000 |
| 2,2' DNDPA | 50.0 | 5.034 | 3858.6 | 22576 | 0.000 |
| 2,4' DNDPA | 50.0 | 7.363 | 1013.2 | 0 | 0.000 |
| 4NDPA | 50.0 | 8.784 | 1647.3 | 59.7 | 0.004 |
| 2NDPA | 50.0 | 9.95 | 2919.6 | 95.5 | 0.003 |
| DPA | 200.0 | 11.386 | 5857.1 | 714.1 | 0.049 |
| N-NitrosoDPA | 75.0 | 12.173 | 1371.4 | 0 | 0.000 |

| | 1.339 |
|---|---|
| Avg. % Stabilizer for Lot | **1.339** |

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | |
|---|---|
| **Analyst** Takisha Dickerson | Avg. Tot. Stabilizers **1.34** % |
| Analyst Signature  | Stable YES / Unstable |
| Lab. Supervisor Signature  | Comments **CATEGORY: A** |
| | Actions to be Taken |

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND84K070452** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 13 AUGUST 2012** |

Other Information
M6 Propellant

| Sample Data | | | Solvent |
|---|---|---|---|
| #1 | 0.50 g | 100 ml | ACN |

| Standards (ERG-006) | | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 0.874 | 41.1 | 237.6 | 0.578 |
| 2,4-DNDPA | 50.0 | 3.363 | 1017.6 | 0 | 0.000 |
| 2,2' DNDPA | 50.0 | 5.079 | 4556.2 | 22977 | 0.000 |
| 2,4' DNDPA | 50.0 | 7.471 | 1126.4 | 0 | 0.000 |
| 4NDPA | 50.0 | 8.907 | 1830.9 | 53.4 | 0.003 |
| 2NDPA | 50.0 | 10.084 | 3271.2 | 114.5 | 0.004 |
| DPA | 200.0 | 11.54 | 6554.9 | 610.4 | 0.037 |
| N-NitrosoDPA | 75.0 | 12.349 | 1509.1 | 0 | 0.000 |

0.622

Avg. % Stabilizer for Lot **0.622**

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

**Analyst** Takisha Dickerson

Avg. Tot. Stabilizers **0.62** %

Analyst Signature
Dickerson

Stable YES | Unstable

Comments
**CATEGORY: A**

Lab. Supervisor Signature

Actions to be Taken

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND83G070281** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 4 April 2012** |

| Other Information | Sample Data | | Solvent |
|---|---|---|---|
| M6 Propellant | #1 | 0.50 g 100 ml | ACN |

| Standards (ERG-006) | | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 0.881 | 40.9 | 93.7 | 0.229 |
| 2,4-DNDPA | 50.0 | 3.279 | 928 | 0 | 0.000 |
| 2,2' DNDPA | 50.0 | 4.66 | 26957 | 26191 | 0.000 |
| 2,4' DNDPA | 50.0 | 6.571 | 992.8 | 0 | 0.000 |
| 4NDPA | 50.0 | 7.798 | 1662.7 | 158.3 | 0.010 |
| 2NDPA | 50.0 | 8.806 | 2938.9 | 98.9 | 0.003 |
| DPA | 200.0 | 10.221 | 5774.5 | 1004.4 | 0.070 |
| N-NitrosoDPA | 75.0 | 10.895 | 1475.9 | 0 | 0.000 |

0.312

| Avg. % Stabilizer for Lot | **0.312** |
|---|---|

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| **Analyst** Takisha Dickerson | Avg. Tot. Stabilizers **0.31** % |
|---|---|
| Analyst Signature | Stable YES / Unstable |
| Lab. Supervisor Signature | Comments<br>**CATEGORY: A** |
| | Actions to be Taken |

Form #158

020154

EXP_001788

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND82H070168** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 1 FEB 2011** |

| Other Information | Sample Data | | Solvent |
|---|---|---|---|
| M6 Propellant | #1 | 0.5000 g 100 ml | ACN |

| Standards (ERG-006) | | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 4.156 | 1116 | 2540.4 | 0.228 |
| 2,4-DNDPA | 50.0 | 9.388 | 1191.2 | 31231.4 | 2.622 |
| 2,2' DNDPA | 50.0 | 10.987 | 1694.7 | 51.5 | 0.000 |
| 2,4' DNDPA | 50.0 | 11.73 | 1272.3 | 143.2 | 0.011 |
| 4NDPA | 50.0 | 12.459 | 2443.3 | 0 | 0.000 |
| 2NDPA | 50.0 | 13.939 | 5852.1 | 838.5 | 0.014 |
| DPA | 200.0 | 15.022 | 1753.1 | 0 | 0.000 |
| N-NitrosoDPA | 75.0 | 18.932 | 2535.1 | 985.4 | 0.000 |

| | | |
|---|---|---|
| | | 2.875 |
| Avg. % Stabilizer for Lot | | **2.875** |

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | | |
|---|---|---|
| **Analyst** Mike Kile | Avg. Tot. Stabilizers | **2.88** % |
| Analyst Signature | Stable YES | Unstable |
| | Comments | |
| Lab. Supervisor Signature | **CATEGORY:** | **A** |
| | Actions to be Taken | |

