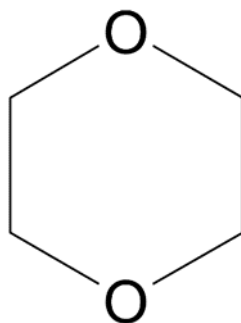


## **Preliminary Information on Manufacturing, Processing, Distribution, Use, and Disposal:**

### **1,4-Dioxane**

CASRN: 123-91-1



**February 2017**

Support document  
for Docket EPA-HQ-OPPT-2016-0723

This document provides a preliminary public summary of available information collected by EPA's Office of Pollution Prevention and Toxics (OPPT) in the Office of Chemical Safety and Pollution Prevention (OCSPP) on the manufacturing (including importing), processing, distribution in commerce, use, and disposal of this chemical. This is based on existing data available to EPA, including information collected under the Chemical Data Reporting rule, Toxics Release Inventory (if available), information from other Agency databases, other U.S. Government agencies, publicly available information from states, and a review of published literature. In addition, the document includes information reported to EPA by producers and users of the chemical in the United States and in other countries.

This preliminary use information and any additional use information received in the docket by March 15, 2017 will inform efforts to develop the scope of the chemical risk evaluation required under section 6(b)(4) of the Toxic Substances Control Act, and will inform any risk management efforts following risk evaluation.

Mention of trade names in this document does not constitute endorsement by EPA. To verify products or articles containing this chemical currently in commerce, EPA has identified several examples. Any lists are provided for informational purposes only. EPA and its employees do not endorse any of the products or companies.

This document does not contain confidential business information (CBI).

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## CONTACT

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Cindy Wheeler, OPPT, Chemical Control Division (CCD), (202) 566-0484, [wheeler.cindy@epa.gov](mailto:wheeler.cindy@epa.gov).  
Docket: EPA-HQ-OPPT-2016-0723

# MANUFACTURING, PROCESSING, DISTRIBUTION, USE AND DISPOSAL

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## 1. Manufacturing (Including Importing)

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For the 2012 Chemical Data Reporting (CDR) period, data reported indicate that there was one domestic manufacturer of 1,4-dioxane; this manufacturer claimed the production volume as confidential<sup>1</sup>. No importers reported in 2012. For the 2016 CDR period, data reported indicate that there was one domestic manufacturer and one importer<sup>2</sup>.

For the 2015 Toxics Release Inventory (TRI), 49 facilities reported manufacturing, processing, or otherwise using 1,4-dioxane<sup>3</sup>. Of these, 25 sites reported manufacture in the United States, 0 reported import, 13 reported processing, and 21 reported other uses (some sites reported in multiple categories)<sup>4</sup>. A total of 4,224,670 lbs. of production-related waste was reported.

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<sup>1</sup> Manufacturers (including importers) are required to report under CDR if they meet certain production volume thresholds, generally 25,000 lb or more of a chemical substance at any single site. Reporting is triggered if the annual reporting threshold is met during any of the calendar years since the last principal reporting year. In general, the reporting threshold remains 25,000 lb per site. However, a reduced reporting threshold (2,500 lb) now applies to chemical substances subject to certain TSCA actions. <https://www.epa.gov/chemical-data-reporting/how-report-under-chemical-data-reporting>

<sup>2</sup> Manufacture in the context of CDR means to manufacture, produce, or import for commercial purposes. Manufacture includes the extraction, for commercial purposes, of a component chemical substance from a previously existing chemical substance or complex combination of chemical substances. (40 CFR 711.3)  
[https://www.epa.gov/sites/production/files/2015-12/documents/cdr\\_fact\\_sheet\\_importers\\_final\\_dec2015\\_0.pdf](https://www.epa.gov/sites/production/files/2015-12/documents/cdr_fact_sheet_importers_final_dec2015_0.pdf)

Similarly, the term “manufacture” in the context of TRI means to produce, prepare, compound, or import an EPCRA Section 313 chemical. The term “manufacture” also includes coincidental production of an EPCRA Section 313 chemical (e.g., as a byproduct or impurity) as a result of the manufacture, processing, otherwise use or disposal of another chemical or mixture of chemicals. <https://www.epa.gov/sites/production/files/documents/ry2012rfi.pdf>

<sup>3</sup> A facility must report to the TRI program if it meets all three of the following criteria: 1) is in a specific industry sector, 2) employs 10 or more full-time equivalent employees, and 3) manufactures, processes, or otherwise uses a [TRI-listed chemical](#) in quantities above applicable threshold levels for a given chemical in a given year. <https://www.epa.gov/toxics-release-inventory-tri-program/basics-tri-reporting>

<sup>4</sup> The term "process" in the context of CDR and TRI means the preparation of a chemical substance or mixture, after its manufacture, for distribution in commerce—  
(A) in the same form or physical state as, or in a different form or physical state from, that in which it was received by the person so preparing such substance or mixture, or  
(B) as part of an article containing the chemical substance or mixture.  
<http://uscode.house.gov/view.xhtml?path=/prelim@title15/chapter53&edition=prelim>

The term “otherwise use” under TRI means any use of an EPCRA Section 313 chemical, including an EPCRA Section 313 chemical contained in a mixture or other trade name product or waste, that is not covered by the terms manufacture or process. See the definition of “otherwise use” for additional details on applicability of otherwise use with regard to disposal, stabilization, and treatment for destruction. [https://www.epa.gov/sites/production/files/2016-01/documents/ry\\_2015\\_tri\\_reporting\\_forms\\_and\\_instructions.pdf](https://www.epa.gov/sites/production/files/2016-01/documents/ry_2015_tri_reporting_forms_and_instructions.pdf)

## Manufacturing Process

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According to the Agency for Toxic Substances and Disease Registry (ATSDR), 1,4-dioxane is typically manufactured by dehydration and ring closure of diethylene glycol in a closed system.

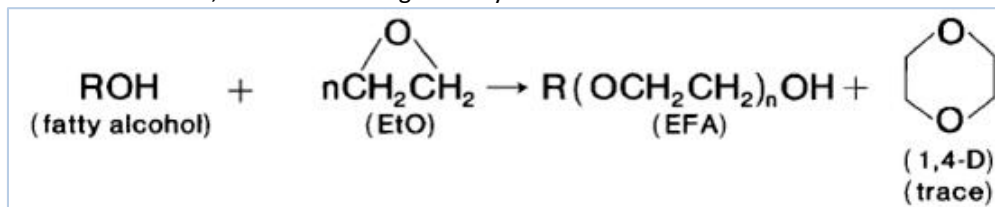
<https://www.atsdr.cdc.gov/toxprofiles/tp.asp?id=955&tid=199>

Concentrated sulfuric acid is used as a catalyst, although phosphoric acid, *p*-toluenesulfonic acid, and strongly acidic ion-exchange resins are recognized alternatives. Operating conditions vary; temperatures range from 130 to 200 °C and pressures range from a slight pressure to a partial vacuum (25 – 110 kPa). The process is continuous, with dioxane vaporized from the reaction vessel. The vapors are passed through an acid trap and two distillation columns to remove water and to purify the product. Yields of *circa* 90% are possible. 2-Methyl-1,3-dioxolane, acetaldehyde, crotonaldehyde, and polyglycol are unwanted byproducts. Dioxane can also be prepared by dehydrohalogenation of 2-chloro-2'-hydroxydiethyl ether, by reacting ethylene glycol with 1,2-dibromoethane, and by dimerizing ethylene oxide either over sodium hydrogen sulfate (NaHSO<sub>4</sub>), silicon tetrafluoride (SiF<sub>4</sub>), or trifluoroborane (BF<sub>3</sub>), or at elevated temperature with an acidic cation-exchange resin (Ullmann's Encyclopedia of Industrial Chemistry, p. 311.)

1,4-dioxane can also occur as an impurity, either as a residue or as a result of a chemical reaction. As described in Australia's Priority Existing Chemical Report on 1,4-dioxane, it may be present as a residue if used in the reaction medium during manufacture (e.g., of a flame retardant) or as a solvent during purification. 1,4-dioxane may also be formed as a reaction by-product, particularly in chemicals which are produced by ethoxylation. These include alkyl ether sulphates (anionic surfactants) and other ethoxylated substances, such as alkyl, alkylphenol, and fatty amine ethoxylates; polyethylene glycols and their esters; and sorbitan ester ethoxylates. Uses of these chemicals include food, cosmetic, agricultural/veterinary, therapeutic, household and varied industrial applications.

([https://www.nicnas.gov.au/chemical-information/pec-assessments?result\\_34791\\_result\\_page=@](https://www.nicnas.gov.au/chemical-information/pec-assessments?result_34791_result_page=@)).

The Formation of 1,4-Dioxane Through Ethoxylation



Ref. NICNAS: [https://www.nicnas.gov.au/chemical-information/pec-assessments?result\\_34791\\_result\\_page=@](https://www.nicnas.gov.au/chemical-information/pec-assessments?result_34791_result_page=@)

## 2. Processing

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Processing and use activities are not well-characterized outside of information from TRI and from ECHA, the European Chemicals Agency: <https://echa.europa.eu/substance-information/-/substanceinfo/100.004.239>

For the 2015 TRI reporting year, the following types of facilities reported processing 1,4-dioxane to the

- Other Basic Inorganic Chemical Manufacturing (NAICS 325180)
- All Other Basic Organic Chemical Manufacturing (NAICS 325199)
- Surface Active Agent Manufacturing (NAICS 325613)
- All Other Plastics Product Manufacturing (NAICS 326199)
- Cement Manufacturing (NAICS 327310)
- Abrasive Product Manufacturing (NAICS 327910)
- Roofing, Siding, and Insulation Material Merchant Wholesalers (NAICS 423330)
- Hazardous Waste Treatment and Disposal (NAICS 562211)

A 2002 European Union Risk Assessment Report on 1,4-dioxane found little information available on formulation processes. The report assumed that the activities performed during formulating a product were adding of the substance to a mixture, mixing and finally drumming or bagging of the product. In developing the exposure models used in the 2002 assessment, it was assumed that the formulation of paints, lacquers and cleaning agents is performed at room temperature, while the production of plastics is generally done at approximately 240°C. The report further assumed that the mixing process for plastic is in a closed system, while mixing of paints, lacquers and cleaning agents occurs in an open system. <https://echa.europa.eu/documents/10162/a4e83a6a-c421-4243-a8df-3e84893082aa>

### **3. Products and Articles**

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The State of Washington has received reports of children's products that contain 1,4-dioxane as a contaminant, including bath/pool toys, dolls, clothing, and blankets. <https://fortress.wa.gov/ecy/cspareporting/>

EPA has identified the following examples of products in commerce. This list is provided for informational purposes only. EPA and its employees do not endorse any of the products or companies.

