



# Material Safety Data Sheet

## CAT BRAKE FLUID DOT 3

### 1. Product and company identification

<b>Synonym</b>	: FLUIDO PARA FREIOS (DOT 3)
<b>Material uses</b>	: Industrial applications: Brake fluids.
<b>Manufacturer</b>	: Chemtool Incorporated 801 West Rockton Road Rockton, IL 61072 U.S.A. Tel: 815.957.4140 Fax: 815.624.0292
<b>Product code</b>	: 8477000000
<b>MSDS #</b>	: 1344
<b>Validation date</b>	: 2/3/2014.
<b>In case of emergency</b>	: INFOTRAC U.S. and Canada - 800.535.5053 Outside the U.S. and Canada - +1 352.323.3500

### 2. Hazards identification

#### Emergency overview

<b>Physical state</b>	: Liquid [Clear.]
<b>Color</b>	: Amber. [Light]
<b>Odor</b>	: Mild.
<b>Signal word</b>	: WARNING!
<b>Hazard statements</b>	: CAUSES EYE IRRITATION. MAY CAUSE SKIN IRRITATION.
<b>Precautionary measures</b>	: Do not breathe vapor or mist. Do not eat, drink or smoke when using this product. Avoid contact with eyes, skin and clothing. Wash thoroughly after handling.
<b>OSHA/HCS status</b>	: This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).
<b>Routes of entry</b>	: Dermal contact. Eye contact. Ingestion.
<b><u>Potential acute health effects</u></b>	
<b>Inhalation</b>	: Exposure to decomposition products may cause a health hazard. Serious effects may be delayed following exposure.
<b>Ingestion</b>	: No known significant effects or critical hazards.
<b>Skin</b>	: May cause skin irritation.
<b>Eyes</b>	: Severely irritating to eyes. Risk of serious damage to eyes.

## 2. Hazards identification

### Potential chronic health effects

- Chronic effects** : Contains material that may cause target organ damage, based on animal data.
- Carcinogenicity** : No known significant effects or critical hazards.
- Mutagenicity** : No known significant effects or critical hazards.
- Teratogenicity** : No known significant effects or critical hazards.
- Developmental effects** : No known significant effects or critical hazards.
- Fertility effects** : No known significant effects or critical hazards.
- Target organs** : Contains material which may cause damage to the following organs: blood, kidneys, liver, skin, eyes, central nervous system (CNS).

### Over-exposure signs/symptoms

- Inhalation** : No specific data.
- Ingestion** : No specific data.
- Skin** : Adverse symptoms may include the following:  
irritation  
redness
- Eyes** : Adverse symptoms may include the following:  
pain or irritation  
watering  
redness

- Medical conditions aggravated by over-exposure** : Pre-existing disorders involving any target organs mentioned in this MSDS as being at risk may be aggravated by over-exposure to this product.

See toxicological information (Section 11)

## 3. Composition/information on ingredients

### United States

Name	CAS number	%
2-[2-(2-butoxyethoxy)ethoxy]ethanol	143-22-6	15-30
2-(2-butoxyethoxy)ethanol	112-34-5	5-10
2,2' -oxybisethanol	111-46-6	1-5
Poly(oxy-1,2-ethanediyl), $\alpha$ -hydro- $\omega$ -hydroxy- Ethane-1,2-diol, ethoxylated	25322-68-3	1-5
trisodium orthophosphate	7601-54-9	1-5
1,1'-iminodipropan-2-ol	110-97-4	1-5

### Canada

Name	CAS number	%
2-[2-(2-butoxyethoxy)ethoxy]ethanol	143-22-6	15-30
2,2'-(ethylenedioxy)diethanol	112-27-6	7-13
2-(2-butoxyethoxy)ethanol	112-34-5	5-10
2,2' -oxybisethanol	111-46-6	1-5
Poly(oxy-1,2-ethanediyl), $\alpha$ -hydro- $\omega$ -hydroxy- Ethane-1,2-diol, ethoxylated	25322-68-3	1-5
trisodium orthophosphate	7601-54-9	1-5
1,1'-iminodipropan-2-ol	110-97-4	1-5