Form #150

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND81D070019** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 29 MAY 2012** |

| Other Information | Sample Data | | | Solvent |
|---|---|---|---|---|
| M6 Propellant | #1 | 0.50 g | 100 ml | ACN |

| Standards (ERG-006) | | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 0.86 | 235.9 | 525.7 | 0.223 |
| 2,4-DNDPA | 50.0 | 3.398 | 913.2 | 0 | 0.000 |
| 2,2' DNDPA | 50.0 | 5.133 | 1007.2 | 37577 | 0.000 |
| 2,4' DNDPA | 50.0 | 7.409 | 1002.4 | 0 | 0.000 |
| 4NDPA | 50.0 | 8.917 | 1612.8 | 186.9 | 0.012 |
| 2NDPA | 50.0 | 10.112 | 2882.2 | 282.1 | 0.010 |
| DPA | 200.0 | 11.607 | 5642.3 | 917.9 | 0.065 |
| N-NitrosoDPA | 75.0 | 12.414 | 1351.4 | | 0.000 |

| | | |
|---|---|---|
| | | 0.309 |
| Avg. % Stabilizer for Lot | | **0.309** |

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | |
|---|---|
| **Analyst** Takisha Dickerson | Avg. Tot. Stabilizers **0.31** % |
| Analyst Signature | Stable YES / Unstable |
| Lab. Supervisor Signature | Comments **CATEGORY: A** |
| | Actions to be Taken |

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND81D070015** | **D533 / M6 propellant** |
| Date of analysis: | **Date:20 OCT 2010** |

| Other Information | Sample Data | | Solvent |
|---|---|---|---|
| M6 Propellant | #1 | 0.5000 g 100 ml | ACN |

| Standards (ERG-006) | | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 5.024 | 281.6 | 2363.4 | 0.839 |
| 2,4-DNDPA | 50.0 | 10.59 | 329 | 0 | 0.000 |
| 2,2' DNDPA | 50.0 | 12.176 | 376.1 | 0 | 0.000 |
| 2,4' DNDPA | 50.0 | 12.67 | 275.3 | 35.7 | 0.013 |
| 4NDPA | 50.0 | 13.632 | 664.1 | 0 | 0.000 |
| 2NDPA | 50.0 | 14.943 | 1788.8 | 34.8 | 0.002 |
| DPA | 200.0 | 16.114 | 286 | 0 | 0.000 |
| N-NitrosoDPA | 75.0 | 19.917 | 329.9 | 158.8 | 0.000 |

| | | |
|---|---|---|
| | | 0.854 |
| | Avg. % Stabilizer for Lot | **0.854** |

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | | |
|---|---|---|
| **Analyst** Kisha Dickerson | Avg. Tot. Stabilizers | **0.85** % |
| Analyst Signature | Stable YES | Unstable |
| | Comments | |
| Lab. Supervisor Signature | **CATEGORY:** | **A** |
| | Actions to be Taken | |

CONTAINS HAZARDOUS MATERIALS

# STRAIGHT BILL OF LADING

## NOT NEGOTIABLE

Load 38

RECEIVED, subject to the classification and tariffs in effect on the date of the issue of this Original Bill of Lading.
The property described below, in apparent good order, except as noted (contents and condition of contents of packages unknown) consigned, and destined as indicated below, ich said carrier (the word carrier being understood throughout this contract meaning any person or corporation in possession of the property under the contract) agrees to curry s usual place of delivery of said destination. It on its route, otherwise to deliver to another carrier on the route to said destination. It is mutually agreed, as to each of all or any of ..id property over all or any portion of said route to destination, and as to each party at any time interested in all or any of said property, that every service lobe performed hereunder shall be subject to all the terms and conditions of the Uniform Domestic Straight Bill of Lading Set forth (t) in Uniform Freight Classification in effect on the date hereof, It this is a rail or rail-water shipment, or (2) in the applicable motor carrier classification or tariff it this is a motor carrier shipment.
Shipper hereby certifies that he is familiar with all the terms and conditions of the said bill of lading, set forth in the classification or tariff which governs the transportation of this shipment, and the sold terms and conditions are hereby agreed to by the shipper and accept for himself and his assigns.

Shipper: Explo Systems, Inc.
1600 Java Road
Minden, LA 71055

WO# 215592

Shipper's No. 2896

Shipping Date 4/2/13

At

Purchase Order No.

By RICK

Freight Charges: Collect _____ Prepaid YYY

Location No. 2315/2328

(Mail or Street Address of Consignee — For purposes of notification only)

Consigned to ARGEN PYRO [illegible]
Destination [illegible] State
County EAST CAMDEN
Route
Charge Account of [illegible]

Fed Lic. [illegible] Exp. Date 5/1/15
State Lic. Exp. Date
Customer No.
Customer P.O. No. Rel. No.

| SHIPPED No. of PKGS | SHIPPED No. of UNITS | PROPER SHIPPING NAME AND HAZARD CLASS | RETURNED No. of PKGS | RETURNED No. of UNITS | EMERGENCY RESPONSE PROCEDURE GUIDE NO. | EXEMPTION DOT-E | H M | Placards Applied to Railcar or Motor Vehicle |
|---|---|---|---|---|---|---|---|---|
| [illegible] | [illegible] | UN0161, Powder, Smokeless, 1.3C, PG II | | | #112 | [illegible] | | EXPLOSIVES 1.3 |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | Truck No. 6177 |
| | | | | | | | | Trailer No. [illegible] |
| | | | | | | | | Mileage |
| | | | | | | | | Total Packages |
| | | | | | | | | Gross Weight # |
| | | | | | | | | Net Explosive Weight |
| | | 708585/708860 | | | | | | 35,290 |

RECEIVED
APR - 2 2013
AUSTIN POWDER COMPANY
EAST CAMDEN PLANT

ENTERED 4/02/13

This is to certify that the above-named materials are properly classified, described, packaged, marked, and labeled and are in proper condition for transportation, according to the applicable regulations of the Department of Transportation.