Trade name	Use of the Product	% by weight or ppm/ppb	Link to references, SDS or industry information
Lumigen ECL Plus Chemiluminescent Reagent (Lumigen Ps-3)	Chemiluminescent reagent	50 – 60%	<a href="http://www.lumigen.com/sites/default/files/Additional%20documents/ps3-100-msdsc-ps3-100_english.pdf">http://www.lumigen.com/sites/default/files/Additional%20documents/ps3-100-msdsc-ps3-100_english.pdf</a>
Kodak Professional Film Cement	Film Cement	45 – 50%	<a href="https://www.freestylephoto.biz/pdf/msds/kodak/Kodak_Film_Cement.pdf">https://www.freestylephoto.biz/pdf/msds/kodak/Kodak_Film_Cement.pdf</a>
Stock VOA	Certified Reference Material	0.19%	<a href="http://www.spexcertiprep.com/MSDS/USP-S1715-DMSO.pdf">http://www.spexcertiprep.com/MSDS/USP-S1715-DMSO.pdf</a>
Volatile Calibration Standard	Certified Reference Material	4%	<a href="http://www.spexcertiprep.com/MSDS/ECS-A-045XP.pdf">http://www.spexcertiprep.com/MSDS/ECS-A-045XP.pdf</a>
Isopropyl-Beta-D-Thiogalactoside	DNase, RNase	<1.0%	<a href="https://pim-resources.coleparmer.com/sds/00328.pdf">https://pim-resources.coleparmer.com/sds/00328.pdf</a>
Seal-All	Acrylic Floor Sealer Solution	<0.5%	<a href="http://www.tci.tdcj.texas.gov/info/downloads/msds/Seal-All_2016-09-30.pdf">http://www.tci.tdcj.texas.gov/info/downloads/msds/Seal-All_2016-09-30.pdf</a>
Megaposit SPR 220-3.0 Positive Photoresist	Film Photoresist	<0.2%	<a href="http://nanofab.asrc.cuny.edu/wp-content/uploads/sites/7/2015/11/Megaposit-SPR-220-3.0-Positive-Photoresist-msds.pdf">http://nanofab.asrc.cuny.edu/wp-content/uploads/sites/7/2015/11/Megaposit-SPR-220-3.0-Positive-Photoresist-msds.pdf</a>
31853 / 1,4-Dioxane	Certified Reference Material	0.2%	<a href="http://www.restek.com/documentation/msds/31853_useng.pdf">http://www.restek.com/documentation/msds/31853_useng.pdf</a>
36271 / USP Residual Solvents Class 2 - Mix A	Reference Standard	0.19%	<a href="http://www.restek.com/documentation/msds/36271_useng.pdf">http://www.restek.com/documentation/msds/36271_useng.pdf</a>
30217 / 8240 Volatiles Mix #1a	Reference Standard	0.2%	<a href="http://www.restek.com/documentation/msds/30217_useng.pdf">http://www.restek.com/documentation/msds/30217_useng.pdf</a> <a href="http://www.restek.com/catalog/view/5708">http://www.restek.com/catalog/view/5708</a>
Lube-Lok 4856	Low Friction Coating	0 – 5%	<a href="http://www.everlubeproducts.com/products/docs/msds/LubeLok4856MSDS.pdf">http://www.everlubeproducts.com/products/docs/msds/LubeLok4856MSDS.pdf</a>
Iso Part B	Not Specified	<1%	<a href="http://www.gaf.com/Commercial_Roofing_Systems/EnergyGuard_Insulation/EnergyGuard_PolyIso_Insulation/Iso_Part_B_MSDS_2190.pdf">http://www.gaf.com/Commercial_Roofing_Systems/EnergyGuard_Insulation/EnergyGuard_PolyIso_Insulation/Iso_Part_B_MSDS_2190.pdf</a>
Jb-4 Solution B, Component of Jb-4 Kit	Not Specified	0 – 5%	<a href="https://www.tedpella.com/SDS_html/18020_JB-4_SolnB(18024)_sds.pdf">https://www.tedpella.com/SDS_html/18020_JB-4_SolnB(18024)_sds.pdf</a>
Ethylene Chlorohydrine	Pharmaceutical Intermediate	0.12 – 0.18%	<a href="http://worldaccount.basf.com/wa/NAFTA/Catalog/ChemicalsNAFTA/doc4/BASF/PRD/30036703/.pdf?urn=urn:documentum:ProductBase_EU:09007af8800a8762.pdf">http://worldaccount.basf.com/wa/NAFTA/Catalog/ChemicalsNAFTA/doc4/BASF/PRD/30036703/.pdf?urn=urn:documentum:ProductBase_EU:09007af8800a8762.pdf</a>
TDMR-AR5300 HP	Photoresist	<1%	<a href="http://www.smfl.rit.edu/pdf/msds/sds_TDMR_AR5300.pdf">http://www.smfl.rit.edu/pdf/msds/sds_TDMR_AR5300.pdf</a>
Efka Pa 4400	Pigment Additive	0.0 - <0.2%	<a href="http://worldaccount.basf.com/wa/NAFTA/Catalog/FunctionalPolymers/doc4/BASF/PRD/30472102/.pdf?urn=urn:documentum:ProductBase_EU:09007af880186f1e.pdf">http://worldaccount.basf.com/wa/NAFTA/Catalog/FunctionalPolymers/doc4/BASF/PRD/30472102/.pdf?urn=urn:documentum:ProductBase_EU:09007af880186f1e.pdf</a>
Stepanpol Aa-53	Polyol	<0.2%	<a href="http://www.stepan.com/msds/00782800.pdf">http://www.stepan.com/msds/00782800.pdf</a>
Disponil AFX 1080 US	Surfactant for Emulsions	0.1 – 0.2%	<a href="http://worldaccount.basf.com/wa/NAFTA~en_US/Catalog/ChemicalsNAFTA/doc4/BASF/PRD/30537911/Material%20Safety%20Data%20Sheet-US-EN.pdf?title=&amp;asset_type=msds/pdf&amp;language=EN&amp;validArea=US&amp;urn=urn:documentum:ProductBase_EU:09007af880268873.pdf">http://worldaccount.basf.com/wa/NAFTA~en_US/Catalog/ChemicalsNAFTA/doc4/BASF/PRD/30537911/Material%20Safety%20Data%20Sheet-US-EN.pdf?title=&amp;asset_type=msds/pdf&amp;language=EN&amp;validArea=US&amp;urn=urn:documentum:ProductBase_EU:09007af880268873.pdf</a>
Eucon Wo - Bulk Gallons	Additive	0.1 – 1%	<a href="http://euclidchemical.com/fileshare/ProductFiles/msds/010W_99_U.pdf">http://euclidchemical.com/fileshare/ProductFiles/msds/010W_99_U.pdf</a>

Trade name	Use of the Product	% by weight or ppm/ppb	Link to references, SDS or industry information
10 Spot Special Order Plate	10 Spot Plate (Research)	Not Specified	<a href="https://www.mesoscale.com/~media/files/msds/msd%20product%20sds/sds-n05ja-multi-spot%2010%20spot%20special%20order%20plate%20usa.pdf">https://www.mesoscale.com/~media/files/msds/msd%20product%20sds/sds-n05ja-multi-spot%2010%20spot%20special%20order%20plate%20usa.pdf</a>
7 Spot Special Order Plate	7 Spot Plate (Research)	Not Specified	<a href="https://www.mesoscale.com/~media/files/msds/msd%20product%20sds/sds-n75ja-multi-spot%207%20spot%20special%20order%20plate%20usa.pdf">https://www.mesoscale.com/~media/files/msds/msd%20product%20sds/sds-n75ja-multi-spot%207%20spot%20special%20order%20plate%20usa.pdf</a>
Golden Acrylic Flow Release	Additive for Acrylic Artist Paint	Not Specified	<a href="http://www.dick-blick.com/msds/DBH_SDS_006280014.pdf">http://www.dick-blick.com/msds/DBH_SDS_006280014.pdf</a>
Mel-Tex 16%	Floor Waxing and Finishing	<0.2ppm	<a href="http://www.tci.tdcj.texas.gov/info/downloads/msds/Mel-Tex%2016_2016-09-30.pdf">http://www.tci.tdcj.texas.gov/info/downloads/msds/Mel-Tex%2016_2016-09-30.pdf</a>
Tec Wall Base Adhesive	Adhesive	< 10 ppm	<a href="https://www.menards.com/msds/115161_001.pdf">https://www.menards.com/msds/115161_001.pdf</a>
Chapco Safe-Set 7	Adhesive	<10 ppm	<a href="http://www.buildsite.com/pdf/chapco/Safe-Set-7-SDS-1131330.pdf">http://www.buildsite.com/pdf/chapco/Safe-Set-7-SDS-1131330.pdf</a>
Foster 35-00	Adhesive	<10 ppm	<a href="http://www.distributioninternational.com/content/documents/resource-center/MSDS/Foster-Childers/Mastics/SDS_35-00.pdf">http://www.distributioninternational.com/content/documents/resource-center/MSDS/Foster-Childers/Mastics/SDS_35-00.pdf</a>
Chapco Safe-Set 4	Adhesive	<10 ppm	<a href="http://chapco-adhesive.com/assets/products/msds/CHAPCO%20SAFE-SET%204_SDS.pdf">http://chapco-adhesive.com/assets/products/msds/CHAPCO%20SAFE-SET%204_SDS.pdf</a>
Amtico 373	Adhesive	< 10 ppm	<a href="https://mannington-assets.global.ssl.fastly.net/docs/technicalspecification/b0d0297cebec4ef2b404ab3c6b6e83b5/pdf/sds_msds_amtico_373_adhesive-20160824152639.pdf">https://mannington-assets.global.ssl.fastly.net/docs/technicalspecification/b0d0297cebec4ef2b404ab3c6b6e83b5/pdf/sds_msds_amtico_373_adhesive-20160824152639.pdf</a>
19 Oz Terand Germ Foaming Multi-Prp C	All Purpose Cleaner	0- 0.1%	<a href="http://www.cpcaeroscience.com/sites/all/themes/theme746/sds/cpc18919.pdf">http://www.cpcaeroscience.com/sites/all/themes/theme746/sds/cpc18919.pdf</a>
Keratolux Tar Free Medicated Shampoo	Animal Shampoo	Trace	<a href="http://www.virbacvet.com/pdf/product_pdfs/KERATOLUX_Shampoo_msds.pdf">http://www.virbacvet.com/pdf/product_pdfs/KERATOLUX_Shampoo_msds.pdf</a>
Starfire Purefleet Extreme HD ELC	Anti-freeze/coolant	<82.0 ppm	<a href="http://www.supremeoilcompany.com/StarFire_files/Starfire%20Purefleet%20Extreme%20HD%20ELC_SDS.pdf">http://www.supremeoilcompany.com/StarFire_files/Starfire%20Purefleet%20Extreme%20HD%20ELC_SDS.pdf</a>
Moist Sure Lotion Soap	Antimicrobial Hand Soap	Trace	<a href="http://www.dhpionline.com/msds/350-95726.pdf">http://www.dhpionline.com/msds/350-95726.pdf</a>
Mastermatrix UW 450	Anti-Washout Concrete Admixture	Not specified	<a href="http://worldaccount.basf.com/wa/NAFTA~en_US/Catalog/AdmixBulkGallon/doc4/BASF/PRD/30605954/.pdf?urn=urn:documentum:ProductBase_EU:09007af88034b8fe.pdf">http://worldaccount.basf.com/wa/NAFTA~en_US/Catalog/AdmixBulkGallon/doc4/BASF/PRD/30605954/.pdf?urn=urn:documentum:ProductBase_EU:09007af88034b8fe.pdf</a>
Pieri Aquarol Tt-31	Aqueous Lubricants for Concrete	Not specified	<a href="http://www.buildsite.com/pdf/wrgrace/Pieri-Aquarol-TT-31-SDS-451751.pdf">http://www.buildsite.com/pdf/wrgrace/Pieri-Aquarol-TT-31-SDS-451751.pdf</a>
Matrix Bottom Line Odor Eliminator	Bacterial Deodorizer	Not specified	<a href="http://www.jondon.com/media/pdf/msds_docs/MS-MX-BLOE.pdf">http://www.jondon.com/media/pdf/msds_docs/MS-MX-BLOE.pdf</a>
Big D Enzym D	Bacterial Deodorizer	Not specified	<a href="http://grimsleysinc.com/page_images/1450736665.pdf">http://grimsleysinc.com/page_images/1450736665.pdf</a>
Gleme Gelled Baseboard Stripper	Baseboard Stripper	0.01 – 0.1%	<a href="http://www.clairmfg.com/sites/all/themes/theme623/msds/c859.pdf">http://www.clairmfg.com/sites/all/themes/theme623/msds/c859.pdf</a>
Battery Cleaner With Acid Indicator	Battery Cleaner	Not Specified	<a href="http://www.mcgeecompany.com/wp-content/uploads/2016/05/5023-Battery-Cleaner.pdf">http://www.mcgeecompany.com/wp-content/uploads/2016/05/5023-Battery-Cleaner.pdf</a>
Lynx Battery Cleaner	Battery Cleaner	Not specified	<a href="http://www.eastpenmanufacturing.com/wp-content/uploads/04079.pdf">http://www.eastpenmanufacturing.com/wp-content/uploads/04079.pdf</a>