### Mexico

### Classification

### 3. Composition/information on ingredients

Name	CAS number	UN number	%	IDLH	H	F	R	Special
Poly(oxy-1,2-ethanediyl), $\alpha$ -methyl- $\omega$ -hydroxy-2-(2-(2-ethoxyethoxy)ethoxy) ethanol	9004-74-4	Not available.	20-40	-	1	0	0	-
2-[2-(2-butoxyethoxy)ethoxy] ethanol	112-50-5	Not available.	20-40	-	1	1	0	-
2-(2-(2-methoxyethoxy)ethoxy)ethanol	143-22-6	Not available.	15-30	-	2	1	0	-
3,6,9-trioxaundecane-1, 11-diol	112-35-6	Not available.	10-20	-	1	1	0	-
2,2'-(ethylenedioxy)diethanol	112-60-7	Not available.	10-20	-	1	1	0	-
2-(2-butoxyethoxy)ethanol	112-27-6	Not available.	7-13	-	1	1	0	-
2,2' -oxybisethanol	112-34-5	Not available.	5-10	-	2	2	0	-
3,6,9,12, 15-pentaoxaheptadecane-1, 17-diol	111-46-6	Not available.	1-5	-	1	1	0	-
sodium dihydrogenorthophosphate	2615-15-8	Not available.	1-5	-	1	0	0	-
Poly(oxy-1,2-ethanediyl), $\alpha$ -hydro- $\omega$ -hydroxy- Ethane-1,2-diol, ethoxylated	7558-80-7	Not available.	1-5	-	1	0	0	-
1,1'-iminodipropan-2-ol	25322-68-3	Not available.	1-5	-	1	1	0	-
	110-97-4	Not available.	1-5	-	2	1	0	-

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.

### 4. First aid measures

- Eye contact** : Check for and remove any contact lenses. Immediately flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Get medical attention immediately.
- Skin contact** : In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Wash clothing before reuse. Clean shoes thoroughly before reuse. Get medical attention immediately.
- Inhalation** : Move exposed person to fresh air. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. Loosen tight clothing such as a collar, tie, belt or waistband. Get medical attention immediately.
- Ingestion** : Wash out mouth with water. Do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Get medical attention immediately.
- Protection of first-aiders** : No action shall be taken involving any personal risk or without suitable training. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation.
- Notes to physician** : In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.

## 5. Fire-fighting measures

- Flammability of the product** : In a fire or if heated, a pressure increase will occur and the container may burst.
- Extinguishing media**
- Suitable** : Use an extinguishing agent suitable for the surrounding fire.
- Not suitable** : None known.
- Special exposure hazards** : Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.
- Hazardous thermal decomposition products** : Decomposition products may include the following materials:  
carbon dioxide  
carbon monoxide  
nitrogen oxides  
phosphorus oxides  
metal oxide/oxides
- Special protective equipment for fire-fighters** : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

## 6. Accidental release measures

- Personal precautions** : No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Avoid breathing vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment (see Section 8).
- Environmental precautions** : Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).
- Methods for cleaning up**
- Small spill** : Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.
- Large spill** : Stop leak if without risk. Move containers from spill area. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see Section 13). Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

## 7. Handling and storage

- Handling** : Put on appropriate personal protective equipment (see Section 8). Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. Do not ingest. Avoid contact with eyes, skin and clothing. Avoid breathing vapor or mist. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Empty containers retain product residue and can be hazardous. Do not reuse container.

## 7. Handling and storage

**Storage** : Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination.

## 8. Exposure controls/personal protection

### United States

Ingredient	Exposure limits
2-(2-butoxyethoxy)ethanol	<b>ACGIH TLV (United States, 6/2013).</b> TWA: 10 ppm 8 hours. Form: Inhalable fraction and vapor
2,2' -oxybisethanol	<b>AIHA WEEL (United States, 10/2011).</b> TWA: 10 mg/m <sup>3</sup> 8 hours.
Poly(oxy-1,2-ethanediyl), $\alpha$ -hydro- $\omega$ -hydroxy-Ethane-1,2-diol, ethoxylated	<b>AIHA WEEL (United States, 10/2011).</b> TWA: 10 mg/m <sup>3</sup> 8 hours. Form: Aerosol
trisodium orthophosphate	<b>AIHA WEEL (United States, 10/2011).</b> STEL: 5 mg/m <sup>3</sup> 15 minutes.