Signature _____ Invoice No. _____

FOR CHEMICAL EMERGENCY, SPILL, LEAK, FIRE, EXPOSURE OR ACCIDENT CALL CHEMTREC — DAY OR NIGHT
IN THE USA CALL 800-424-9300 IN CANADA (ERP #2-0040) 800-561-3636 ELSEWHERE CALL (703) 527-3887

Permanent Address of Shipper:
**Explo Systems, Inc.**
1600 Java Road
[illegible]len, Louisiana 71055
[illegible]) 382-8700

Per _____

DOT Hazardous Material Handling Number _____
Local Federal Explosives License No. 5-LA-119-20-1A-00057
(Shipper)

I have been offered placards identifying the shipment as Specified in 49CFR Subpart F of Part 172. I have received the above goods in apparent good order and condition.

Received By _____ Date 4-2-13
☐ CONSIGNEE ☐ CARRIER

By _____ Date _____
AUTHORIZED RECEIVER

CONTAINS HAZARDOUS MATERIALS

Agent must detach and retain this Shipping Order

020158

EXP_001792

Load 3P
loc Cle

AUSTIN POWDER PACKING LIST

SHIPMENT DATE 4-2-13

B/L# 2896 TRL 6810053

M-6

IND83M-070322 8 PTS
IND82E-070115 4 PTS
IND84G-070326 3 PTS
IND86E-070616 7 PTS
IND83E-070273 2 PTS
IND87D-070450 3 PTS
IND81H-070063 3 PTS
IND87B-070678 1 PT
IND85C-070512 1 PT
IND83F-070274 2 PTS
IND81F-070015 1 PT
IND81C-070072 1 PT
IND81D-070019 1 PT
IND83M-070327 2 PTS
IND82K-070175 3 PTS

42 PTS WITH 6 FB @140 LBS PER DRUM

TOTAL 35,280 LBS

LIONEL KOONS

EXPLO SYSTEMS INC

# MOTOR VEHICLE INSPECTION (TRANSPORTING HAZARDOUS MATERIALS)

*(Read Instructions before completing this form.)*

This form applies to all vehicles which must be marked or placarded in accordance with Title 49 CFR.

1. BILL OF LADING/TRANSPORTATION CONTROL NUMBER: 2896

| SECTION 1 - DOCUMENTATION | ORIGIN a. | DESTINATION b. |
|---|---|---|
| 2. CARRIER/GOVERNMENT ORGANIZATION | RRWK | |
| 3. DATE/TIME OF INSPECTION | 4/2/13 | |
| 4. LOCATION OF INSPECTION | EXPLO SYSTEMS INC | |
| 5. OPERATOR(S) NAME(S) | FALK, ANTHONY | |
| 6. OPERATOR(S) LICENSE NUMBER(S) | 13631449 TX | |
| 7. MEDICAL EXAMINER'S CERTIFICATE* | 10/10/14 | |

| 8. (X if satisfactory at origin) | | | | | | 9. CVSA DECAL DISPLAYED ON COMMERCIAL EQUIPMENT* | YES | NO |
|---|---|---|---|---|---|---|---|---|
| a. MILITARY HAZMAT ENDORSEMENT | — | d. ERG OR EQUIVALENT COMMERCIAL: | ✓ YES | | NO | a. TRUCK/TRACTOR | ✓ | |
| b. VALID LEASE* | ✓ | e. DRIVER'S VEHICLE INSPECTION REPORT* | | ✓ | | b. TRAILER | ✓ | |
| c. ROUTE PLAN | ✓ | f. COPY OF 49 CFR PART 397 | | | | | | |

## SECTION II - MECHANICAL INSPECTION

*All items shall be checked on empty equipment prior to loading. Items with an asterisk shall be checked on all incoming loaded equipment.*