Trade name	Use of the Product	% by weight or ppm/ppb	Link to references, SDS or industry information
So/San 30m	Biocidal Product	<0.1	<a href="http://www.stepan.com/msds/00179700.pdf">http://www.stepan.com/msds/00179700.pdf</a>
Pluronic F 108 Pastille	Block Copolymer Surfactant	Not specified	<a href="http://worldaccount.basf.com/wa/NAFTA/Catalog/ChemicalsNAFTA/doc4/BASF/PRD/30089186/.pdf?asset_type=msds/pdf&amp;language=EN&amp;validArea=US&amp;urn=urn:documentum:ProductBase EU:09007af880090922.pdf">http://worldaccount.basf.com/wa/NAFTA/Catalog/ChemicalsNAFTA/doc4/BASF/PRD/30089186/.pdf?asset_type=msds/pdf&amp;language=EN&amp;validArea=US&amp;urn=urn:documentum:ProductBase EU:09007af880090922.pdf</a>
Pluronic L 61	Block Copolymer Surfactant	Not specified	<a href="http://worldaccount.basf.com/wa/NAFTA~en_US/Catalog/Detergents/doc4/BASF/PRD/30084070/.pdf?asset_type=msds/pdf&amp;language=EN&amp;validArea=US&amp;urn=urn:documentum:ProductBase EU:09007af880094c37.pdf">http://worldaccount.basf.com/wa/NAFTA~en_US/Catalog/Detergents/doc4/BASF/PRD/30084070/.pdf?asset_type=msds/pdf&amp;language=EN&amp;validArea=US&amp;urn=urn:documentum:ProductBase EU:09007af880094c37.pdf</a>
Pluronic 17r2	Block Copolymer Surfactant	Not specified	<a href="http://worldaccount.basf.com/wa/NAFTA~es_MX/Catalog/Detergents/doc4/BASF/PRD/30085092/.pdf?asset_type=msds/pdf&amp;language=EN&amp;validArea=US&amp;urn=urn:documentum:ProductBase EU:09007af8800af5c9.pdf">http://worldaccount.basf.com/wa/NAFTA~es_MX/Catalog/Detergents/doc4/BASF/PRD/30085092/.pdf?asset_type=msds/pdf&amp;language=EN&amp;validArea=US&amp;urn=urn:documentum:ProductBase EU:09007af8800af5c9.pdf</a>
Pluronic 25r2	Block Copolymer Surfactant	Not specified	<a href="http://worldaccount.basf.com/wa/NAFTA~es_MX/Catalog/Detergents/doc4/BASF/PRD/30084511/Material%20Safety%20Data%20Sheet-US-EN.pdf?title=&amp;asset_type=msds/pdf&amp;language=EN&amp;validArea=US&amp;urn=urn:documentum:ProductBase EU:09007af8800948bd.pdf">http://worldaccount.basf.com/wa/NAFTA~es_MX/Catalog/Detergents/doc4/BASF/PRD/30084511/Material%20Safety%20Data%20Sheet-US-EN.pdf?title=&amp;asset_type=msds/pdf&amp;language=EN&amp;validArea=US&amp;urn=urn:documentum:ProductBase EU:09007af8800948bd.pdf</a>
Tetronic 1107 Micropastille	Block Copolymer Surfactant	Not specified	<a href="http://worldaccount.basf.com/wa/NAFTA/Catalog/ChemicalsNAFTA/doc4/BASF/PRD/30091387/.pdf?asset_type=msds/pdf&amp;language=EN&amp;validArea=US&amp;urn=urn:documentum:ProductBase EU:09007af8800b7336.pdf">http://worldaccount.basf.com/wa/NAFTA/Catalog/ChemicalsNAFTA/doc4/BASF/PRD/30091387/.pdf?asset_type=msds/pdf&amp;language=EN&amp;validArea=US&amp;urn=urn:documentum:ProductBase EU:09007af8800b7336.pdf</a>
Pluronic L 101	Block Copolymer Surfactant	Not specified	<a href="http://worldaccount.basf.com/wa/NAFTA~es_MX/Catalog/Detergents/doc4/BASF/PRD/30085756/.pdf?asset_type=msds/pdf&amp;language=EN&amp;validArea=US&amp;urn=urn:documentum:ProductBase EU:09007af88008fdf6.pdf">http://worldaccount.basf.com/wa/NAFTA~es_MX/Catalog/Detergents/doc4/BASF/PRD/30085756/.pdf?asset_type=msds/pdf&amp;language=EN&amp;validArea=US&amp;urn=urn:documentum:ProductBase EU:09007af88008fdf6.pdf</a>
Pluronic 17R4	Block Copolymer Surfactant	Not specified	<a href="http://worldaccount.basf.com/wa/NAFTA~es_MX/Catalog/Detergents/doc4/BASF/PRD/30085093/.pdf?asset_type=msds/pdf&amp;language=EN&amp;validArea=US&amp;urn=urn:documentum:ProductBase EU:09007af8800af5ca.pdf">http://worldaccount.basf.com/wa/NAFTA~es_MX/Catalog/Detergents/doc4/BASF/PRD/30085093/.pdf?asset_type=msds/pdf&amp;language=EN&amp;validArea=US&amp;urn=urn:documentum:ProductBase EU:09007af8800af5ca.pdf</a>
Lutensol AO 7	C13c15-Oxo Alcohol Ethoxylate	Not specified	<a href="http://worldaccount.basf.com/wa/NAFTA~fr_FR/Catalog/Detergents/doc4/BASF/PRD/30044948/.pdf?asset_type=msds/pdf&amp;language=EN&amp;validArea=US&amp;urn=urn:documentum:ProductBase EU:09007af8800c4481.pdf">http://worldaccount.basf.com/wa/NAFTA~fr_FR/Catalog/Detergents/doc4/BASF/PRD/30044948/.pdf?asset_type=msds/pdf&amp;language=EN&amp;validArea=US&amp;urn=urn:documentum:ProductBase EU:09007af8800c4481.pdf</a>
Lutensol TDA 8 90%	Chelate	Not specified	<a href="http://worldaccount.basf.com/wa/NAFTA~es_MX/Catalog/Detergents/doc4/BASF/PRD/30085887/.pdf?asset_type=msds/pdf&amp;language=EN&amp;validArea=US&amp;urn=urn:documentum:ProductBase EU:09007af88008fe07.pdf">http://worldaccount.basf.com/wa/NAFTA~es_MX/Catalog/Detergents/doc4/BASF/PRD/30085887/.pdf?asset_type=msds/pdf&amp;language=EN&amp;validArea=US&amp;urn=urn:documentum:ProductBase EU:09007af88008fe07.pdf</a>
Camie 20/20 Glass Cleaner	Cleaner	0.01 – 0.1%	<a href="http://camie.com/sites/default/files/msds/camie-sds2020.pdf">http://camie.com/sites/default/files/msds/camie-sds2020.pdf</a>
Husky 1207 Gelled Baseboard Stripper	Cleaner	Not Specified	<a href="http://canberracorp.com/sites/files/msds/husky_1207_bsbrd_clnr_sds.pdf">http://canberracorp.com/sites/files/msds/husky_1207_bsbrd_clnr_sds.pdf</a>
Stride Floral HC Neutral Cleaner	Cleaner	Not specified	<a href="https://sds.sealedair.com/private/document.aspx?prd=MS0301518~~PDF~~MTR~~ANGH~~EN~~">https://sds.sealedair.com/private/document.aspx?prd=MS0301518~~PDF~~MTR~~ANGH~~EN~~</a>
Coilex Penetrating Coil Cleaner	Cleaner	Not specified	<a href="https://chemoventory.tcc.fl.edu/chemoventory/msds/KIMBALL%20392.pdf">https://chemoventory.tcc.fl.edu/chemoventory/msds/KIMBALL%20392.pdf</a>
TRITON X-114	Cleaner	0 - 0.015%	<a href="https://www.spectrumchemical.com/MSDS/T4033.PDF">https://www.spectrumchemical.com/MSDS/T4033.PDF</a>
Baseboard Cleaner & Wax Stripper	Cleaner & Wax Stripper	0.01 - 0.1%	<a href="http://www.spraywayinc.com/sites/all/themes/theme687/msds/sw856.pdf">http://www.spraywayinc.com/sites/all/themes/theme687/msds/sw856.pdf</a>

Trade name	Use of the Product	% by weight or ppm/ppb	Link to references, SDS or industry information
IPTG	Cloning Procedures	<0.1%	<a href="http://www.base-asia.com/downloads/products/msds/SDS-1010.pdf">http://www.base-asia.com/downloads/products/msds/SDS-1010.pdf</a>
Colorflex	Coating	Not specified	<a href="http://www.bestmaterials.com/PDF_MSDS/cfx_msd.pdf">http://www.bestmaterials.com/PDF_MSDS/cfx_msd.pdf</a>
Childers Cp-9	Coating	<10 ppm	<a href="https://www.wsc.edu/download/downloads/id/89/childers_cp-9_ak_cryl.pdf">https://www.wsc.edu/download/downloads/id/89/childers_cp-9_ak_cryl.pdf</a>
Childers Cp-11	Coating	<10 ppm	<a href="http://www.industrialinsulation.com/images/CP11_sds_2015.pdf">http://www.industrialinsulation.com/images/CP11_sds_2015.pdf</a>
Childers Cp-211-3	Coating	<10 ppm	<a href="http://www.wondermakers.com/Portals/0/Wonder%20Fill%20SDS%20-%202016.pdf">http://www.wondermakers.com/Portals/0/Wonder%20Fill%20SDS%20-%202016.pdf</a>
Childers Cp-35 (Cp0350)	Coating	<10 ppm	<a href="https://www.gltproducts.com/user/general_pdfs/20869/pdf.pdf">https://www.gltproducts.com/user/general_pdfs/20869/pdf.pdf</a>
Foster 32-22	Coating	<10 ppm	<a href="https://www.abatix.com/customer/abatix/SDS/FOS322_2_SDS.pdf">https://www.abatix.com/customer/abatix/SDS/FOS322_2_SDS.pdf</a>
FOSTER 32-80	Coating	< 10 ppm	<a href="https://www.wisesafetyenv.com/sds/FOSTER-White%20Bridging%20Encapsulant-32-80-SDS.pdf">https://www.wisesafetyenv.com/sds/FOSTER-White%20Bridging%20Encapsulant-32-80-SDS.pdf</a>
MasterKure CC 160WB	Coating	Not specified	<a href="http://worldaccount.basf.com/wa/NAFTA~en_US/Catalog/ConstCommercial/doc4/BASF/PRD/30605598/.pdf?asset_type=msds/pdf&amp;language=EN&amp;validArea=US&amp;urn=urn:documentum:ProductBase_EU:09007af88034b5e1.pdf">http://worldaccount.basf.com/wa/NAFTA~en_US/Catalog/ConstCommercial/doc4/BASF/PRD/30605598/.pdf?asset_type=msds/pdf&amp;language=EN&amp;validArea=US&amp;urn=urn:documentum:ProductBase_EU:09007af88034b5e1.pdf</a>
Bulldog Primer/Silicone Coating Primer for Asphalt Roofs #A2	Coating Primer	<0.1%	<a href="http://www.palmerasphalt.com/msds/7%20Elastomerics/A2-Bulldog-Primer-Silicone-Coating-Primer-SDS.pdf">http://www.palmerasphalt.com/msds/7%20Elastomerics/A2-Bulldog-Primer-Silicone-Coating-Primer-SDS.pdf</a>
CertaSpray B-Side	Polyurethane spray foam	Not specified	<a href="http://www.buildsite.com/pdf/certainiteed/CertaSpray-Closed-Cell-Foam-SDS-774361.pdf">http://www.buildsite.com/pdf/certainiteed/CertaSpray-Closed-Cell-Foam-SDS-774361.pdf</a>
Master Glenium 7700	Concrete Admixture	Not Specified	<a href="http://worldaccount.basf.com/wa/NAFTA~en_US/Catalog/AdmixBulkGallon/doc4/BASF/PRD/30605659/.pdf?asset_type=msds/pdf&amp;language=EN&amp;validArea=US&amp;urn=urn:documentum:ProductBase_EU:09007af88034b675.pdf">http://worldaccount.basf.com/wa/NAFTA~en_US/Catalog/AdmixBulkGallon/doc4/BASF/PRD/30605659/.pdf?asset_type=msds/pdf&amp;language=EN&amp;validArea=US&amp;urn=urn:documentum:ProductBase_EU:09007af88034b675.pdf</a>
Masterlife SRA 20	Concrete Shrinkage-Reducing Admixture	Not specified	<a href="https://ehs.cranesville.com/msds.pdfs/MSDS(M067).pdf">https://ehs.cranesville.com/msds.pdfs/MSDS(M067).pdf</a>
Masterpolyheed 1020	Concrete Water-Reducing Admixture	Not specified	<a href="http://worldaccount.basf.com/wa/NAFTA~en_US/Catalog/AdmixBulkGallon/doc4/BASF/PRD/30605633/.pdf?urn=urn:documentum:ProductBase_EU:09007af88034b63a.pdf">http://worldaccount.basf.com/wa/NAFTA~en_US/Catalog/AdmixBulkGallon/doc4/BASF/PRD/30605633/.pdf?urn=urn:documentum:ProductBase_EU:09007af88034b63a.pdf</a>
Masterlife CRA 007	Crack Reducing Concrete Admixture	Not specified	<a href="http://worldaccount.basf.com/wa/NAFTA~en_US/Catalog/AdmixBulkGallon/doc4/BASF/PRD/30597381/.pdf?urn=urn:documentum:ProductBase_EU:09007af88032bcf6.pdf">http://worldaccount.basf.com/wa/NAFTA~en_US/Catalog/AdmixBulkGallon/doc4/BASF/PRD/30597381/.pdf?urn=urn:documentum:ProductBase_EU:09007af88032bcf6.pdf</a>
Cure & Seal 309 EF	Curing and Sealing Compound	<0.01%	<a href="http://www.daytonsuperior.com/docs/default-source/msds-documents/83-309242_-_cure_seal_309_ef_(us).pdf?sfvrsn=12">http://www.daytonsuperior.com/docs/default-source/msds-documents/83-309242_-_cure_seal_309_ef_(us).pdf?sfvrsn=12</a>
Cure & Seal 1315 EF	Curing and Sealing Compound	<0.01%	<a href="http://www.daytonsuperior.com/docs/default-source/msds-documents/83-308669_-_cure_seal_1315_ef_(us).pdf?sfvrsn=10">http://www.daytonsuperior.com/docs/default-source/msds-documents/83-308669_-_cure_seal_1315_ef_(us).pdf?sfvrsn=10</a>
Atlas Cure & Hard	Curing Compound	<0.01%	<a href="http://www.buildsite.com/pdf/atlasconstruction/Atlas-Cure-Hard-SDS-1097981.pdf">http://www.buildsite.com/pdf/atlasconstruction/Atlas-Cure-Hard-SDS-1097981.pdf</a>