### Canada

Occupational exposure limits		TWA (8 hours)			STEL (15 mins)			Ceiling			
Ingredient	List name	ppm	mg/m <sup>3</sup>	Other	ppm	mg/m <sup>3</sup>	Other	ppm	mg/m <sup>3</sup>	Other	Notations
2-(2-butoxyethoxy)ethanol	US ACGIH 6/2013	10	-	-	-	-	-	-	-	-	[a]
2,2' -oxybisethanol	US AIHA 10/2011	-	10	-	-	-	-	-	-	-	
trisodium orthophosphate	US AIHA 10/2011	-	-	-	-	5	-	-	-	-	
Poly(oxy-1,2-ethanediyl), $\alpha$ -hydro- $\omega$ -hydroxy-Ethane-1,2-diol, ethoxylated	US AIHA 10/2011	-	10	-	-	-	-	-	-	-	[b]

**Form:** [a]Inhalable fraction and vapor [b]Aerosol

### Mexico

#### Occupational exposure limits

Ingredient	Exposure limits
2-(2-butoxyethoxy)ethanol	<b>ACGIH TLV (United States, 6/2013).</b> TWA: 10 ppm 8 hours. Form: Inhalable fraction and vapor

**Consult local authorities for acceptable exposure limits.**

**Recommended monitoring procedures** : If this product contains ingredients with exposure limits, personal, workplace atmosphere or biological monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment. Reference should be made to appropriate monitoring standards. Reference to national guidance documents for methods for the determination of hazardous substances will also be required.

**Engineering measures** : Good general ventilation should be sufficient to control worker exposure to airborne contaminants.

## 8. Exposure controls/personal protection

<b>Hygiene measures</b>	: Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.
<b>Personal protection</b>	
<b>Respiratory</b>	: Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.
<b>Hands</b>	: Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated.
<b>Eyes</b>	: Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: chemical splash goggles.
<b>Skin</b>	: Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.
<b>Environmental exposure controls</b>	: Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

## 9. Physical and chemical properties

<b>Physical state</b>	: Liquid [Clear.]
<b>Flash point</b>	: Not available.
<b>Auto-ignition temperature</b>	: 282°C (539.6°F)
<b>Flammable limits</b>	: Not available.
<b>Color</b>	: Amber. [Light]
<b>Odor</b>	: Mild.
<b>pH</b>	: 9.5 to 10.5
<b>Boiling/condensation point</b>	: >232.22°C (>450°F)
<b>Melting/freezing point</b>	: Not available.
<b>Density</b>	: 1 to 1.04 g/cm³
<b>Vapor pressure</b>	: Not available.
<b>Vapor density</b>	: Not available.
<b>Volatility</b>	: Not available.
<b>Evaporation rate</b>	: Not available.
<b>Viscosity</b>	: Not available.
<b>Dispersibility properties</b>	: Not available.
<b>Solubility</b>	: Easily soluble in the following materials: cold water.

## 10. Stability and reactivity

<b>Chemical stability</b>	: The product is stable.
<b>Conditions to avoid</b>	: No specific data.
<b>Incompatible materials</b>	: No specific data.
<b>Hazardous decomposition products</b>	: Under normal conditions of storage and use, hazardous decomposition products should not be produced.
<b>Possibility of hazardous reactions</b>	: Under normal conditions of storage and use, hazardous reactions will not occur.

## 11. Toxicological information

### United States

#### Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
2-[2-(2-butoxyethoxy)ethoxy] ethanol	LD50 Oral	Rat	5300 mg/kg	-
2-(2-butoxyethoxy)ethanol	LD50 Dermal	Rabbit	2700 mg/kg	-
	LD50 Oral	Rat	4500 mg/kg	-
2,2' -oxybisethanol	LD50 Dermal	Rabbit	11890 mg/kg	-
	LD50 Oral	Rat	12000 mg/kg	-
1,1'-iminodipropyl-2-ol	LD50 Oral	Rat	4765 mg/kg	-

**Conclusion/Summary** : No known significant effects or critical hazards.

#### Chronic toxicity

**Conclusion/Summary** : Contains material that may cause target organ damage, based on animal data.

#### Irritation/Corrosion

Product/ingredient name	Result	Species	Score	Exposure	Observation
2-[2-(2-butoxyethoxy)ethoxy] ethanol	Eyes - Moderate irritant	Rabbit	-	24 hours 20 milligrams	-
	Eyes - Severe irritant	Rabbit	-	50 milligrams	-
	Skin - Mild irritant	Rabbit	-	24 hours 500 milligrams	-
2-(2-butoxyethoxy)ethanol	Eyes - Moderate irritant	Rabbit	-	24 hours 20 milligrams	-
2,2' -oxybisethanol	Eyes - Severe irritant	Rabbit	-	20 milligrams	-
	Eyes - Mild irritant	Rabbit	-	50 milligrams	-
	Skin - Mild irritant	Human	-	72 hours 112 milligrams Intermittent	-
	Skin - Mild irritant	Rabbit	-	500 milligrams	-
Poly(oxy-1,2-ethanediyl), $\alpha$ -hydro- $\omega$ -hydroxy- Ethane-1,2-diol, ethoxylated	Eyes - Mild irritant	Rabbit	-	24 hours 500 milligrams	-
	Eyes - Mild irritant	Rabbit	-	500 milligrams	-
	Skin - Mild irritant	Rabbit	-	24 hours 500 milligrams	-
	Skin - Mild irritant	Rabbit	-	500 milligrams	-
1,1'-iminodipropyl-2-ol	Eyes - Severe irritant	Rabbit	-	50 milligrams	-