10. TYPE OF VEHICLE(S): TRACTOR / TRAILER / DROM

11. VEHICLE NUMBER(S): TRAC # 6177 / TRL # 6610053

| 12. PART INSPECTED (X as applicable) | ORIGIN (1) SAT | ORIGIN (1) UNSAT | DESTINATION (2) SAT | DESTINATION (2) UNSAT | | ORIGIN (1) SAT | ORIGIN (1) UNSAT | DESTINATION (2) SAT | DESTINATION (2) UNSAT | COMMENTS (3) |
|---|---|---|---|---|---|---|---|---|---|---|
| a. SPARE ELECTRICAL FUSES | ✓ | | | | k. EXHAUST SYSTEM | ✓ | | | | |
| b. HORN OPERATIVE | ✓ | | | | l. BRAKE SYSTEM* | ✓ | | | | |
| c. STEERING SYSTEM | ✓ | | | | m. SUSPENSION | ✓ | | | | |
| d. WINDSHIELD/WIPERS | ✓ | | | | n. COUPLING DEVICES | ✓ | | | | |
| e. MIRRORS | ✓ | | | | o. CARGO SPACE | ✓ | | | | |
| f. WARNING EQUIPMENT | ✓ | | | | p. LANDING GEAR* | ✓ | | | | |
| g. FIRE EXTINGUISHER* | ✓ | | | | q. TIRES, WHEELS, RIMS | ✓ | | | | |
| h. ELECTRICAL WIRING | ✓ | | | | r. TAILGATE/DOORS* | ✓ | | | | |
| i. LIGHTS AND REFLECTORS | ✓ | | | | s. TARPAULIN* | N/A | | | | |
| j. FUEL SYSTEM* | ✓ | | | | t. OTHER (Specify) | | | | | |

13. INSPECTION RESULTS (X one) ACCEPTED ✓ REJECTED

*(If rejected give reason under "Remarks". Equipment will be approved if deficiencies are corrected prior to loading.)*

14. SATELLITE MOTOR SURVEILLANCE SYSTEM: (X one) ACCEPTED N/A REJECTED

15. REMARKS

16. INSPECTOR SIGNATURE *(Origin)* [signature]

17. INSPECTOR SIGNATURE *(Destination)*

## SECTION III - POST LOADING INSPECTION

This section applies to Commercial and Government/Military vehicles. All items will be checked prior to release of loaded equipment and shall be checked on all incoming loaded equipment.

| | ORIGIN (1) SAT | ORIGIN (1) UNSAT | DESTINATION (2) SAT | DESTINATION (2) UNSAT | COMMENTS (3) |
|---|---|---|---|---|---|
| 18. LOADED IAW APPLICABLE SEGREGATION/COMPATIBILITY TABLE OF 49 CFR | ✓ | | | | |
| 19. LOAD PROPERLY SECURED TO PREVENT MOVEMENT | ✓ | | | | |
| 20. SEALS APPLIED TO CLOSED VEHICLE; TARPAULIN APPLIED ON OPEN EQUIPMENT | ✓ | | | | |
| 21. PROPER PLACARDS APPLIED | ✓ | | | | |
| 22. SHIPPING PAPERS/DD FORM 836 FOR GOVERNMENT VEHICLE SHIPMENTS | N/A | | | | |
| 23. COPY OF DD FORM 626 FOR DRIVER | ✓ | | | | |
| 24. SHIPPED UNDER DOT SPECIAL PERMIT 868 | N/A | | | | |

25. INSPECTOR SIGNATURE *(Origin)* [signature]

26. DRIVER(S) SIGNATURE *(Origin)* [signature] 4-2-13

27. INSPECTOR SIGNATURE *(Destination)*

28. DRIVER(S) SIGNATURE *(Destination)*

Explo Systems, Inc.
1600 Java Road
Minden, LA 71055

# MATERIAL SAFETY DATA SHEET

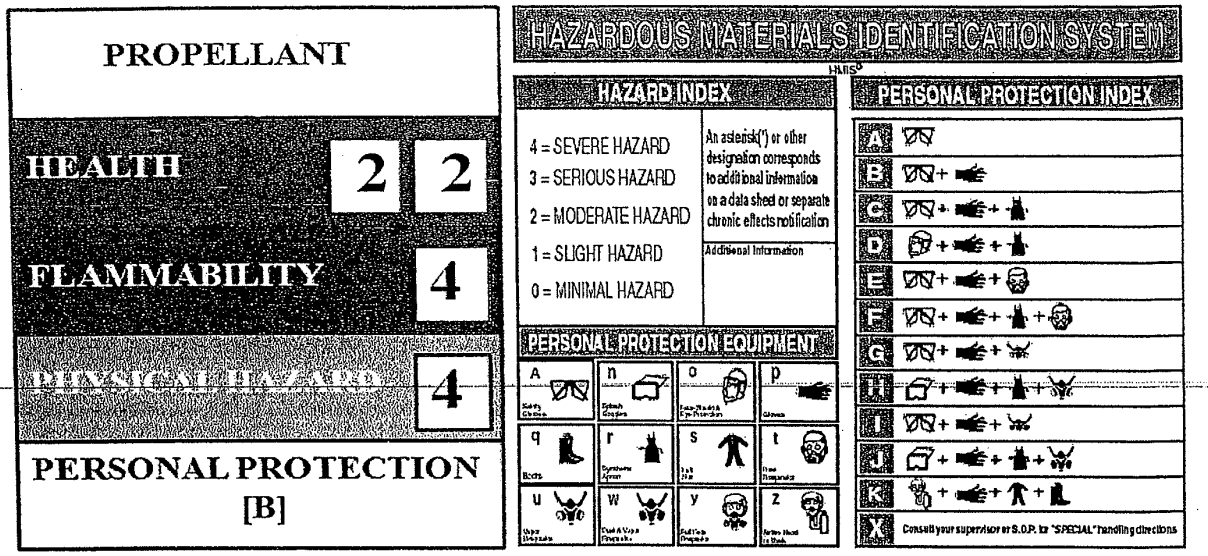
## PROPELLANT (Wetted)