Trade name	Use of the Product	% by weight or ppm/ppb	Link to references, SDS or industry information
9d9	Deodorizer	Not specified	<a href="http://www.abatix.com/customer/abatix/SDS/UNS431002000_SDS.pdf">http://www.abatix.com/customer/abatix/SDS/UNS431002000_SDS.pdf</a>
Depositrol BI6502	Scale inhibitor	Not specified	<a href="http://files.dep.state.pa.us/water/Wastewater%20Management/EDMRPortalFiles/Chemical_Additives/MSDS/894.pdf">http://files.dep.state.pa.us/water/Wastewater%20Management/EDMRPortalFiles/Chemical_Additives/MSDS/894.pdf</a>
Alpha-Step Ld-450	Dishwash Surfactant	<0.1%	<a href="http://www.stepan.com/msds/00103600.pdf">http://www.stepan.com/msds/00103600.pdf</a>
Whizzer	Disinfectant	800 ppb	<a href="http://www.westliberty.edu/health-and-safety/files/2012/08/Whizzer.pdf">http://www.westliberty.edu/health-and-safety/files/2012/08/Whizzer.pdf</a>
Pacrite 2-Quat Plus	Disinfectant	<0.1%	<a href="https://www.paceint.com/wp-content/uploads/2016/01/Pace-Pac-Rite-2-Quat-Plus-SDS.pdf">https://www.paceint.com/wp-content/uploads/2016/01/Pace-Pac-Rite-2-Quat-Plus-SDS.pdf</a>
Free Tag 300000 Count ECL	DNA Amplification	Not Specified	<a href="https://www.mesoscale.com/~media/files/msds/msd%20product%20sds/sds-3-3026-020003-msd%20free%20tag%20300000%20ecl%20usa.pdf">https://www.mesoscale.com/~media/files/msds/msd%20product%20sds/sds-3-3026-020003-msd%20free%20tag%20300000%20ecl%20usa.pdf</a>
Free Tag 15000 Counts ECL	DNA Amplification	Not Specified	<a href="https://www.mesoscale.com/~media/files/msds/msd%20product%20sds/sds-3-3026-020001-free%20tag%2015000%20ecl%20usa.pdf">https://www.mesoscale.com/~media/files/msds/msd%20product%20sds/sds-3-3026-020001-free%20tag%2015000%20ecl%20usa.pdf</a>
Mapeg 400 Mo	Emulsifier	Not Specified	<a href="http://worldaccount.basf.com/wa/NAFTA~es_MX/Catalog/Detergents/doc4/BASF/PRD/30085182/.pdf?asset_type=msds/pdf&amp;language=EN&amp;validArea=US&amp;urn=urn:documentum:ProductBase_EU:09007af88008fdc8.pdf">http://worldaccount.basf.com/wa/NAFTA~es_MX/Catalog/Detergents/doc4/BASF/PRD/30085182/.pdf?asset_type=msds/pdf&amp;language=EN&amp;validArea=US&amp;urn=urn:documentum:ProductBase_EU:09007af88008fdc8.pdf</a>
Octylphenoxy poly(ethyleneoxy) ethanol, branched	Emulsifier	<0.0020%	<a href="https://www.nwmissouri.edu/naturalsciences/sds/i/Igepal%20CA-630.pdf">https://www.nwmissouri.edu/naturalsciences/sds/i/Igepal%20CA-630.pdf</a>
Engine Degreaser	Engine Degreaser	Not Specified	<a href="http://www.crcindustries.com/faxdocs/msds/5025.pdf">http://www.crcindustries.com/faxdocs/msds/5025.pdf</a>
Citrus Engine Degreaser	Engine degreaser	Not specified	<a href="http://www.crcindustries.com/faxdocs/msds/5027.pdf">http://www.crcindustries.com/faxdocs/msds/5027.pdf</a>
SSS Enzyme Deodorant	Enzyme Deodorant	Not Specified	<a href="http://steinsinc.com/MSDS/SSS/Enzyme%20Deodorant.pdf">http://steinsinc.com/MSDS/SSS/Enzyme%20Deodorant.pdf</a>
SSS Liquid Deodorant Concentrate Deep Cherry	Enzyme Deodorant	Not Specified	<a href="http://triple-s.com/msds/80/08090_SSS%20Liquid%20Deodorant%20Concentrate%20Deep%20Cherry_SDS.pdf">http://triple-s.com/msds/80/08090_SSS%20Liquid%20Deodorant%20Concentrate%20Deep%20Cherry_SDS.pdf</a>
SSS Liquid Deodorant Concentrate Deep Lemon	Enzyme Deodorant	Not Specified	<a href="http://www.smartjan.com/components/com_virtuemart/MSDS/DeodorantConcentrateDeepLemon.pdf">http://www.smartjan.com/components/com_virtuemart/MSDS/DeodorantConcentrateDeepLemon.pdf</a>
Polycool Eg-25	Ethylene Glycol	<0.25 ppm	<a href="http://www.horizontechinc.com/wp/wp-content/uploads/2016/03/POLyCool-EG25_latest.pdf">http://www.horizontechinc.com/wp/wp-content/uploads/2016/03/POLyCool-EG25_latest.pdf</a>
Purevac Evacuation System Cleaner	Evacuation System Cleaner	<0.2 ppm	<a href="http://www.dentalcity.com/MSDS/63-362.pdf">http://www.dentalcity.com/MSDS/63-362.pdf</a>
Beta Fibers, Cardable Fiber, Chopped Strand, Conductive Roving, E-Glass Yarns, Multitex, etc.	Fiberglass Yarns	<5 ppb	<a href="http://www.agy.com/wp-content/uploads/2016/10/AGY-Fiberglass-Yarns-SDS-03102016.pdf">http://www.agy.com/wp-content/uploads/2016/10/AGY-Fiberglass-Yarns-SDS-03102016.pdf</a>
Vitaflo 280c	Flowable Fungicide	Not Specified	<a href="http://www.cdms.net/LDat/mpAPJ006.pdf">http://www.cdms.net/LDat/mpAPJ006.pdf</a>

Trade name	Use of the Product	% by weight or ppm/ppb	Link to references, SDS or industry information
Performix E	Food Ingredient	Not specified	<a href="http://www.google.com/url?sa=t&amp;rct=j&amp;q=&amp;esrc=s&amp;source=web&amp;cd=109&amp;ved=0ahUKEwisLjC2r RAhWE8CYKHwVZAPs4ZBAWCEswCA&amp;url=http%3A%2F%2Fwww.adm.com%2Fen-us%2F%2Flayouts%2Fpdf.aspx%3Ftechdocid%3D5536%26src%3DE&amp;usg=AFQjCNEu4rqPzeu4O6uMCttNoxmU0f6mqQ&amp;sig2=hmF6p-nl_6NJ8edwC7sasA">http://www.google.com/url?sa=t&amp;rct=j&amp;q=&amp;esrc=s&amp;source=web&amp;cd=109&amp;ved=0ahUKEwisLjC2r RAhWE8CYKHwVZAPs4ZBAWCEswCA&amp;url=http%3A%2F%2Fwww.adm.com%2Fen-us%2F%2Flayouts%2Fpdf.aspx%3Ftechdocid%3D5536%26src%3DE&amp;usg=AFQjCNEu4rqPzeu4O6uMCttNoxmU0f6mqQ&amp;sig2=hmF6p-nl_6NJ8edwC7sasA</a>
Ammonyx 4b	For industrial use only.	< 0.1%	<a href="http://www.stepan.com/msds/00192100.pdf">http://www.stepan.com/msds/00192100.pdf</a>
Xtremeaw Hydraulic Oil Iso 32 & 46	For Lubricating Hydraulic Systems	Not Specified	<a href="http://www.carverpress.com/images/pdfs/JMR_XtremeAW_MSDS_Revised.pdf">http://www.carverpress.com/images/pdfs/JMR_XtremeAW_MSDS_Revised.pdf</a>
Procure 480sc	Fungicide	Not Specified	<a href="http://www.cdms.net/ldat/mp73u000.pdf">http://www.cdms.net/ldat/mp73u000.pdf</a>
TERRAGUARD SC	Fungicide	Not Specified	<a href="http://www.ohp.com/Labels_MSDS/PDF/terranguard_msd.pdf">http://www.ohp.com/Labels_MSDS/PDF/terranguard_msd.pdf</a>
Lemon Wax Cream Furniture Polish	Furniture Wax & Polish	Not Specified	<a href="https://itwprofessionalbrands.com/msds/250_0.pdf">https://itwprofessionalbrands.com/msds/250_0.pdf</a>
Fluorescent Gas Leak Detector	Gas Leak Detector	Not Specified	<a href="http://www.nucalgon.com/assets/SDS/English/4184_SD_S_ENG.pdf">http://www.nucalgon.com/assets/SDS/English/4184_SD_S_ENG.pdf</a>
Cal-Blue Plus Gas Leak Detector (4182-01, 4182-08, 4182-24, 4182-53)	Gas Leak Detector	Not Specified	<a href="http://www.nucalgon.com/assets/SDS/English/4182_SD_S_ENG.pdf">http://www.nucalgon.com/assets/SDS/English/4182_SD_S_ENG.pdf</a>
Part #684 Neutral Gel Coat	Gel Coat	Not Specified	<a href="https://s3.amazonaws.com/cdn.fibreglast.com/downloads/PDCT-MSDS-00253.pdf">https://s3.amazonaws.com/cdn.fibreglast.com/downloads/PDCT-MSDS-00253.pdf</a>
Super-Soy Degreaser	General Purpose Degreaser	Not Specified	<a href="http://www.crcindustries.com/faxdocs/msds/3135.pdf">http://www.crcindustries.com/faxdocs/msds/3135.pdf</a>
HydroForce Glass Cleaner	Glass cleaner	Not specified	<a href="http://www.crcindustries.com/faxdocs/msds/14412.pdf">http://www.crcindustries.com/faxdocs/msds/14412.pdf</a>
Service Pro Glass and Utility Cleaner	Glass Cleaner	<0.1%	<a href="http://www.service-pro.com/documents/MSDS/chemical/SP4120%20SDS.PDF">http://www.service-pro.com/documents/MSDS/chemical/SP4120%20SDS.PDF</a>
Kleenex Hair and Body Wash	Hair and Body Wash	0 – 0.1%	<a href="http://www.na.kccustomerportal.com/Documents/Upload/Application/2811/Learning%20Center/Article/KLEENEX%20Hair%20and%20Body%20Wash%2091557_GHS_EN.pdf">http://www.na.kccustomerportal.com/Documents/Upload/Application/2811/Learning%20Center/Article/KLEENEX%20Hair%20and%20Body%20Wash%2091557_GHS_EN.pdf</a>
Kleenex Foam Hair and Body Wash	Hair and Body Wash	0 – 0.1%	<a href="http://www.na.kccustomerportal.com/Documents/Upload/Application/2811/Learning%20Center/Article/KLEENEX%20Foam%20Hair%20and%20Body%20Wash%2091553_11553_GHS_EN.pdf">http://www.na.kccustomerportal.com/Documents/Upload/Application/2811/Learning%20Center/Article/KLEENEX%20Foam%20Hair%20and%20Body%20Wash%2091553_11553_GHS_EN.pdf</a>
Simple Green® D Pro 5 Disinfectant	Hard Non-Porous Disinfectant and Sanitizer.	250 ppb	<a href="http://simplegreen.com/downloads/SDS_EN-US_SimpleGreendPro5.pdf">http://simplegreen.com/downloads/SDS_EN-US_SimpleGreendPro5.pdf</a>
Hygenall Leadoff, Hygenall Industrial Surface Cleaner, Hygenall EPA Green Surface Cleaner.	Hard Surface Decontamination and Cleaning of Heavy Metal Dusts	<100 ppm	<a href="https://www.wisesafetyenv.com/sds/HYGENALL-Leadoff%20Surface%20Clnr-LS90055G-SDS.pdf">https://www.wisesafetyenv.com/sds/HYGENALL-Leadoff%20Surface%20Clnr-LS90055G-SDS.pdf</a>