## 11. Toxicological information

	Skin - Mild irritant	Rabbit	-	500 milligrams	-
--	----------------------	--------	---	----------------	---

### Conclusion/Summary

- Skin** : May cause skin irritation.
- Eyes** : Severely irritating to eyes. Risk of serious damage to eyes.
- Respiratory** : Repeated or prolonged exposure to spray or mist may produce respiratory tract irritation. Pre-existing respiratory disorders may be aggravated by over-exposure to this product.

### Sensitizer

#### Conclusion/Summary

- Skin** : No specific information is available in our database regarding the skin sensitizing properties of this product. Sensitization not suspected for humans.
- Respiratory** : Sensitization not suspected for humans.

### Carcinogenicity

#### Conclusion/Summary

- : There are no data available on the mixture itself. Carcinogenicity not suspected for humans.

### Mutagenicity

#### Conclusion/Summary

- : There are no data available on the mixture itself. Mutagenicity not suspected for humans.

### Teratogenicity

#### Conclusion/Summary

- : There are no data available on the mixture itself. Teratogenicity not suspected for humans.

### Reproductive toxicity

#### Conclusion/Summary

- : There are no data available on the mixture itself. Not considered to be dangerous to humans, according to our database.

### Canada

#### Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
2-[2-(2-butoxyethoxy)ethoxy] ethanol	LD50 Oral	Rat	5300 mg/kg	-
2,2'-(ethylenedioxy)diethanol	LD50 Oral	Rat	15000 mg/kg	-
2-(2-butoxyethoxy)ethanol	LD50 Dermal	Rabbit	2700 mg/kg	-
	LD50 Oral	Rat	4500 mg/kg	-
2,2' -oxybisethanol	LD50 Dermal	Rabbit	11890 mg/kg	-
	LD50 Oral	Rat	12000 mg/kg	-
1,1'-iminodipropyl-2-ol	LD50 Oral	Rat	4765 mg/kg	-

- Conclusion/Summary** : No known significant effects or critical hazards.

### Chronic toxicity

#### Conclusion/Summary

- : Contains material that may cause target organ damage, based on animal data.

### Irritation/Corrosion



## 11. Toxicological information

Product/ingredient name	Result	Species	Score	Exposure	Observation
2-[2-(2-butoxyethoxy)ethoxy] ethanol	Eyes - Moderate irritant	Rabbit	-	24 hours 20 milligrams	-
	Eyes - Severe irritant	Rabbit	-	50 milligrams	-
	Skin - Mild irritant	Rabbit	-	24 hours 500 milligrams	-
2,2'-(ethylenedioxy)diethanol	Eyes - Mild irritant	Rabbit	-	500 milligrams	-
	Skin - Mild irritant	Rabbit	-	24 hours 500 milligrams	-
2-(2-butoxyethoxy)ethanol	Eyes - Moderate irritant	Rabbit	-	24 hours 20 milligrams	-
2,2' -oxybisethanol	Eyes - Severe irritant	Rabbit	-	20 milligrams	-
	Eyes - Mild irritant	Rabbit	-	50 milligrams	-
	Skin - Mild irritant	Human	-	72 hours 112 milligrams Intermittent	-
	Skin - Mild irritant	Rabbit	-	500 milligrams	-
1,1'-iminodipropyl-2-ol	Eyes - Severe irritant	Rabbit	-	50 milligrams	-
	Skin - Mild irritant	Rabbit	-	500 milligrams	-
Poly(oxy-1,2-ethanediyl), $\alpha$ -hydro- $\omega$ -hydroxy- Ethane-1,2-diol, ethoxylated	Eyes - Mild irritant	Rabbit	-	24 hours 500 milligrams	-
	Eyes - Mild irritant	Rabbit	-	500 milligrams	-
	Skin - Mild irritant	Rabbit	-	24 hours 500 milligrams	-
	Skin - Mild irritant	Rabbit	-	500 milligrams	-

### Conclusion/Summary

- Skin** : May cause skin irritation.
- Eyes** : Severely irritating to eyes. Risk of serious damage to eyes.
- Respiratory** : Repeated or prolonged exposure to spray or mist may produce respiratory tract irritation. Pre-existing respiratory disorders may be aggravated by over-exposure to this product.