## SECTION I - PRODUCT IDENTIFICATION

PRODUCT NAME: Propellant, Explosive, Solid, Wetted
Technical Information Phone No.: 318.382.8700
For Chemical Emergency (Spill, Fire, Exposure or Accident) call CHEMTREC day or night. Within the US and Canada: +1 800-424-9300. Outside the US and Canada: +1 703-527-3887 (collect calls accepted).

| Ingredient | CAS No. | Wt. % | OSHA PEL<br>ACGIH TLV<br>EPA RQ (if defined)<br>DOT RQ (if defined) |
|---|---|---|---|
| Dibutyl Phthalate | 84-74-2 | 3.00 | OSHA PEL 5 mg/m$^3$<br>ACGIH TLV 5 mg/m$^3$<br>EPA RQ 10 lbs<br>DOT RQ 10 lbs |
| Diphenylamine | 122-39-4 | 1.00 | OSHA PEL 10 mg/m$^3$<br>ACGIH TLV 10 mg/m$^3$<br>EPA RQ (none defined)<br>DOT RQ (none defined) |
| Potassium Sulfate | 7778-80-5 | 2.00 | OSHA PEL none published<br>ACGIH TLV none published<br>EPA RQ (none defined)<br>DOT RQ (none defined) |
| Nitrocellulose (flammable solid) | – | 87.00 | OSHA PEL none published<br>ACGIH TLV none published<br>EPA RQ (none defined)<br>DOT RQ (none defined) |
| Dinitrotoluene | 25321-14-6 | 10.00 | OSHA PEL 10 mg/m$^3$<br>ACGIH TLV 10 mg/m$^3$<br>EPA RQ 10 lbs<br>DOT RQ 10 lbs |

## SECTION II - HAZARDS IDENTIFICATION




Routes of Entry: Inhalation; Skin; Ingestion
Carcinogenicity: None
First Aid Measures: EYES - Immediately flush with copious amount of water (low pressure) for 15 minutes, remove contact lenses; call physician. SKIN - Wash with soap and running water. INGESTION - Contact physician immediately. INHALATION - Remove to fresh air. Treat irritation symptomatically; call physician.
Firefighting Measures: Self-oxidizing, deluge with water. Will not be able to extinguish unless large quantity of water is used in very short time. Use NIOSH/MSHA approved SCBA and full protective equipment; evacuate area.
Unusual Fire/Explosion Hazard: Easily ignited, highly combustible; protect from fire and sparks and extreme heat.
Autoignition: 383°F (195°C)
Hazardous Combustion Products: Oxides of Carbon
Accidental Release Measures: SPILL - Clean immediately with soft (horsehair) brush and conductive rubber or plastic shovel. Use brass or other non-sparking tools and utensils. DO NOT hammer or otherwise cause impact forces to spilled material (explosion or autoignition could occur with impact force being applied).

## SECTION III - HANDLING AND STORAGE

Precautions: Avoid prolonged temperature above 125°F (50°C). Normal storage conditions should be 75°F (21°C) and 50% Humidity. Storage must conform to local, state and federal regulations, specifically: 29 CFR OSHA 1910.109; 27 CFR BATFE 55 subpart K.
Other Special Precautions: Flammable Solid…Keep away from heat, sparks, open flame…Keep containers closed…use with adequate ventilation.
Ventilation: Local and general ventilation necessary to keep air concentration below TLV's.
Personal Protective Equipment: Safety Glasses, Cotton or Leather Gloves, Fire Resistant Coveralls.

## SECTION IV - PHYSICAL AND CHEMICAL PROPERTIES

Specific Gravity: 1.496
Evaporation Rate: <1 (Butylacetate = 1)
Solubility in Water: negligible
Appearance and Odor: Hard Cylinder Perforated, Smooth, Greenish Yellow. Odorless.
Materials to Avoid: Oxides of Nitrogen and Carbon.

Conditions to Avoid: Open Flame, Sparks, Heat, Direct Sunlight.
Hazardous Decomposition Products: Oxides of Carbon

## SECTION V – TRANSPORTATION INFORMATION

DOT Proper Shipping Name: Smokeless Powder (wetted)
Hazard Class: 1.3C
UN No. UN0161
Packing Group: II

## SECTION VI - DISPOSAL CONSIDERATIONS

Disposal must be in accordance with federal, state and local regulations. Burn in open burning ground in accordance with regulatory requirements. It may also be burned in an incinerator approved for explosives.

## DISCLAIMER

The information contained in this MSDS (Material Safety Data Sheet) is based upon available constituent data for the components of **Propellant** and is believed to be correct. However, as this information has been obtained from various sources, including the manufacturers of its components and independent laboratories, it is provided herein without warranty or representation that it is complete, accurate and can be relied upon. Explo Systems, Inc. has not attempted to conceal in any manner the deleterious aspects of this product, and makes no warranty as such. Explo Systems, Inc. cannot anticipate nor control the many situations in which this product or this information may be used; there is no guarantee that the health and safety precautions suggested herein will be proper under all conditions. It is the sole responsibility of each user of the product to determine and comply with the requirements of all applicable laws and regulations regarding its use. This information is given solely for the purposes of safety to persons and property. Any other use of this information is expressly prohibited.