Trade name	Use of the Product	% by weight or ppm/ppb	Link to references, SDS or industry information
Rustlick Ultracut 380r	Heavy-Duty Water-Soluble Oil for Cutting and Grinding	Not Specified	<a href="https://itwprofessionalbrands.com/msds/647_0.pdf">https://itwprofessionalbrands.com/msds/647_0.pdf</a>
Jomax Qt 12pk House Cleaner Mildw Killr	House Cleaner and Mildew Killer/ Waterbased	Not Specified	<a href="http://www.rustoleum.com/MSDS/ENGLISH/60104.PDF">http://www.rustoleum.com/MSDS/ENGLISH/60104.PDF</a>
C9401 Series	Inkjet Printing	<0.1%	<a href="http://msdsdigital.com/system/files/lf_c9401series_us_eng_v15.pdf">http://msdsdigital.com/system/files/lf_c9401series_us_eng_v15.pdf</a>
Timectin 0.15ec Ag	Insecticide	1000 ppm	<a href="http://tide-usa.com/wp-content/uploads/2015/03/Timectin-0.15EC-AG.pdf">http://tide-usa.com/wp-content/uploads/2015/03/Timectin-0.15EC-AG.pdf</a>
Bacdown Detergent Disinfectant	Laboratory Use	<0.1%	<a href="http://deconlabs.com/sds/BDD%20SDS.pdf">http://deconlabs.com/sds/BDD%20SDS.pdf</a>
Citrus ii Citrus Fresh Antibacterial Hand Soap	Liquid Hand Soap	Not Specified	<a href="http://www.unimedcorp.com/MSDS/sds_CitrusIICitrusFreshAntibacterialHandSoap.pdf">http://www.unimedcorp.com/MSDS/sds_CitrusIICitrusFreshAntibacterialHandSoap.pdf</a>
Dehypon GRA	Low Foaming Surface Active Product	Not specified	<a href="http://worldaccount.basf.com/wa/NAFTA~es_MX/Catalog/Detergents/doc4/BASF/PRD/30538098/.pdf?asset_type=msds/pdf&amp;language=EN&amp;validArea=US&amp;urn=urn:documentum:ProductBase_EU:09007af8802688a6.pdf">http://worldaccount.basf.com/wa/NAFTA~es_MX/Catalog/Detergents/doc4/BASF/PRD/30538098/.pdf?asset_type=msds/pdf&amp;language=EN&amp;validArea=US&amp;urn=urn:documentum:ProductBase_EU:09007af8802688a6.pdf</a>
Kubota Hydraulic Fluid 46hd	Lubricant	Not Specified	<a href="http://www.kubota.com/assets/safety/pdf/msds/3239-031%20Kubota%20Hydraulic%20Fluid%2046HD%205%20Gallon%20Pail.pdf">http://www.kubota.com/assets/safety/pdf/msds/3239-031%20Kubota%20Hydraulic%20Fluid%2046HD%205%20Gallon%20Pail.pdf</a>
United 105 Cutting and Tapping Fluid	Lubricant	0.01 – 0.1%	<a href="https://www.unitedlabsinc.com/content/pdf/msds/105_sds.pdf">https://www.unitedlabsinc.com/content/pdf/msds/105_sds.pdf</a>
Chapco Safe-Set 299	Mastic	<10 ppm	<a href="http://www.buildsite.com/pdf/chapco/Safe-Set-299-SDS-1131332.pdf">http://www.buildsite.com/pdf/chapco/Safe-Set-299-SDS-1131332.pdf</a>
Sirocco	Miticide	Not specified	<a href="http://www.ohp.com/Labels_MSDS/PDF/sirocco_msds.pdf">http://www.ohp.com/Labels_MSDS/PDF/sirocco_msds.pdf</a>
AGNIQUE MMF G	Mosquito Larvicide & Pupicide in Pellet Form	33 ppm	<a href="https://www.maricopa.gov/EnvSvc/VectorControl/pdf/Agnique_MMF_G_MSDS.pdf">https://www.maricopa.gov/EnvSvc/VectorControl/pdf/Agnique_MMF_G_MSDS.pdf</a>
AGNIQUE MMF	Mosquito Larvicide and Pupicide	<100 ppm	<a href="http://www.mosquitoes.org/wp-content/uploads/2014/06/Agnique-MMF-SDS.pdf">http://www.mosquitoes.org/wp-content/uploads/2014/06/Agnique-MMF-SDS.pdf</a>
Syn-Go Multi-Grade SAE 75w90	Multi-Grade Synthetic Gear Oil	Not Specified	<a href="http://www.crcindustries.com/faxdocs/msds/42482.pdf">http://www.crcindustries.com/faxdocs/msds/42482.pdf</a>
Rust Converter	Neutralize Rust and Convert It to a Black Primer	Not Specified	<a href="http://www.crcindustries.com/faxdocs/msds/18418.pdf">http://www.crcindustries.com/faxdocs/msds/18418.pdf</a>
Lutensol XP 80	Nonionic Surfactant	Not specified	<a href="http://worldaccount.basf.com/wa/NAFTA~es_MX/Catalog/Detergents/doc4/BASF/PRD/30149369/.pdf?asset_type=msds/pdf&amp;language=EN&amp;validArea=US&amp;urn=urn:documentum:ProductBase_EU:09007af88008f0a4.pdf">http://worldaccount.basf.com/wa/NAFTA~es_MX/Catalog/Detergents/doc4/BASF/PRD/30149369/.pdf?asset_type=msds/pdf&amp;language=EN&amp;validArea=US&amp;urn=urn:documentum:ProductBase_EU:09007af88008f0a4.pdf</a>
Lutensol XP 70	Nonionic Surfactant	Not specified	<a href="http://worldaccount.basf.com/wa/NAFTA~es_MX/Catalog/Detergents/doc4/BASF/PRD/30149367/.pdf?asset_type=msds/pdf&amp;language=EN&amp;validArea=US&amp;urn=urn:documentum:ProductBase_EU:09007af8800909c0.pdf">http://worldaccount.basf.com/wa/NAFTA~es_MX/Catalog/Detergents/doc4/BASF/PRD/30149367/.pdf?asset_type=msds/pdf&amp;language=EN&amp;validArea=US&amp;urn=urn:documentum:ProductBase_EU:09007af8800909c0.pdf</a>

Trade name	Use of the Product	% by weight or ppm/ppb	Link to references, SDS or industry information
Dehypon E 124-90	Nonionic Surfactant	Not specified	<a href="http://worldaccount.basf.com/wa/NAFTA~fr_FR/Catalog/Detergents/doc4/BASF/PRD/30531331/.pdf?asset_type=msds/pdf&amp;language=EN&amp;validArea=US&amp;urn=urn:documentum:ProductBase_EU:09007af880267a6b.pdf">http://worldaccount.basf.com/wa/NAFTA~fr_FR/Catalog/Detergents/doc4/BASF/PRD/30531331/.pdf?asset_type=msds/pdf&amp;language=EN&amp;validArea=US&amp;urn=urn:documentum:ProductBase_EU:09007af880267a6b.pdf</a>
Sixteen/90	Non-Ionic Surfactant, Wetting Agent	<0.001%	<a href="http://newsomseed.com/resources/MSDS%20Sixteen%20Ninety.pdf">http://newsomseed.com/resources/MSDS%20Sixteen%20Ninety.pdf</a>
Nonylphenol Polyethylene Glycol Ether	Not Specified	<0.0015%	<a href="https://www.google.com/search?q=Nonylphenol+Polyethylene+Glycol+Ether&amp;sourceid=ie7&amp;rls=com.microsoft:en-US:IE-Address&amp;ie=&amp;oe=&amp;safe=active&amp;gws_rd=ssl">https://www.google.com/search?q=Nonylphenol+Polyethylene+Glycol+Ether&amp;sourceid=ie7&amp;rls=com.microsoft:en-US:IE-Address&amp;ie=&amp;oe=&amp;safe=active&amp;gws_rd=ssl</a>
Ethylene Glycol Polyester Grade	Not Specified	0.25 ppm	<a href="http://www.meglobal.biz/sites/default/files/MEGlobal_MSDS_MEG_Americas.pdf">http://www.meglobal.biz/sites/default/files/MEGlobal_MSDS_MEG_Americas.pdf</a>
Ethylene Glycol	Not Specified	Not Specified	<a href="https://www.milacron.com/wp-content/uploads/2016/03/Uninhibited-Ethylene-GlycolEthylene_Glycol.pdf">https://www.milacron.com/wp-content/uploads/2016/03/Uninhibited-Ethylene-GlycolEthylene_Glycol.pdf</a>
Phenylacetylene	Not Specified	0.1-1%	<a href="https://www.nwmissouri.edu/naturalsciences/sds/p/Phenylacetylene.pdf">https://www.nwmissouri.edu/naturalsciences/sds/p/Phenylacetylene.pdf</a>
Ethylene Glycol	Not Specified	0.25 ppm	<a href="http://archpdfs.lps.org/Chemicals/FlashbackArrestorFluorid_Rexarc.pdf">http://archpdfs.lps.org/Chemicals/FlashbackArrestorFluorid_Rexarc.pdf</a>
Triad Air Barrier Coating	Oxygen Barrier for Light Cured Material	<5 ppm	<a href="http://www.dentsply.com/content/dam/dentsply/pim/manufacture/Prosthetics/Removable/Denture_Base/Visible_Light_Cure_VLC/Triad_Air_Barrier/Triad-Air-Barrier-2wijuxe-pdf-en-1402">http://www.dentsply.com/content/dam/dentsply/pim/manufacture/Prosthetics/Removable/Denture_Base/Visible_Light_Cure_VLC/Triad_Air_Barrier/Triad-Air-Barrier-2wijuxe-pdf-en-1402</a>
Floramite SC	Plant Protection Agent / Miticide	Not Specified	<a href="http://www.sponline.com/sps/sites/default/files/FLORAMITE%20SC%20SDS.pdf">http://www.sponline.com/sps/sites/default/files/FLORAMITE%20SC%20SDS.pdf</a>
Pluriol WS 660	Polyalkylene Glycol Functional Fluids	Not specified	<a href="http://worldaccount.basf.com/wa/NAFTA~es_MX/Catalog/Detergents/doc4/BASF/PRD/30125580/.pdf?asset_type=msds/pdf&amp;language=EN&amp;validArea=US&amp;urn=urn:documentum:ProductBase_EU:09007af880090984.pdf">http://worldaccount.basf.com/wa/NAFTA~es_MX/Catalog/Detergents/doc4/BASF/PRD/30125580/.pdf?asset_type=msds/pdf&amp;language=EN&amp;validArea=US&amp;urn=urn:documentum:ProductBase_EU:09007af880090984.pdf</a>
Stepanpol Ps-2002	Polyester	Not Specified	<a href="http://www.stepan.com/msds/00154800.pdf">http://www.stepan.com/msds/00154800.pdf</a>
Stepanpol Ps-70L	Polyester Polyol	Not Specified	<a href="http://www.stepan.com/msds/00732600.pdf">http://www.stepan.com/msds/00732600.pdf</a>
Stepanpol Ps-2582	Polyester Polyol	Not Specified	<a href="http://www.stepan.com/msds/00621200.pdf">http://www.stepan.com/msds/00621200.pdf</a>
Stepanpol Pd-320	Polyester Polyol	Not Specified	<a href="http://www.stepan.com/msds/00817900.pdf">http://www.stepan.com/msds/00817900.pdf</a>
Stepanpol Ps-3524	Polyester Polyol	Not Specified	<a href="http://www.stepan.com/msds/00839200.pdf">http://www.stepan.com/msds/00839200.pdf</a>
Stepanpol Ps-2412	Polyester polyol	Not specified	<a href="http://www.hallcomidsolutions.com/msds/00156300.pdf">http://www.hallcomidsolutions.com/msds/00156300.pdf</a>
Tergitol L-62	Polyether Polyol, Nonionic Surfactant	<5 ppm	<a href="ftp://ftp.pasco.com/support/Documents/English/WA/WA-9897/MSDS/TERGITOL%20L-62.pdf">ftp://ftp.pasco.com/support/Documents/English/WA/WA-9897/MSDS/TERGITOL%20L-62.pdf</a>
Mulsifan 400 DO	Polyethylene Glycol 400 Dioleate	Not specified	<a href="http://stobec.com/documents/msds/8748.pdf">http://stobec.com/documents/msds/8748.pdf</a>