### Sensitizer

#### Conclusion/Summary

- Skin** : No specific information is available in our database regarding the skin sensitizing properties of this product. Sensitization not suspected for humans.
- Respiratory** : Sensitization not suspected for humans.

### Carcinogenicity

#### Conclusion/Summary

- : There are no data available on the mixture itself. Carcinogenicity not suspected for humans.

### Mutagenicity

#### Conclusion/Summary

- : There are no data available on the mixture itself. Mutagenicity not suspected for humans.

### Teratogenicity

#### Conclusion/Summary

- : There are no data available on the mixture itself. Teratogenicity not suspected for humans.

## 11. Toxicological information

### Reproductive toxicity

#### Conclusion/Summary

: There are no data available on the mixture itself. Not considered to be dangerous to humans, according to our database.

### Mexico

#### Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
2-(2-(2-ethoxyethoxy)ethoxy) ethanol	LD50 Oral	Rat	7750 mg/kg	-
2-[2-(2-butoxyethoxy)ethoxy] ethanol	LD50 Oral	Rat	5300 mg/kg	-
3,6,9-trioxaundecane-1, 11-diol	LD50 Dermal	Rabbit	>20 g/kg	-
2,2'-(ethylenedioxy)diethanol	LD50 Oral	Rat	10000 mg/kg	-
	LD50 Oral	Rat	15000 mg/kg	-
	LD50 Dermal	Rabbit	2700 mg/kg	-
	LD50 Oral	Rat	4500 mg/kg	-
2,2' -oxybisethanol	LD50 Dermal	Rabbit	11890 mg/kg	-
	LD50 Oral	Rat	12000 mg/kg	-
	LD50 Oral	Rat	32 g/kg	-
3,6,9,12, 15-pentaoxaheptadecane-1, 17-diol	LD50 Oral	Rat	8290 mg/kg	-
sodium dihydrogenorthophosphate	LD50 Oral	Rat	4765 mg/kg	-
1,1'-iminodipropyl-2-ol	LD50 Oral	Rat	4765 mg/kg	-

#### Conclusion/Summary

: No known significant effects or critical hazards.

### Chronic toxicity

#### Conclusion/Summary

: Contains material that may cause target organ damage, based on animal data.

### Irritation/Corrosion

Product/ingredient name	Result	Score	Score	Exposure	Observation
Poly(oxy-1,2-ethanediyl), $\alpha$ -methyl- $\omega$ -hydroxy-2-(2-(2-ethoxyethoxy)ethoxy) ethanol	Skin - Mild irritant	Rabbit	-	500 milligrams	-
	Eyes - Mild irritant	Rabbit	-	500 milligrams	-
	Eyes - Moderate irritant	Rabbit	-	24 hours 20 milligrams	-
	Eyes - Severe irritant	Rabbit	-	50 milligrams	-
	Skin - Mild irritant	Rabbit	-	24 hours 500 milligrams	-
2-(2-(2-methoxyethoxy)ethoxy)ethanol	Eyes - Mild irritant	Rabbit	-	24 hours 500 milligrams	-
	Skin - Mild irritant	Rabbit	-	24 hours 500 milligrams	-
3,6,9-trioxaundecane-1, 11-diol	Eyes - Mild irritant	Rabbit	-	500 milligrams	-
	Skin - Mild irritant	Rabbit	-	550 milligrams	-
2,2'-(ethylenedioxy)diethanol	Eyes - Mild irritant	Rabbit	-	500 milligrams	-
	Skin - Mild irritant	Rabbit	-	24 hours 500 milligrams	-

## 11. Toxicological information

2-(2-butoxyethoxy)ethanol	Eyes - Moderate irritant	Rabbit	-	24 hours 20 milligrams	-
2,2' -oxybisethanol	Eyes - Severe irritant	Rabbit	-	20 milligrams	-
	Eyes - Mild irritant	Rabbit	-	50 milligrams	-
	Skin - Mild irritant	Human	-	72 hours 112 milligrams	-
	Skin - Mild irritant	Rabbit	-	Intermittent 500 milligrams	-
3,6,9,12, 15-pentaoxaheptadecane-1, 17-diol sodium dihydrogenorthophosphate	Eyes - Mild irritant	Rabbit	-	500 milligrams	-
	Eyes - Mild irritant	Human	-	50 milligrams	-
	Eyes - Mild irritant	Rabbit	-	150 milligrams	-
	Eyes - Mild irritant	Rabbit	-	24 hours 500 milligrams	-
Poly(oxy-1,2-ethanediyl), $\alpha$ -hydro- $\omega$ -hydroxy- Ethane-1,2-diol, ethoxylated	Eyes - Mild irritant	Rabbit	-	500 milligrams	-
	Skin - Mild irritant	Rabbit	-	24 hours 500 milligrams	-
	Skin - Mild irritant	Rabbit	-	500 milligrams	-
	Skin - Mild irritant	Rabbit	-	500 milligrams	-
1,1'-iminodipropyl-2-ol	Eyes - Severe irritant	Rabbit	-	50 milligrams	-
	Skin - Mild irritant	Rabbit	-	500 milligrams	-