## AUTHOR

This MSDS was prepared by: Ferris Callihan, PE - Director Support Technology - Explo Systems, Inc. - 1600 Java Road - Minden, LA 71055 - Tel 318 382 8700 - E-mail: fcallihan@explosystems.com

U.S. Department
of Transportation

Pipeline and Hazardous
Materials Safety Administration

East Building, PHH – 32
1200 New Jersey Avenue, Southeast
Washington, D.C. 20590

The US Department of Transportation
Competent Authority for the United States

# CLASSIFICATION OF EXPLOSIVES
## FIRST REVISION

Based upon a request by Explo Systems Inc., 1600 Java Road, Minden, LA 71055, United States the following items are classed in accordance with Section 173.56, Title 49, Code of Federal Regulations (49 CFR). A copy of your application, all supporting documentation and a copy of this approval must be retained and made available to DOT upon request.

**U.N. PROPER SHIPPING NAME AND NUMBER:**
Powder, smokeless, UN0161

**U.N. CLASSIFICATION CODE**: 1.3C

| REFERENCE NUMBER | PRODUCT DESIGNATION/PART NUMBER |
|---|---|
| EX2010040603 | Reclaimed M6 Propellant |

**NOTES:** This classification is only valid when the smokeless powder has been tested and found to have sufficient residual stabilizers present per US Army Safety Bulletin: "Inspection of Supplies and Equipment, Ammunition Surveillance Procedures" (SB 742-1). The following packaging methods are assigned:
Packaging Method A: Inner Packaging - Not necessary. Outer Packaging – UN 1G fiberdrum, each containing not more than one hundred and forty (140) pounds of smokeless propellant.
Packaging Method B: Inner Packaging: Flexible static-resistant reinforced plastic cloth and strapping lifting bag, each containing not more than eight hundred and eighty (880) pounds of smokeless propellant. Outer Packaging - UN 4G heavy-wall fiberboard box with a volumetric capacity of 119 gallons or less. (see 49 CFR Section 171.8 Definition for "Non-bulk packaging")

**DATED:** 05/05/2011

For Dr. Magdy El-Sibaie
Associate Administrator for Hazardous Materials Safety

Tracking No: 2011040848



020164

EXP_001798

38
2896

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND87D070450** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 23 AUG 2010** |

Other Information
M6 Propellant

| Sample Data | | | Solvent |
|---|---|---|---|
| #1 | 0.5000 g | 100 ml | ACN |

| Standards (ERG-006) | | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | | 0 | | |
| 2,4-DNDPA | 50.0 | 4.884 | 715.1 | 0 | 0.000 |
| 2,2' DNDPA | 50.0 | 9.663 | 794.8 | 5124.3 | 0.645 |
| 2,4' DNDPA | 50.0 | 11.213 | 1155.8 | 0 | 0.000 |
| 4NDPA | 50.0 | 11.899 | 750.7 | 0 | 0.000 |
| 2NDPA | 50.0 | 12.536 | 1565 | 0 | 0.000 |
| DPA | 200.0 | 13.934 | 4151.3 | 0 | 0.000 |
| N-NitrosoDPA | 75.0 | 14.875 | 1080.5 | 46.7 | 0.006 |

0.651

Avg. % Stabilizer for Lot **0.651**

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | |
|---|---|
| **Analyst** Kisha Dickerson | Avg. Tot. Stabilizers **0.65** % |
| Analyst Signature | Stable YES \| Unstable |
| Lab. Supervisor Signature | Comments **CATEGORY: A** |
| | Actions to be Taken |

Form #158

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND86E070616** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 19 NOV 2010** |

| Other Information | Sample Data | | Solvent |
|---|---|---|---|
| M6 Propellant | #1 | 0.5000 g 100 ml | ACN |

| Standards (ERG-006) | | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 2.068 | 135.8 | 654.4 | 0.482 |
| 2,4-DNDPA | 50.0 | 5.182 | 717.3 | 0 | 0.000 |
| 2,2' DNDPA | 50.0 | 7.635 | 736.3 | 13022.2 | 0.000 |
| 2,4' DNDPA | 50.0 | 11.713 | 779 | 0 | 0.000 |
| 4NDPA | 50.0 | 13.454 | 462.4 | 0 | 0.000 |
| 2NDPA | 50.0 | 15.161 | 1164.1 | 0 | 0.000 |
| DPA | 200.0 | 16.583 | 4078.5 | 221.2 | 0.022 |
| N-NitrosoDPA | 75.0 | 18.033 | 1011.7 | 0 | 0.000 |

| | |
|---|---|
| | 0.504 |
| Avg. % Stabilizer for Lot | **0.504** |

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | |
|---|---|
| **Analyst** Kisha Dickerson | Avg. Tot. Stabilizers **0.50** % |
| Analyst Signature | Stable YES / Unstable |
| | Comments **CATEGORY: A** |
| Lab. Supervisor Signature | |
| | Actions to be Taken |