Trade name	Use of the Product	% by weight or ppm/ppb	Link to references, SDS or industry information
Stepanpol Ps-2352	Polyol	Not specified	<a href="http://www.stepan.com/msds/00150700.pdf">http://www.stepan.com/msds/00150700.pdf</a>
Adflex Q 100 F	Polypropylene Copolymer	Not specified	<a href="https://www.pharosproject.net/uploads/files/sources/49/1406049943.pdf">https://www.pharosproject.net/uploads/files/sources/49/1406049943.pdf</a>
Jm CC Spf; Jm Corbond Iii-2.8; Jm Corbond Iii; Jm Corbond Mcs	Polyurethane Spray Foam	0.04%	<a href="http://www.buildsite.com/pdf/johnsmanville/JM-Corbond-III-SPF-SDS-593190.pdf">http://www.buildsite.com/pdf/johnsmanville/JM-Corbond-III-SPF-SDS-593190.pdf</a>
Olybond Part B (Amber/Red)	Polyurethane System Resin Component	<0.1%	<a href="http://www.buildsite.com/pdf/gaf2/OlyBond500-SpotShot-Adhesive-Fastener-SDS-1222287.pdf">http://www.buildsite.com/pdf/gaf2/OlyBond500-SpotShot-Adhesive-Fastener-SDS-1222287.pdf</a>
Bronidox 1160	Preservative Solvent	Not specified	<a href="http://worldaccount.basf.com/wa/NAFTA~es_MX/Catalog/Detergents/doc4/BASF/PRD/30534023/.pdf?asset_type=msds/pdf&amp;language=EN&amp;validArea=US&amp;urn=urn:documentum:ProductBase_EU:09007af8803a5cb3.pdf">http://worldaccount.basf.com/wa/NAFTA~es_MX/Catalog/Detergents/doc4/BASF/PRD/30534023/.pdf?asset_type=msds/pdf&amp;language=EN&amp;validArea=US&amp;urn=urn:documentum:ProductBase_EU:09007af8803a5cb3.pdf</a>
Accosoft 808	Quaternary	<0.1%	<a href="http://www.stepan.com/msds/00190900.pdf">http://www.stepan.com/msds/00190900.pdf</a>
31806 / Appendix Ix Mix #2	Reference Standard	0.1%	<a href="http://www.restek.com/documentation/msds/31806_useng.pdf">http://www.restek.com/documentation/msds/31806_useng.pdf</a>
Big D Water Soluble Deodorant, Mountain Air	Restroom Odor Counteractant	Not Specified	<a href="https://resources.cleanitsupply.com/MSDS/BGD358_SD_S.PDF">https://resources.cleanitsupply.com/MSDS/BGD358_SD_S.PDF</a>
Masterkure CC 1315	Sealant	Not Specified	<a href="http://www.bondedmaterials.net/assets/sds/basf_kure_1315.pdf">http://www.bondedmaterials.net/assets/sds/basf_kure_1315.pdf</a>
DUCTBOND WB DUCT SEALANT	Sealant	< 10 ppm	<a href="http://www.novaflex.com/information_centre/hvac/99Material%20Safety%20Data%20Sheets/MSDS%20DUCTBOND%20ENG.%202015.pdf">http://www.novaflex.com/information_centre/hvac/99Material%20Safety%20Data%20Sheets/MSDS%20DUCTBOND%20ENG.%202015.pdf</a>
Froth-Pak™ Sealant 620 HFC BF	Sealant	<0.016%	<a href="http://www.idi-insulation.com/wp-content/uploads/2015/10/FROTH-PAK-620-SEALANT.pdf">http://www.idi-insulation.com/wp-content/uploads/2015/10/FROTH-PAK-620-SEALANT.pdf</a>
Sakrete Cure-N-Seal	Sealant	<0.1%	<a href="http://www.sakrete.com/uploads/downloads/SAK%20Cure-N-Seal%20OSHA%20HazCom2012%20(English)%202016-02-24.pdf">http://www.sakrete.com/uploads/downloads/SAK%20Cure-N-Seal%20OSHA%20HazCom2012%20(English)%202016-02-24.pdf</a>
Fiberlock Head Gasket & Block Repair	Seals Leaks in Engine Block	Not Specified	<a href="http://www.crcindustries.com/faxdocs/msds/401224.pdf">http://www.crcindustries.com/faxdocs/msds/401224.pdf</a>
BELMONT™ 2.7 FS	Seed Treatment Fungicide	Not specified	<a href="http://www.uap.ca/products/documents/Belmont27FS_MSDS02-06-13English.pdf">http://www.uap.ca/products/documents/Belmont27FS_MSDS02-06-13English.pdf</a>
ALLERGROOM Shampoo with SPHERULITES Microcapsules	Shampoo For Dogs, Cats And Horses	Trace amounts	<a href="https://www.henryscheinvet.com/Content/SDS/000083.pdf">https://www.henryscheinvet.com/Content/SDS/000083.pdf</a>
BD E-Z Scrub Scrub Brush 4% CHG	Skin Antiseptic	Not specified	<a href="https://www.henryschein.ca/MSDS/105Z994.pdf">https://www.henryschein.ca/MSDS/105Z994.pdf</a>
Kleenex Antibacterial Foam Skin Cleanser	Skin Cleanser	0 – 0.1%	<a href="http://www.safety.vanderbilt.edu/msds/products/kleenex-antibacterial-foam-skin-cleanser.pdf">http://www.safety.vanderbilt.edu/msds/products/kleenex-antibacterial-foam-skin-cleanser.pdf</a>
Scott Clear Antibacterial Skin Cleanser	Skin Cleanser	0 – 0.1%	<a href="http://www.na.kccustomerportal.com/Documents/Upload/Application/2811/Learning%20Center/Article/SCOTT%20Clear%20Antibacterial%20Skin%20Cleanser%20%20091440_GHS_EN.pdf">http://www.na.kccustomerportal.com/Documents/Upload/Application/2811/Learning%20Center/Article/SCOTT%20Clear%20Antibacterial%20Skin%20Cleanser%20%20091440_GHS_EN.pdf</a>

Trade name	Use of the Product	% by weight or ppm/ppb	Link to references, SDS or industry information
Scott Antibacterial Skin Cleanser	Skin Cleanser	0- 0.1%	<a href="http://www.na.kccustomerportal.com/Documents/Upload/Application/2811/Learning%20Center/Article/SCOTT%20Antibacterial%20Skin%20Cleanser%2093069_GHS_EN.pdf">http://www.na.kccustomerportal.com/Documents/Upload/Application/2811/Learning%20Center/Article/SCOTT%20Antibacterial%20Skin%20Cleanser%2093069_GHS_EN.pdf</a>
Sporox II Sterilizing & Disinfecting Solution	Sterilization and Disinfectant Solution	<0.3 ppm	<a href="http://www.sultanhc.com/sw/swchannel/CustomerCenter/documents/6470/24180/0075156MS_%5B4%5D_SporoxII_Sterilizing_and_Disinfecting_Solution_SDS.pdf">http://www.sultanhc.com/sw/swchannel/CustomerCenter/documents/6470/24180/0075156MS_%5B4%5D_SporoxII_Sterilizing_and_Disinfecting_Solution_SDS.pdf</a>
Shineline Emulsifier Plus	Stripping Solution	Not Specified	<a href="http://fmo.unl.edu/sds/shineline.pdf">http://fmo.unl.edu/sds/shineline.pdf</a>
Velocity Plate Cleaner	Surface Cleaning	Not specified	<a href="http://www.prisco.com/MSDS/C514_usa_msd.pdf">http://www.prisco.com/MSDS/C514_usa_msd.pdf</a>
Dispatch Sprayable	Surfactant	Not Specified	<a href="http://aquatrols.com/wp-content/uploads/2016/09/Dispatch-Sprayable-SDS.pdf">http://aquatrols.com/wp-content/uploads/2016/09/Dispatch-Sprayable-SDS.pdf</a>
Octylphenoxy polyethoxy ethanol Nonionic Surfactant	Surfactant	<0.0055%	<a href="https://stage.avantormaterials.com/documents/MSDS/usa/English/T7332_msd us_Default.pdf">https://stage.avantormaterials.com/documents/MSDS/usa/English/T7332_msd us_Default.pdf</a>
Dehydol 100	Surfactant	Not specified	<a href="http://worldaccount.basf.com/wa/NAFTA~fr_FR/Catalog/Detergents/doc4/BASF/PRD/30528452/.pdf?asset_type=msds/pdf&amp;language=EN&amp;validArea=US&amp;urn=urn:documentum:ProductBase_EU:09007af880267494.pdf">http://worldaccount.basf.com/wa/NAFTA~fr_FR/Catalog/Detergents/doc4/BASF/PRD/30528452/.pdf?asset_type=msds/pdf&amp;language=EN&amp;validArea=US&amp;urn=urn:documentum:ProductBase_EU:09007af880267494.pdf</a>
Dehypon Wet	Surfactant	Not specified	<a href="http://worldaccount.basf.com/wa/NAFTA~fr_FR/Catalog/Detergents/doc4/BASF/PRD/30537600/.pdf?urn=urn:documentum:ProductBase_EU:09007af8802692bc.pdf">http://worldaccount.basf.com/wa/NAFTA~fr_FR/Catalog/Detergents/doc4/BASF/PRD/30537600/.pdf?urn=urn:documentum:ProductBase_EU:09007af8802692bc.pdf</a>
Tetronic 908 Prill	Surfactant	Not specified	<a href="http://worldaccount.basf.com/wa/NAFTA~en_US/Catalog/Detergents/doc4/BASF/PRD/30630835/.pdf?asset_type=msds/pdf&amp;language=EN&amp;validArea=US&amp;urn=urn:documentum:ProductBase_EU:09007af88042a14a.pdf">http://worldaccount.basf.com/wa/NAFTA~en_US/Catalog/Detergents/doc4/BASF/PRD/30630835/.pdf?asset_type=msds/pdf&amp;language=EN&amp;validArea=US&amp;urn=urn:documentum:ProductBase_EU:09007af88042a14a.pdf</a>
Triton X-100 Surfactant	Surfactant	<20 ppm	<a href="http://www.chemistrystore.com/tritonx100.pdf">http://www.chemistrystore.com/tritonx100.pdf</a>
CEDEPAL TD-407	Surfactant	< 0.1%	<a href="http://www.stepan.com/msds/00483600.pdf">http://www.stepan.com/msds/00483600.pdf</a>
Makon 10	Surfactant	Not Specified	<a href="http://www.hallcomid.com/msds/00026100.pdf">http://www.hallcomid.com/msds/00026100.pdf</a>
Accosoft 501	Surfactant	<0.1%	<a href="http://www.stepan.com/msds/00194100.pdf">http://www.stepan.com/msds/00194100.pdf</a>
Accosoft 750	Surfactant	<0.1%	<a href="http://www.stepan.com/msds/00190700.pdf">http://www.stepan.com/msds/00190700.pdf</a>
Cedepal Td-403 Mkld	Surfactant	<0.1%	<a href="http://www.stepan.com/msds/00311600.pdf">http://www.stepan.com/msds/00311600.pdf</a>
Stepantex Da-6	Surfactant	Not Specified	<a href="http://www.stepan.com/msds/00225700.pdf">http://www.stepan.com/msds/00225700.pdf</a>
Steol Cs-270 C	Surfactant	<0.1%	<a href="http://www.stepan.com/msds/00824800.pdf">http://www.stepan.com/msds/00824800.pdf</a>
Ninol C-5	Surfactant	<0.1%	<a href="http://www.stepan.com/msds/00104200.pdf">http://www.stepan.com/msds/00104200.pdf</a>
Ninol 1301	Surfactant	<0.1%	<a href="http://www.stepan.com/msds/00103800.pdf">http://www.stepan.com/msds/00103800.pdf</a>
Steol Cs-460	Surfactant	Not Specified	<a href="http://www.stepan.com/msds/00121100.pdf">http://www.stepan.com/msds/00121100.pdf</a>
Stepfac 8170	Surfactant	Not Specified	<a href="http://www.stepan.com/msds/00075500.pdf">http://www.stepan.com/msds/00075500.pdf</a>
Stepfac 8180	Surfactant	Not Specified	<a href="http://www.stepan.com/msds/00580100.pdf">http://www.stepan.com/msds/00580100.pdf</a>
Stepfac 8181	Surfactant	Not Specified	<a href="http://www.stepan.com/msds/00580200.pdf">http://www.stepan.com/msds/00580200.pdf</a>
Polystep B-40	Surfactant	<0.1%	<a href="http://www.stepan.com/msds/00141901.pdf">http://www.stepan.com/msds/00141901.pdf</a>
Steol Cs-230	Surfactant	Not Specified	<a href="http://www.stepan.com/msds/00139700.pdf">http://www.stepan.com/msds/00139700.pdf</a>



