

## Crossland, Ronnie

---

**From:** Mohr, Ashley  
**Sent:** Friday, January 23, 2015 10:53 AM  
**To:** Gullett, Brian; Crossland, Ronnie  
**Subject:** RE: M6 Emission Factors

Brian –

Yes I am a NC transplant. Moved to TX after completing my BS and MS at NC State. At least you didn't say you were a Carolina grad/fan. NC State and Duke fans typically have a hatred of the Tarheels in common. Plus, I was raised a Duke fan so I still cheer for them as long as they are playing the Wolfpack.

Regarding the information in the file, here are the column descriptions from the model documentation:

FUEL	EST. HEAT CONTENT (ca/g)	BURN RATE (g/s)	# OF
COMBUSTION PRODUCTS INCLUDED			
M6 (87.7% Nitrocellulose)	1020	2.18E+05	13

SPECIES	MOLECULAR WEIGHT (g/mol)	DENSITY (g/cm3)	HALF-LIFE (h)	EMISSION RATE (mass species/mass fuel)
2,4-Dinitrotoluene	182.1	1.3208	0	1.00E-09*
2,6-Dinitrotoluene	182.1	1.2833	0	1.00E-10*
Benzene	78.1	0.8787	0	1.70E-06*
Carbon Dioxide	44	0.002	0	1.06E+00*
Carbon Monoxide	28	0.0013	0	9.50E-05*
Diphenylamine	169.2	1.16	0	2.60E-10*
Methane	16	0.5547	0	4.60E-05*
Naphthalene	128.2	1.0253	0	7.50E-08*
Nitrogen Oxide	30	0.0013	0	2.40E-03*
Nitrogen Dioxide (peroxide)	46	1.4494	9360	5.20E-03*
Phenol	94.1	1.0576	0	1.50E-09*
Total Non-methane Hydrocarbons	0	0	0	1.30E-05*
n-Nitronaphthalene	198.2	1	0	1.40E-10*

Let me know if you have other questions.

Thanks,

*Ashley*

THE POSITIONS or VIEWS CONTAINED IN THIS EMAIL DO NOT REPRESENT OFFICIAL EPA POLICY.

---

**From:** Gullett, Brian  
**Sent:** Friday, January 23, 2015 10:34 AM  
**To:** Mohr, Ashley; Crossland, Ronnie  
**Subject:** RE: M6 Emission Factors

Ashley,  
I see that you're an NCState fan (grad?). I'll try not to hold that against you (I went to Duke).  
The first column is MW, the fourth column is the emission factor, but what about 2 and 3?  
Thanks!  
Brian

Brian K. Gullett, Ph.D.  
U.S. Environmental Protection Agency  
Office of Research and Development  
National Risk Management Research Laboratory  
E343-04  
Research Triangle Park, NC 27711  
[gullett.brian@epa.gov](mailto:gullett.brian@epa.gov)  
919-541-1534 Ofc  
919-699-3074 Cell

---

**From:** Mohr, Ashley  
**Sent:** Friday, January 23, 2015 11:20 AM  
**To:** Crossland, Ronnie  
**Cc:** Gullett, Brian  
**Subject:** RE: M6 Emission Factors

The units for the emission factors are mass species/mass fuel. In the case of the calculations we completed for Camp Minden, we used lb species/lb fuel (M6) since our assumed worst case burn rates were in lbs of M6.

I am working flexiplace today so if you need to reach me email or cell phone are best. 828-385-2010

Thanks,

*Ashley*

THE POSITIONS or VIEWS CONTAINED IN THIS EMAIL DO NOT REPRESENT OFFICIAL EPA POLICY.

---

**From:** Crossland, Ronnie  
**Sent:** Friday, January 23, 2015 10:06 AM  
**To:** Mohr, Ashley  
**Cc:** Gullett, Brian  
**Subject:** RE: M6 Emission Factors

Ashley,

Hope you are having a great day. I shared you email with Brian Gullett with ORD, I have included Brian on the email. We opened the OBODFUEL.OBD file with word. Do you know the units for the emission factors in this file?

Thanks  
Ronnie

---

**From:** Mohr, Ashley  
**Sent:** Thursday, January 22, 2015 11:35 AM  
**To:** Crossland, Ronnie  
**Subject:** M6 Emission Factors

Emission Factors came from the following two sources:

1. OBOD Model (NOx, 2,4-dinitrotoluene, 2,6-dinitrotoluene, diphenylamine)
2. AP-42 Emission Factors (PM2.5, PM10, CO)

I have attached the OBODM file that contains the actual emission factors (filename: OBODFUEL.OBD), as well as, the model documentation (filename: obodmvol2.pdf) that describes how the emission factors were derived. I also attached the AP-42 document (filename: c15s04.pdf) that includes the other emission factors. The values came specifically from Table 15.4.3-1.

Thanks,

*Ashley*

---

Ashley N.Q. Mohr  
Environmental Scientist  
Air Permits Section (6PD-R)  
U.S. Environmental Protection Agency  
1445 Ross Avenue  
Dallas, TX 75202  
(214) 665-7289  
FAX (214) 665-6762  
[mohr.ashley@epa.gov](mailto:mohr.ashley@epa.gov)

THE POSITIONS or VIEWS CONTAINED IN THIS EMAIL DO NOT REPRESENT OFFICIAL EPA POLICY.