Form #150

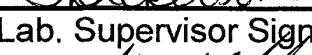
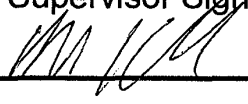
# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND85C070512** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 10 AUGUST 2012** |

| Other Information | Sample Data | | Solvent |
|---|---|---|---|
| M6 Propellant | #1 | 0.50 g 100 ml | ACN |

| | Standards (ERG-006) | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 0.882 | 8.8 | 112.9 | 1.283 |
| 2,4-DNDPA | 50.0 | 3.343 | 910.9 | 0 | 0.000 |
| 2,2' DNDPA | 50.0 | 5.034 | 3858.6 | 22576 | 0.000 |
| 2,4' DNDPA | 50.0 | 7.363 | 1013.2 | 0 | 0.000 |
| 4NDPA | 50.0 | 8.784 | 1647.3 | 59.7 | 0.004 |
| 2NDPA | 50.0 | 9.95 | 2919.6 | 95.5 | 0.003 |
| DPA | 200.0 | 11.386 | 5857.1 | 714.1 | 0.049 |
| N-NitrosoDPA | 75.0 | 12.173 | 1371.4 | 0 | 0.000 |
| | | | | 1.339 | |
| | | Avg. % Stabilizer for Lot | | **1.339** | |

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | |
|---|---|
| **Analyst** Takisha Dickerson | Avg. Tot. Stabilizers **1.34** % |
| Analyst Signature  | Stable YES / Unstable |
| Lab. Supervisor Signature  | Comments **CATEGORY: A** |
| | Actions to be Taken |

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND84G070326** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 3 MAY 2012** |

| Other Information | Sample Data | | Solvent |
|---|---|---|---|
| M6 Propellant | #1 | 0.50 g 100 ml | ACN |

| Standards (ERG-006) | | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 0.867 | 104.4 | 324.4 | 0.311 |
| 2,4-DNDPA | 50.0 | 3.335 | 1105.6 | 0 | 0.000 |
| 2,2' DNDPA | 50.0 | 5.007 | 4986.7 | 23068 | 0.000 |
| 2,4' DNDPA | 50.0 | 7.137 | 1206.9 | 0 | 0.000 |
| 4NDPA | 50.0 | 8.593 | 1969.2 | 87.1 | 0.004 |
| 2NDPA | 50.0 | 9.688 | 3527.8 | 151.4 | 0.004 |
| DPA | 200.0 | 11.153 | 7041.6 | 785.8 | 0.045 |
| N-NitrosoDPA | 75.0 | 11.897 | 1704.5 | | 0.000 |

| | |
|---|---|
| | 0.364 |
| Avg. % Stabilizer for Lot | **0.364** |

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | |
|---|---|
| **Analyst** Takisha Dickerson | Avg. Tot. Stabilizers **0.36** % |
| Analyst Signature | Stable YES / Unstable |
| Lab. Supervisor Signature | Comments **CATEGORY: A** |
| | Actions to be Taken |

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND83F070274** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 27 JULY 2011** |

| Other Information | Sample Data | | Solvent |
|---|---|---|---|
| M6 Propellant | #1 | 0.50 g 100 ml | ACN |

| Standards (ERG-006) | | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 0.694 | 112.8 | 622.1 | 0.552 |
| 2,4-DNDPA | 50.0 | 3.477 | 942.8 | 0 | 0.000 |
| 2,2' DNDPA | 50.0 | 5.339 | 77.4 | 22209 | 0.000 |
| 2,4' DNDPA | 50.0 | 7.842 | 1020.3 | 0 | 0.000 |
| 4NDPA | 50.0 | 9.392 | 1634.2 | 48.5 | 0.003 |
| 2NDPA | 50.0 | 10.693 | 2956.2 | 98.3 | 0.003 |
| DPA | 200.0 | 12.201 | 5630.5 | 451.4 | 0.032 |
| N-NitrosoDPA | 75.0 | 13.103 | 1385.2 | 0 | 0.000 |

| | |
|---|---|
| | 0.590 |
| Avg. % Stabilizer for Lot | **0.590** |

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | |
|---|---|
| **Analyst** Takisha Dickerson | Avg. Tot. Stabilizers **0.59** % |
| Analyst Signature | Stable YES / Unstable |
| Lab. Supervisor Signature | Comments **CATEGORY: A** |
| | Actions to be Taken |

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND83M070322** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 12 APR 2012** |

Other Information
M6 Propellant

| Sample Data | | | Solvent |
|---|---|---|---|
| #1 | 0.50 g | 100 ml | ACN |

| Standards (ERG-006) | | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 0.882 | 28.4 | 566.5 | 1.995 |
| 2,4-DNDPA | 50.0 | 3.244 | 978.3 | 0 | 0.000 |
| 2,2' DNDPA | 50.0 | 4.803 | 3426.7 | 22442 | 0.000 |
| 2,4' DNDPA | 50.0 | 6.74 | 1061.1 | 499.4 | 0.047 |
| 4NDPA | 50.0 | 8.012 | 1726.9 | 66.2 | 0.004 |
| 2NDPA | 50.0 | 9.091 | 3662.4 | 113.4 | 0.003 |
| DPA | 200.0 | 10.394 | 6185.4 | 978.3 | 0.063 |
| N-NitrosoDPA | 75.0 | 10.968 | 1530.7 | 0 | 0.000 |