Trade name	Use of the Product	% by weight or ppm/ppb	Link to references, SDS or industry information
Bio-Soft Ld-190	Surfactant	Not Specified	<a href="http://www.stepan.com/msds/00012300.pdf">http://www.stepan.com/msds/00012300.pdf</a>
Steol Cs-330	Surfactant	<0.1%	<a href="http://www.stepan.com/msds/00139500.pdf">http://www.stepan.com/msds/00139500.pdf</a>
Cedepal Fa-406	Surfactant	<0.1%	<a href="http://www.stepan.com/msds/00064600.pdf">http://www.stepan.com/msds/00064600.pdf</a>
Toximul Ta-2	Surfactant	Not Specified	<a href="http://www.stepan.com/msds/00033100.pdf">http://www.stepan.com/msds/00033100.pdf</a>
Toximul Ca-2	Surfactant	Not Specified	<a href="http://www.stepan.com/msds/00673200.pdf">http://www.stepan.com/msds/00673200.pdf</a>
Toximul Ta-5	Surfactant	Not Specified	<a href="http://www.stepan.com/msds/00082500.pdf">http://www.stepan.com/msds/00082500.pdf</a>
Stepan Pearl 4	Surfactant	Not Specified	<a href="http://www.stepan.com/msds/00586800.pdf">http://www.stepan.com/msds/00586800.pdf</a>
Makon Op-9	Surfactant	Not Specified	<a href="http://www.stepan.com/msds/00031200.pdf">http://www.stepan.com/msds/00031200.pdf</a>
Stepanol AEG	Surfactant	<0.1%	<a href="http://www.stepan.com/msds/00015600.pdf">http://www.stepan.com/msds/00015600.pdf</a>
Bio-Soft N-900	Surfactant	Not Specified	<a href="http://www.stepan.com/msds/00886600.pdf">http://www.stepan.com/msds/00886600.pdf</a>
Np-9 Surfactant Regular	Surfactant	20 ppm	<a href="http://www.chemicalstore.com/msds/MSDS NP9 Surfactant CS DOW.pdf">http://www.chemicalstore.com/msds/MSDS NP9 Surfactant CS DOW.pdf</a>
ECOSURF EH-9 Surfactant	Surfactant	<10.0 ppm	<a href="http://www.guanshinyeh.com.tw/upload/MSDS_EH-9.pdf">http://www.guanshinyeh.com.tw/upload/MSDS_EH-9.pdf</a>
Vanwet 9n9 Surfactant	Surfactant	20 ppm	<a href="http://formosa.msdssoftware.com/imagedir/i0119EAC.pdf">http://formosa.msdssoftware.com/imagedir/i0119EAC.pdf</a>
Disponil AFX 4070	Surfactant for Emulsions	Not specified	<a href="http://worldaccount.basf.com/wa/NAFTA~en_US/Catalog/Cosmetics/doc4/BASF/PRD/30538581/.pdf?asset_type=msds/pdf&amp;language=EN&amp;validArea=US&amp;urn=urn:documentum:ProductBase EU:09007af8802692d0.pdf">http://worldaccount.basf.com/wa/NAFTA~en_US/Catalog/Cosmetics/doc4/BASF/PRD/30538581/.pdf?asset_type=msds/pdf&amp;language=EN&amp;validArea=US&amp;urn=urn:documentum:ProductBase EU:09007af8802692d0.pdf</a>
Disponil AES 60	Surfactant for Emulsions	Not specified	<a href="http://worldaccount.basf.com/wa/NAFTA~es_MX/Catalog/ChemicalsNAFTA/doc4/BASF/PRD/30531400/.pdf?asset_type=msds/pdf&amp;language=EN&amp;validArea=US&amp;urn=urn:documentum:ProductBase EU:09007af880267a87.pdf">http://worldaccount.basf.com/wa/NAFTA~es_MX/Catalog/ChemicalsNAFTA/doc4/BASF/PRD/30531400/.pdf?asset_type=msds/pdf&amp;language=EN&amp;validArea=US&amp;urn=urn:documentum:ProductBase EU:09007af880267a87.pdf</a>
Colonial Sles-60	Surfactant for Various Applications	Not specified	<a href="http://www.colonialchem.com/fullpanel/uploads/files/colonial-sles-60-sds.pdf">http://www.colonialchem.com/fullpanel/uploads/files/colonial-sles-60-sds.pdf</a>
Cola Mate DSLs	Surfactant for Various Applications	Not specified	<a href="http://208.112.58.204/pridesol/documents/sds/ColaMate%20DSLs%20-%20Colonial%20Chemicals%20-%202013-07-30.pdf">http://208.112.58.204/pridesol/documents/sds/ColaMate%20DSLs%20-%20Colonial%20Chemicals%20-%202013-07-30.pdf</a>
Dehypon LT 104	Surfactants	Not specified	<a href="http://worldaccount.basf.com/wa/NAFTA~en_US/Catalog/Detergents/doc4/BASF/PRD/30528465/.pdf?asset_type=msds/pdf&amp;language=EN&amp;validArea=US&amp;urn=urn:documentum:ProductBase EU:09007af8802674a0.pdf">http://worldaccount.basf.com/wa/NAFTA~en_US/Catalog/Detergents/doc4/BASF/PRD/30528465/.pdf?asset_type=msds/pdf&amp;language=EN&amp;validArea=US&amp;urn=urn:documentum:ProductBase EU:09007af8802674a0.pdf</a>
Syn-Kool	Synthetic Metalworking Fluid	Not Specified	<a href="http://www1.msdirect.com/MSDS/MSDS00007/00269803-20150902.PDF">http://www1.msdirect.com/MSDS/MSDS00007/00269803-20150902.PDF</a>
STRUST QT 2PK SATIN BLACK	Topcoat	Not specified	<a href="http://www.rustoleum.com/MSDS/ENGLISH/7777502.pdf">http://www.rustoleum.com/MSDS/ENGLISH/7777502.pdf</a>
STRUST HP 6PK GLOSS BLACK	Topcoat	Not specified	<a href="http://www.rustoleum.com/MSDS/ENGLISH/7779730.pdf">http://www.rustoleum.com/MSDS/ENGLISH/7779730.pdf</a>
Ptouch Qt 2pk Semigl Black	Topcoat/Water Based Acrylic	Not Specified	<a href="http://www.homedepot.com/catalog/pdfimages/d2/d20760a2-3c64-4089-9682-27fa93c4f7b3.pdf">http://www.homedepot.com/catalog/pdfimages/d2/d20760a2-3c64-4089-9682-27fa93c4f7b3.pdf</a>

Trade name	Use of the Product	% by weight or ppm/ppb	Link to references, SDS or industry information
Jm Two-Part Urethane Insulation Adhesive	Urethane Insulation Adhesive	<0.1%	<a href="http://www.buildsite.com/pdf/johnsmanville/JM-Two-Part-Urethane-Insulation-Adhesive-UIA-SDS-329156.pdf">http://www.buildsite.com/pdf/johnsmanville/JM-Two-Part-Urethane-Insulation-Adhesive-UIA-SDS-329156.pdf</a>
Aquet	Washing Liquid	Not Specified	<a href="https://www.belart.com/corporate/SDS/Aquet.pdf">https://www.belart.com/corporate/SDS/Aquet.pdf</a>
Kollicoat IR	Water Soluble Film-Forming Agent	Not specified	<a href="http://worldaccount.basf.com/wa/NAFTA~es_ES/Catalog/Pharma/doc4/BASF/PRD/30132288/.pdf?asset_type=msds/pdf&amp;language=EN&amp;validArea=US&amp;urn=urn:document:ProductBase_EU:09007af8800d89a1.pdf">http://worldaccount.basf.com/wa/NAFTA~es_ES/Catalog/Pharma/doc4/BASF/PRD/30132288/.pdf?asset_type=msds/pdf&amp;language=EN&amp;validArea=US&amp;urn=urn:document:ProductBase_EU:09007af8800d89a1.pdf</a>
Cp Tex	Water-Based Emulsion	<0.003%	<a href="http://www.ikonics.com/pdf/msds/CP%20TEX%20Safety%20Data%20Sheet%2030August2012.pdf">http://www.ikonics.com/pdf/msds/CP%20TEX%20Safety%20Data%20Sheet%2030August2012.pdf</a>
Masterglenium 3030	Water-Reducing Admixture for concrete	Not Specified	<a href="http://www.prairie.com/Documents/SDS/BASF-MGlenium-3030.pdf">http://www.prairie.com/Documents/SDS/BASF-MGlenium-3030.pdf</a>
Advantage II	Wetting Agent	Not Specified	<a href="http://www.plantproducts.com/ca/images/Advantage_II_Pellet_SDS_-_July_2015.pdf">http://www.plantproducts.com/ca/images/Advantage_II_Pellet_SDS_-_July_2015.pdf</a>

#### 4. Distribution (Includes Retailers)

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1,4-dioxane is generally available to industrial and laboratory users through chemical distributors and is also available online. Based on information reported to TRI for 2015, 4 facilities manufacture 1,4-dioxane for sale or distribution and one facility reported processing 1,4-dioxane under the NAICS Code 423330, Roofing, Siding, and Insulation Material Merchant Wholesalers. Based on information reported to CDR for 2016, 2 facilities manufacture 1,4-dioxane for wholesale and retail trade.

#### 5. Uses

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##### Industrial

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1,4-dioxane has a variety of industrial uses. Depending on the specific processes involved, industrial users of 1,4-dioxane may also be processors of 1,4-dioxane.

- Solvent for cellulose acetate, ethyl cellulose, benzyl cellulose, resins, oils, waxes, and fats
- Used in spectroscopic and photometric measurements
- In the pulping of wood
- Wetting and dispersing agent in textile processing
- Degreasing agent
- Polymerization catalyst
- Component of polishing compositions, dye baths, lacquers, paints, varnishes, stains, printing compositions, and paint and varnish removers
- Used in the production of adhesives, cements, deodorant fumigants, cosmetics, drugs, cleaning preparations, magnetic tape, plastic, rubber, insecticides, and herbicides

- Used as a chemical intermediate:
  - Dioxane reaction products are useful as insecticides, herbicides, plasticizers, and monomers
  - Oxonium complexes of dioxane with salts, mineral acids, halogens, and sulfur trioxide are used as catalysts and as reagents for anhydrous acid reactions, brominations, and sulfonations
- Used in the purification of pharmaceuticals
- Used in the extraction of animal and vegetable oils
- Used in the laboratory:
  - in the preparation of histological sections for microscopic examination
  - as a liquid scintillation counting medium
  - as a cryoscopic solvent for molecular mass determinations
  - as a stable reaction medium for diverse reactions

Facilities reporting to the Toxics Release Inventory (TRI) in 2015 for 1,4-dioxane use include facilities in the following sectors:

- Other Basic Inorganic Chemical Manufacturing (NAICS 325180)
- All Other Basic Organic Chemical Manufacturing (NAICS 325199)
- Plastics Material and Resin Manufacturing (NAICS 325211)
- Pesticide and Other Agricultural Chemical Manufacturing (NAICS 325320)
- Pharmaceutical Preparation Manufacturing (NAICS 325412)
- Photographic Film, Paper, Plate, and Chemical Manufacturing (NAICS 325992)
- All Other Miscellaneous Chemical Product and Preparation Manufacturing (NAICS 325998)
- Cement Manufacturing (NAICS 327310)
- Abrasive Product Manufacturing (NAICS 327910)
- All Other Miscellaneous General Purpose Machinery Manufacturing (NAICS 333999)
- Hazardous Waste Treatment and Disposal (NAICS 562211)
- Solid Waste Combustors and Incinerators (NAICS 562213)

#### **Commercial and Consumer Uses**

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It is unlikely that 1,4-dioxane is intentionally used in formulations of currently available commercial and consumer products, with the exception of the laboratory uses noted above and the possible exception of film cement. However, many commercial and consumer products that have been reported to contain 1,4-dioxane in small amounts. These include commercial and consumer products that contain alkyl ether sulphate surfactants or other ethoxylated substances in which 1,4-dioxane may be present as an unintended residual contaminant. In addition, 1,4-dioxane may be present as a residue from use during formulation of these products.

<http://www.fda.gov/Cosmetics/ProductsIngredients/PotentialContaminants/ucm101566.htm>

<http://www.ecy.wa.gov/programs/hwtr/rtt/cspa/chcc.html>

[https://www.nicnas.gov.au/chemical-information/pec-assessments?result\\_34791\\_result\\_page=@](https://www.nicnas.gov.au/chemical-information/pec-assessments?result_34791_result_page=@)

A process called “vacuum stripping” may be used to remove 1,4-dioxane from ethoxylated compounds at the end of the polymerization process. The FDA has provided guidance on how to minimize the presence of 1,4-dioxane in products using this process.