### Conclusion/Summary

- Skin** : May cause skin irritation.
- Eyes** : Severely irritating to eyes. Risk of serious damage to eyes.
- Respiratory** : Repeated or prolonged exposure to spray or mist may produce respiratory tract irritation. Pre-existing respiratory disorders may be aggravated by over-exposure to this product.

### Sensitizer

#### Conclusion/Summary

- Skin** : No specific information is available in our database regarding the skin sensitizing properties of this product. Sensitization not suspected for humans.
- Respiratory** : Sensitization not suspected for humans.

### Carcinogenicity

#### Conclusion/Summary

- : There are no data available on the mixture itself. Carcinogenicity not suspected for humans.

### Mutagenicity

#### Conclusion/Summary

- : There are no data available on the mixture itself. Mutagenicity not suspected for humans.

### Teratogenicity

#### Conclusion/Summary

- : There are no data available on the mixture itself. Teratogenicity not suspected for humans.

### Reproductive toxicity

#### Conclusion/Summary

- : There are no data available on the mixture itself. Not considered to be dangerous to humans, according to our database.

## 12. Ecological information

**Ecotoxicity** : Not readily biodegradable.

### United States

#### Aquatic ecotoxicity

Product/ingredient name	Result	Species	Exposure
2-(2-butoxyethoxy)ethanol	Acute LC50 1300000 µg/l Fresh water	Fish - Lepomis macrochirus	96 hours
2,2' -oxybisethanol	Acute LC50 32000 ppm Fresh water	Fish - Gambusia affinis - Adult	96 hours
Poly(oxy-1,2-ethanediyl),α-hydro-ω-hydroxy- Ethane-1,2-diol, ethoxylated	Acute LC50 >1000000 µg/l Fresh water	Fish - Salmo salar - Parr	96 hours
trisodium orthophosphate	Acute LC50 151 ppm Fresh water	Fish - Gambusia affinis - Adult	96 hours

**Conclusion/Summary** : There are no data available on the mixture itself.

#### Persistence/degradability

**Conclusion/Summary** : This product has not been tested for biodegradation. Not expected to be rapidly degradable.

### Canada

#### Aquatic ecotoxicity

Product/ingredient name	Result	Species	Exposure
2,2'-(ethylenedioxy)diethanol	Acute LC50 35000 µl/L Fresh water Acute LC50 10000000 µg/l Marine water Chronic NOEC 7500 mg/l Fresh water Chronic NOEC 100 µl/L Marine water	Daphnia - Daphnia magna Fish - Menidia beryllina Daphnia - Daphnia magna Fish - Cyprinodon variegatus - Egg	48 hours 96 hours 21 days 28 days
2-(2-butoxyethoxy)ethanol	Acute LC50 1300000 µg/l Fresh water	Fish - Lepomis macrochirus	96 hours
2,2' -oxybisethanol	Acute LC50 32000 ppm Fresh water	Fish - Gambusia affinis - Adult	96 hours
trisodium orthophosphate	Acute LC50 151 ppm Fresh water	Fish - Gambusia affinis - Adult	96 hours
Poly(oxy-1,2-ethanediyl),α-hydro-ω-hydroxy- Ethane-1,2-diol, ethoxylated	Acute LC50 >1000000 µg/l Fresh water	Fish - Salmo salar - Parr	96 hours

**Conclusion/Summary** : There are no data available on the mixture itself.

#### Persistence/degradability

**Conclusion/Summary** : This product has not been tested for biodegradation. Not expected to be rapidly degradable.

### Mexico

#### Aquatic ecotoxicity

Product/ingredient name	Result	Species	Exposure
2,2'-(ethylenedioxy)diethanol	Acute LC50 35000 µl/L Fresh water Acute LC50 10000000 µg/l Marine water Chronic NOEC 7500 mg/l Fresh water Chronic NOEC 100 µl/L Marine water	Daphnia - Daphnia magna Fish - Menidia beryllina Daphnia - Daphnia magna Fish - Cyprinodon variegatus - Egg	48 hours 96 hours 21 days 28 days
2-(2-butoxyethoxy)ethanol	Acute LC50 1300000 µg/l Fresh water	Fish - Lepomis macrochirus	96 hours
2,2' -oxybisethanol	Acute LC50 32000 ppm Fresh water	Fish - Gambusia affinis - Adult	96 hours
sodium dihydrogenorthophosphate	Acute LC50 720 ppm Fresh water	Fish - Gambusia affinis - Adult	96 hours
Poly(oxy-1,2-ethanediyl),α-hydro-ω-hydroxy- Ethane-1,2-diol, ethoxylated	Acute LC50 >1000000 µg/l Fresh water	Fish - Salmo salar - Parr	96 hours