2.112

Avg. % Stabilizer for Lot **2.112**

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | |
|---|---|
| **Analyst** Kisha Dickerson | Avg. Tot. Stabilizers **2.11** % |
| Analyst Signature | Stable YES / Unstable |
| Lab. Supervisor Signature | Comments **CATEGORY: A** |
| | Actions to be Taken |

020171

EXP_001805

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND82K070175** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 6 AUG 2010** |

| Other Information | Sample Data | | Solvent |
|---|---|---|---|
| M6 Propellant | #1 | 0.5000 g 100 ml | ACN |

| Standards (ERG-006) | | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | | 1 | 0 | 0.000 |
| 2,4-DNDPA | 50.0 | 4.91 | 382.3 | 5134.1 | 1.343 |
| 2,2' DNDPA | 50.0 | 9.825 | 437 | 0 | 0.000 |
| 2,4' DNDPA | 50.0 | 11.341 | 632.4 | 87.4 | 0.014 |
| 4NDPA | 50.0 | 11.95 | 441.7 | 0 | 0.000 |
| 2NDPA | 50.0 | 12.713 | 827.6 | 192.5 | 0.023 |
| DPA | 200.0 | 14.06 | 2176 | 90.1 | 0.017 |
| N-NitrosoDPA | 75.0 | 14.999 | 558.4 | 254.6 | 0.068 |

| | | |
|---|---|---|
| | | 1.465 |
| | Avg. % Stabilizer for Lot | **1.465** |

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | | |
|---|---|---|
| **Analyst** Mike Kile | Avg. Tot. Stabilizers | **1.46** % |
| Analyst Signature | Stable YES | Unstable |
| | Comments | |
| Lab. Supervisor Signature | **CATEGORY:** | **A** |
| | Actions to be Taken | |

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND82E070115** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 2 SEPTEMBER 2** |

| Other Information | Sample Data | | Solvent |
|---|---|---|---|
| M6 Propellant | #1 | 0.50 g 100 ml | ACN |

| | Standards (ERG-006) | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 0.631 | 119.7 | 513.1 | 0.429 |
| 2,4-DNDPA | 50.0 | 3.438 | 959.4 | 17.4 | 0.002 |
| 2,2' DNDPA | 50.0 | 5.235 | 1727.8 | 25268 | 0.000 |
| 2,4' DNDPA | 50.0 | 7.619 | 1043.1 | 0 | 0.000 |
| 4NDPA | 50.0 | 9.163 | 1669.9 | 77.7 | 0.005 |
| 2NDPA | 50.0 | 10.427 | 3002.4 | 153.6 | 0.005 |
| DPA | 200.0 | 11.959 | 5688.4 | 920.8 | 0.065 |
| N-NitrosoDPA | 75.0 | 12.823 | 1409.6 | 0 | 0.000 |

| | | |
|---|---|---|
| | | 0.505 |
| | Avg. % Stabilizer for Lot | **0.505** |

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | |
|---|---|
| **Analyst** KISHA DICKERSON | Avg. Tot. Stabilizers **0.50** % |
| Analyst Signature | Stable YES / Unstable |
| Lab. Supervisor Signature | Comments **CATEGORY: A** |
| | Actions to be Taken |

# HPLC PROPELLANT STABILITY REPORT

| | |
|---|---|
| **Lot Number:IND81D070019** | **D533 / M6 propellant** |
| Date of analysis: | **Date: 29 MAY 2012** |

| Other Information | Sample Data | | Solvent |
|---|---|---|---|
| M6 Propellant | #1 | 0.50 g 100 ml | ACN |

| Standards (ERG-006) | | | | Sample # | |
|---|---|---|---|---|---|
| Stabilizer | Conc. ppm | Ret Time | Intg. Area 1 | Intg. Area | Conc. % |
| 4,4' DNDPA | 50.0 | 0.86 | 235.9 | 525.7 | 0.223 |
| 2,4-DNDPA | 50.0 | 3.398 | 913.2 | 0 | 0.000 |
| 2,2' DNDPA | 50.0 | 5.133 | 1007.2 | 37577 | 0.000 |
| 2,4' DNDPA | 50.0 | 7.409 | 1002.4 | 0 | 0.000 |
| 4NDPA | 50.0 | 8.917 | 1612.8 | 186.9 | 0.012 |
| 2NDPA | 50.0 | 10.112 | 2882.2 | 282.1 | 0.010 |
| DPA | 200.0 | 11.607 | 5642.3 | 917.9 | 0.065 |
| N-NitrosoDPA | 75.0 | 12.414 | 1351.4 | | 0.000 |

| | |
|---|---|
| | 0.309 |
| Avg. % Stabilizer for Lot | **0.309** |

0.30% or more is Stability Code A
0.20% -0.29% is Stability Code C
Less than 0.20% is Stability Code D

| | |
|---|---|
| **Analyst** Takisha Dickerson | Avg. Tot. Stabilizers **0.31** % |
| Analyst Signature | Stable YES / Unstable |
| Lab. Supervisor Signature | Comments **CATEGORY: A** |
| | Actions to be Taken |