<http://www.fda.gov/Cosmetics/ProductsIngredients/PotentialContaminants/ucm101566.htm>

## **6. Disposal of Waste and Recycling/Recovery**

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Under the Resource Conservation and Recovery Act (RCRA), 1,4-dioxane is a listed hazardous waste. See 40 CFR 261.33 - *Discarded commercial chemical products, off-specification species, container residues, and spill residues thereof*.

For 2015, seven facilities in the Hazardous Waste Treatment and Disposal (NAICS 562211) sector and one facility in the Solid Waste Combustors and Incinerators (NAICS 562213) sector reported to TRI for 1,4-dioxane. According to TRI, in 2015, 0.68 million pounds of 1,4-dioxane were disposed of or released, of which 70 percent was disposed of or released off-site.

## **USEFUL TYPES OF INFORMATION**

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This document presents a summary of information currently available to EPA on this chemical. To more fully characterize the manufacturing, processing, distribution, disposal, and use of this chemical, and to inform the development of the scoping document for this chemical, EPA is interested in obtaining information on:

- the functional uses for this chemical;
- what types of products contain this chemical;
- which industry sectors use this chemical;
- what volume of the chemical is used;
- which uses have been discontinued or phased out;
- exposure scenarios for this chemical; and
- in which articles this chemical is found.

## APPENDIX: SOURCES CONSULTED

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- U.S. EPA *Chemical Inventory*  
<https://www.epa.gov/tsca-inventory>
- U.S. EPA *ChemView*  
<https://java.epa.gov/chemview>
- TRI P2 information  
<https://www.epa.gov/toxics-release-inventory-tri-program/pollution-prevention-p2-and-tri>
- U.S. EPA *HPV HC* (access through Chemical Data Access Tool – CDAT)  
[https://java.epa.gov/oppt\\_chemical\\_search/](https://java.epa.gov/oppt_chemical_search/)
- U.S. EPA *HPVIS* and *HPV HC* (access through Chemical Data Access Tool – CDAT)  
[https://java.epa.gov/oppt\\_chemical\\_search/](https://java.epa.gov/oppt_chemical_search/)
- DfE Alternatives Assessments  
<https://www.epa.gov/saferchoice/design-environment-alternatives-assessments>
- Safer Chemical Ingredients List  
<https://www.epa.gov/saferchoice/safer-ingredients>
- Green Chemistry awards  
<https://www.epa.gov/greenchemistry/presidential-green-chemistry-challenge-winners>
- Greener products and services  
<https://www.epa.gov/greenerproducts/identify-greener-products-and-services>
- Pollution Prevention  
<https://www.epa.gov/p2/pollution-prevention-case-studies>  
<https://www.epa.gov/p2/grant-programs-pollution-prevention#sra>  
<https://www.epa.gov/p2/pollution-prevention-tools-and-calculators>
- U.S. EPA *InertFinder*  
<https://iaspub.epa.gov/apex/pesticides/f?p=101:1:>
- U.S. EPA *Pesticide Chemical Search*  
<https://iaspub.epa.gov/apex/pesticides/f?p=CHEMICALSEARCH:1:0::NO:1::>
- U.S. EPA *Endocrine Disruptor Screening Program*  
<https://www.epa.gov/ingredients-used-pesticide-products/endocrine-disruptor-screening-program-tier-1-assessments>
- U.S. EPA *Hazardous Waste*  
<https://www.epa.gov/hw/learn-basics-hazardous-waste#regulations>
- U.S. EPA *Superfund chemical data matrix*  
<https://www.epa.gov/superfund/superfund-chemical-data-matrix-scdm-query>
- U.S. EPA *Hazardous Air Pollutants*  
<https://www.epa.gov/haps/initial-list-hazardous-air-pollutants-modifications>
- U.S. EPA *Significant New Alternatives Policy (SNAP)*  
<https://www.epa.gov/snap>
- U.S. EPA *Volatile Organic Compounds*  
<https://www.epa.gov/indoor-air-quality-iaq/technical-overview-volatile-organic-compounds#definition>
- U.S. EPA *Toxic and priority pollutants under the Clean Water Act*  
<https://www.epa.gov/eg/toxic-and-priority-pollutants-under-clean-water-act#toxic>

- U.S. EPA *Contaminant Candidate list under the Safe Drinking Water Act*  
<https://www.epa.gov/ccl/contaminant-candidate-list-3-ccl-3#chemical-list>
- U.S. EPA *IRIS Assessment*  
<https://cfpub.epa.gov/ncea/iris2/atoz.cfm>
- U.S. EPA *SRS*  
[https://iaspub.epa.gov/sor\\_internet/registry/substreg/searchandretrieve/substancesearch/search.do](https://iaspub.epa.gov/sor_internet/registry/substreg/searchandretrieve/substancesearch/search.do)
- U.S. EPA *Chemical and Product Categories (CPCat) Database*  
<https://actor.epa.gov/cpcat/faces/home.xhtml>
- U.S. National Library of Medicine *ChemIDplus*  
<https://chem.sis.nlm.nih.gov/chemidplus/>
- U.S. National Library of Medicine *Hazardous Substance Data Bank (HSBD)*  
<https://toxnet.nlm.nih.gov/newtoxnet/hsdb.htm>
- U.S. Department of Health & Human Services *Household Products Database*  
<https://hpd.nlm.nih.gov/index.htm>
- OSHA *Chemical Hazards and Toxic Substances*  
<https://www.osha.gov/SLTC/hazardoustoxicsubstances/index.html>
- NIOSH Workplace Safety and Health Topics *Chemicals*  
<http://www.cdc.gov/niosh/topics/chemical.html>
- NIOSH *Pocket Guide to Chemical Hazards*  
<http://www.cdc.gov/niosh/npg/npgdcas.html>
- CPSC *Chemicals*  
<http://www.cpsc.gov/en/Research--Statistics/Chemicals/>
- CPSC *FHSA*  
<https://www.cpsc.gov/Business--Manufacturing/Business-Education/Business-Guidance/FHSA-Requirements/>
- Food and Drug Administration *List of Databases*  
<http://www.fda.gov/ForIndustry/FDABasicsforIndustry/ucm234631.htm>
- NTP (National Toxicology Program) *Substances studied by NTP*  
<http://ntpsearch.niehs.nih.gov/?e=True&ContentType=Testing+Status>
- Department of Energy *Protective Action Criteria Database*  
<http://energy.gov/ehss/protective-action-criteria-pac-aegls-erpgs-teels-rev-29-chemicals-concern-may-2016>
- California Department of Toxic Substances Control *Toxics in Products*  
<http://www.dtsc.ca.gov/PollutionPrevention/ToxicsInProducts/index.cfm>  
<http://www.dtsc.ca.gov/SCP/CandidateChemicalsList.cfm>  
<http://www.dtsc.ca.gov/SCP/WhatIsAPriorityProduct.cfm>
- California Office of Environmental Health Hazard Assessment *Proposition 65*  
<http://oehha.ca.gov/proposition-65/chemicals>  
<http://oehha.ca.gov/proposition-65/proposition-65-list>
- California Office of Environmental Health Hazard Assessment *Biomonitoring*  
<http://biomonitoring.ca.gov/chemicals>
- California *permissible exposure limits for chemical contaminants*  
[https://www.dir.ca.gov/title8/5155table\\_ac1.html](https://www.dir.ca.gov/title8/5155table_ac1.html)

- California *hazardous substance list*  
<https://www.dir.ca.gov/title8/339.html>
- California *Safe Cosmetics Program – list of chemical agents known or suspected to cause cancer or developmental or other reproductive harm.*  
<http://www.cdph.ca.gov/programs/cosmetics/Pages/default.aspx>  
<https://safecosmetics.cdph.ca.gov/search/Default.aspx>
- Maine *chemicals of high concern*  
<http://www.maine.gov/dep/safechem/highconcern/>
- Massachusetts *Toxics Use Reduction Act (TURA) (link includes a link to Higher hazard substances list)*  
<http://www.mass.gov/eea/waste-mgmt-recycling/toxics/toxic-use-reduction/toxics-use-reduction-act/>
- Massachusetts *Complete list of TURA chemicals*  
<http://www.mass.gov/eea/agencies/massdep/toxics/tur/toxics-use-reduction-act-tura-reporting-and-fees.html>
- Lowell Center for Sustainable Production *Chemical, Policy and Science Initiative*  
<http://www.chemicalspolicy.org/chemicalspolicy.us.state.database.php>
- Minnesota Department of Health *Toxic Free Kids Act Chemicals of High Concern*  
<http://www.health.state.mn.us/divs/eh/hazardous/topics/toxfreekids/highconcern.html>
- Michigan *Environmental Health Topics*  
[http://www.michigan.gov/mdhhs/0,5885,7-339-71548\\_54783\\_54784\\_74881-13050--,00.html](http://www.michigan.gov/mdhhs/0,5885,7-339-71548_54783_54784_74881-13050--,00.html)
- New Hampshire *Regulated Toxic Air Pollutants*  
<http://des.nh.gov/organization/commissioner/legal/rules/documents/env-a1400.pdf>
- New Jersey *Right to Know Hazardous Substances*  
<http://web.doh.state.nj.us/rtkhsfs/rtkhsf.aspx>
- Oregon *Priority Persistent Pollutants (in water)*  
<http://www.deq.state.or.us/wq/SB737/>
- Oregon *Pollutant Profiles*  
<http://www.deq.state.or.us/wq/SB737/docs/LegRpAtt420100601.pdf>
- Oregon *Reducing Toxics in Oregon*  
<http://www.oregon.gov/deq/Pages/ToxicsReduction.aspx>
- Oregon *Chemicals of Concern for Children’s Health*  
<http://public.health.oregon.gov/HealthyEnvironments/HealthyNeighborhoods/ToxicSubstances/Pages/childrens-chemicals-of-concern.aspx>
- Pennsylvania Department of Labor and Industry *Hazardous Substance List*  
<http://www.pacode.com/secure/data/034/chapter323/chap323toc.html>
- Rhode Island *Air Resources – Air Toxics*  
[http://www.dem.ri.gov/pubs/regs/regs/air/air22\\_08.pdf](http://www.dem.ri.gov/pubs/regs/regs/air/air22_08.pdf)
- Vermont *Chemical Disclosure Program for Children’s Products*  
<http://www.healthvermont.gov/enviro/chemical/cdp.aspx>
- Washington *Chemicals of High Concern to Children*  
<http://www.ecy.wa.gov/programs/hwtr/rtt/cspa/chcc.html>
- Washington *Children’s Safe Products Act*  
<http://apps.leg.wa.gov/RCW/default.aspx?cite=70.240>

- Washington Department of Labor & Industries *SHARP Publications*  
<http://www.lni.wa.gov/Safety/Research/Pubs/default.asp>
- National Conference of State Legislatures  
<http://www.ncsl.org/research/environment-and-natural-resources/state-chemical-statutes.aspx>
- Canada *Chemicals Portal*  
<http://chemicalsubstanceschimiques.gc.ca/index-eng.php>
- EU *ECHA website*  
<https://echa.europa.eu/>
- Australia *NICNAS Chemical Information*  
<https://www.nicnas.gov.au/chemical-information>
- Japan *Chemical Risk Information Platform (CHIRP)*  
[http://www.nite.go.jp/en/chem/chrip/chrip\\_search/systemTop](http://www.nite.go.jp/en/chem/chrip/chrip_search/systemTop)
- OECD *eChemPortal*  
[http://www.echemportal.org/echemportal/index?pageID=0&request\\_locale=en](http://www.echemportal.org/echemportal/index?pageID=0&request_locale=en)
- Stockholm Convention on Persistent Organic Pollutants  
<http://chm.pops.int/TheConvention/ThePOPs/ListingofPOPs/tabid/2509/Default.aspx>  
<http://chm.pops.int/TheConvention/ThePOPs/ChemicalsProposedforListing/tabid/2510/Default.aspx>
- WHO IPCS (UN)  
<http://www.who.int/ipcs/en/>
- Other – worker protection information  
<http://www.dguv.de/ifa/gestis/gestis-internationale-grenzwerte-fuer-chemische-substanzen-limit-values-for-chemical-agents/index-2.jsp>
- DeLima Associates *Consumer Product Information Database (CPID)*  
<https://www.whatsinproducts.com/chemicals/index/1>
- SRC *FatePointers Search Module PHYSPROP*  
<http://esc.syrres.com/fatepointer/search.asp>
- Product and company websites