## 12. Ecological information

**Conclusion/Summary** : There are no data available on the mixture itself.

**Persistence/degradability**

**Conclusion/Summary** : This product has not been tested for biodegradation. Not expected to be rapidly degradable.

## 13. Disposal considerations

**Waste disposal** : The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

Disposal should be in accordance with applicable regional, national and local laws and regulations.

Refer to Section 7: HANDLING AND STORAGE and Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION for additional handling information and protection of employees.

## 14. Transport information

Regulatory information	UN number	Proper shipping name	Classes	PG*	Label	Additional information
<b>DOT Classification</b>	Not regulated.	-	-	-		-
<b>TDG Classification</b>	Not regulated.	-	-	-		-
<b>Mexico Classification</b>	Not regulated.	-	-	-		-
<b>ADR/RID Class</b>	Not regulated.	-	-	-		-
<b>IMDG Class</b>	Not regulated.	-	-	-		-
<b>IATA-DGR Class</b>	Not regulated.	-	-	-		-

PG\* : Packing group

## 15. Regulatory information

### United States

- HCS Classification** : Irritating material  
Target organ effects
- U.S. Federal regulations** : **TSCA 8(a) CDR Exempt/Partial exemption**: Not determined  
**United States inventory (TSCA 8b)**: All components are listed or exempted.  
**SARA 302/304**: No products were found.  
**SARA 311/312 Hazards identification**: Immediate (acute) health hazard, Delayed (chronic) health hazard  
**Clean Water Act (CWA) 311**: trisodium orthophosphate

**Clean Air Act Section 112** : Listed

**(b) Hazardous Air Pollutants (HAPs)**

**Clean Air Act Section 602 Class I Substances** : Not listed

**Clean Air Act Section 602 Class II Substances** : Not listed

**DEA List I Chemicals (Precursor Chemicals)** : Not listed

**DEA List II Chemicals (Essential Chemicals)** : Not listed

### SARA 313

	Product name	CAS number	Concentration
<b>Form R - Reporting requirements</b>	2-(2-(2-ethoxyethoxy)ethoxy)ethanol	112-50-5	20-40
	2-[2-(2-butoxyethoxy)ethoxy]ethanol	143-22-6	15-30
	2-(2-(2-methoxyethoxy)ethoxy)ethanol	112-35-6	10-20
	2-(2-butoxyethoxy)ethanol	112-34-5	5-10
<b>Supplier notification</b>	2-(2-(2-ethoxyethoxy)ethoxy)ethanol	112-50-5	20-40
	2-[2-(2-butoxyethoxy)ethoxy]ethanol	143-22-6	15-30
	2-(2-(2-methoxyethoxy)ethoxy)ethanol	112-35-6	10-20
	2-(2-butoxyethoxy)ethanol	112-34-5	5-10

SARA 313 notifications must not be detached from the MSDS and any copying and redistribution of the MSDS shall include copying and redistribution of the notice attached to copies of the MSDS subsequently redistributed.

### State regulations

- Connecticut Carcinogen Reporting** : None of the components are listed.
- Connecticut Hazardous Material Survey** : None of the components are listed.
- Florida substances** : None of the components are listed.
- Illinois Chemical Safety Act** : None of the components are listed.
- Illinois Toxic Substances Disclosure to Employee Act** : None of the components are listed.
- Louisiana Reporting** : None of the components are listed.
- Louisiana Spill** : None of the components are listed.
- Massachusetts Spill** : None of the components are listed.

## 15. Regulatory information

<b>Massachusetts Substances</b>	: The following components are listed: DIISOPROPANOLAMINE
<b>Michigan Critical Material</b>	: None of the components are listed.
<b>Minnesota Hazardous Substances</b>	: None of the components are listed.
<b>New Jersey Spill</b>	: None of the components are listed.
<b>New Jersey Toxic Catastrophe Prevention Act</b>	: None of the components are listed.
<b>New Jersey Hazardous Substances</b>	: The following components are listed: GLYCOL ETHERS; GLYCOL ETHERS; GLYCOL ETHERS; GLYCOL ETHERS; SODIUM PHOSPHATE, TRIBASIC; PHOSPHORIC ACID, TRISODIUM SALT
<b>New York Acutely Hazardous Substances</b>	: The following components are listed: Sodium phosphate, tribasic
<b>New York Toxic Chemical Release Reporting</b>	: None of the components are listed.
<b>Pennsylvania RTK Hazardous Substances</b>	: The following components are listed: GLYCOL ETHERS; GLYCOL ETHERS; GLYCOL ETHERS; ETHANOL, 2,2'-[1, 2-ETHANEDIYLBIS(OXY)]BIS-; GLYCOL ETHERS; ETHANOL, 2,2'-OXYBIS-; PHOSPHORIC ACID, TRISODIUM SALT; 2-PROPANOL, 1,1'-IMINO BIS-
<b>Rhode Island Hazardous Substances</b>	: None of the components are listed.

### California Prop. 65

None of the components are listed.

**United States inventory (TSCA 8b)** : All components are listed or exempted.

### Canada

**WHMIS (Canada)** : Class D-1B: Material causing immediate and serious toxic effects (Toxic).  
Class D-2B: Material causing other toxic effects (Toxic).  
Class E: Corrosive material

### Canadian lists

**Canadian NPRI** : The following components are listed: Diethylene glycol butyl ether

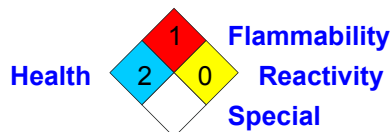
**CEPA Toxic substances** : None of the components are listed.

**Canada inventory; DSL/ NDSL** : Not determined.

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all the information required by the Controlled Products Regulations.

### Mexico

**Classification** :



### International regulations

## 15. Regulatory information

**International lists** : **Australia inventory (AICS)**: All components are listed or exempted.  
**China inventory (IECSC)**: All components are listed or exempted.  
**Japan inventory**: All components are listed or exempted.  
**Korea inventory**: Not determined.  
**Malaysia Inventory (EHS Register)**: Not determined.  
**New Zealand Inventory of Chemicals (NZIoC)**: Not determined.  
**Philippines inventory (PICCS)**: All components are listed or exempted.  
**Taiwan inventory (CSNN)**: Not determined.  
**Europe inventory** : All components are listed or exempted.

**Chemical Weapons Convention List Schedule I Chemicals** : Not listed

**Chemical Weapons Convention List Schedule II Chemicals** : Not listed

**Chemical Weapons Convention List Schedule III Chemicals** : Not listed

## 16. Other information

**Label requirements** : CAUSES EYE IRRITATION. MAY CAUSE SKIN IRRITATION.

**Hazardous Material Information System (U.S.A.)** :

Health	*	2
Flammability		1
Physical hazards		0
		B

Caution: HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks. Although HMIS® ratings are not required on MSDSs under 29 CFR 1910.1200, the preparer may choose to provide them. HMIS® ratings are to be used with a fully implemented HMIS® program. HMIS® is a registered mark of the National Paint & Coatings Association (NPCA). HMIS® materials may be purchased exclusively from J. J. Keller (800) 327-6868.

The customer is responsible for determining the PPE code for this material.

**National Fire Protection Association (U.S.A.)** :



Reprinted with permission from NFPA 704-2001, Identification of the Hazards of Materials for Emergency Response Copyright ©1997, National Fire Protection Association, Quincy, MA 02269. This reprinted material is not the complete and official position of the National Fire Protection Association, on the referenced subject which is represented only by the standard in its entirety.



## 16. Other information

Copyright ©2001, National Fire Protection Association, Quincy, MA 02269. This warning system is intended to be interpreted and applied only by properly trained individuals to identify fire, health and reactivity hazards of chemicals. The user is referred to certain limited number of chemicals with recommended classifications in NFPA 49 and NFPA 325, which would be used as a guideline only. Whether the chemicals are classified by NFPA or not, anyone using the 704 systems to classify chemicals does so at their own risk.

**Date of issue** : 2/3/2014.  
**Date of previous issue** : No previous validation.  
**Version** : 1  
**Prepared by** : Regulatory Department, Chemtool Inc.

☑ Indicates information that has changed from previously issued version.

### Notice to reader

To the best of our knowledge, the information contained herein is accurate. However, neither the above-named supplier, nor any of its subsidiaries, assumes any liability whatsoever for the accuracy or completeness of the information contained herein.

Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.