



# Material Safety Data Sheet

## BULLDOG BUG & ROAD GRIME CLEANER

### 1. Product and company identification

<b>Material uses</b>	: Industrial applications: Cleaner; Alkaline.
<b>Manufacturer</b>	: Chemtool Incorporated 801 West Rockton Road Rockton, IL 61072 U.S.A. Tel: +01 815.957.4140 Fax: +01 815.624.0292
<b>Product code</b>	: 4028-4112124, 4028-4112101
<b>MSDS #</b>	: 2069
<b>Validation date</b>	: 9/25/2013.
<b>In case of emergency</b>	: INFOTRAC U.S. and Canada - 800.535.5053 Outside the U.S. and Canada - +01 352.323.3500

### 2. Hazards identification

#### Emergency overview

<b>Physical state</b>	: Liquid [Clear.]
<b>Color</b>	: Colorless
<b>Odor</b>	: Bland.
<b>Signal word</b>	: WARNING!
<b>Hazard statements</b>	: HARMFUL IF INHALED, ABSORBED THROUGH SKIN OR SWALLOWED. MAY CAUSE EYE AND SKIN IRRITATION.
<b>Precautionary measures</b>	: Do not breathe vapor or mist. Do not ingest. Use only with adequate ventilation. Do not eat, drink or smoke when using this product. Avoid contact with eyes, skin and clothing. Keep container closed. 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. Inhalation. Ingestion.
<b>Potential acute health effects</b>	
<b>Inhalation</b>	: Toxic by inhalation. Exposure to decomposition products may cause a health hazard. Serious effects may be delayed following exposure.

## 2. Hazards identification

- Ingestion** : Toxic if swallowed.  
**Skin** : May be harmful in contact with skin. May cause skin irritation.  
**Eyes** : May cause eye irritation.

### 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, the nervous system, liver, spleen, lymphatic system, gastrointestinal tract, upper respiratory tract, skin, bone marrow, central nervous system (CNS), eye, lens or cornea, testes.

### 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''-nitrilotriethanol	102-71-6	1-5
2-butoxyethanol	111-76-2	1-5
Alcohols, C12-15, ethoxylated propoxylated	68551-13-3	1-5
2-aminoethanol	141-43-5	0.5-1.5

### Canada

Name	CAS number	%
2,2',2''-nitrilotriethanol	102-71-6	1-5
2-butoxyethanol	111-76-2	1-5
Alcohols, C12-15, ethoxylated propoxylated	68551-13-3	1-5
2-aminoethanol	141-43-5	0.5-1.5

### Mexico

### Classification

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### 3. Composition/information on ingredients

Name	CAS number	UN number	%	IDLH	H	F	R	Special
2,2',2''-nitrioltriethanol	102-71-6	Not available.	1-5	-	2	1	0	-
2-butoxyethanol	111-76-2	UN2810	1-5	700 ppm	3	2	0	-
Alcohols, C12-15, ethoxylated propoxylated	68551-13-3	UN3082	1-5	-	2	1	0	-
2-aminoethanol	141-43-5	Not available.	0.5-1.5	30 ppm	2	2	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. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Wash contaminated clothing thoroughly with water before removing it, or wear gloves.
- 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
- 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. Do not breathe 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 get in eyes or on skin or clothing. Do not breathe vapor or mist. Do not ingest. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. 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.
- 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',2''-nitrilotriethanol	<b>ACGIH TLV (United States, 3/2012).</b> TWA: 5 mg/m <sup>3</sup> 8 hours.
2-butoxyethanol	<b>OSHA PEL 1989 (United States, 3/1989). Absorbed through skin.</b> TWA: 25 ppm 8 hours. TWA: 120 mg/m <sup>3</sup> 8 hours. <b>NIOSH REL (United States, 1/2013). Absorbed through skin.</b> TWA: 5 ppm 10 hours. TWA: 24 mg/m <sup>3</sup> 10 hours.

## 8. Exposure controls/personal protection

2-aminoethanol

**ACGIH TLV (United States, 3/2012).**

TWA: 20 ppm 8 hours.

**OSHA PEL (United States, 6/2010). Absorbed through skin.**

TWA: 50 ppm 8 hours.

TWA: 240 mg/m<sup>3</sup> 8 hours.**ACGIH TLV (United States, 3/2012).**

TWA: 3 ppm 8 hours.

TWA: 7.5 mg/m<sup>3</sup> 8 hours.

STEL: 6 ppm 15 minutes.

STEL: 15 mg/m<sup>3</sup> 15 minutes.**OSHA PEL 1989 (United States, 3/1989).**

TWA: 3 ppm 8 hours.

TWA: 8 mg/m<sup>3</sup> 8 hours.

STEL: 6 ppm 15 minutes.

STEL: 15 mg/m<sup>3</sup> 15 minutes.**NIOSH REL (United States, 1/2013).**

TWA: 3 ppm 10 hours.

TWA: 8 mg/m<sup>3</sup> 10 hours.

STEL: 6 ppm 15 minutes.

STEL: 15 mg/m<sup>3</sup> 15 minutes.**OSHA PEL (United States, 6/2010).**

TWA: 3 ppm 8 hours.

TWA: 6 mg/m<sup>3</sup> 8 hours.

### Canada

<u>Occupational exposure limits</u>		<u>TWA (8 hours)</u>			<u>STEL (15 mins)</u>			<u>Ceiling</u>			
<u>Ingredient</u>	<u>List name</u>	<u>ppm</u>	<u>mg/m<sup>3</sup></u>	<u>Other</u>	<u>ppm</u>	<u>mg/m<sup>3</sup></u>	<u>Other</u>	<u>ppm</u>	<u>mg/m<sup>3</sup></u>	<u>Other</u>	<u>Notations</u>
2,2',2"-nitrioltriethanol	US ACGIH 3/2012	-	5	-	-	-	-	-	-	-	
	AB 4/2009	-	5	-	-	-	-	-	-	-	[3]
	BC 4/2012	-	5	-	-	-	-	-	-	-	
	ON 1/2013	0.5	3.1	-	-	-	-	-	-	-	
	QC 12/2012	-	5	-	-	-	-	-	-	-	[3]
2-butoxyethanol	US ACGIH 3/2012	20	-	-	-	-	-	-	-	-	
	AB 4/2009	20	97	-	-	-	-	-	-	-	[3]
	BC 4/2012	20	-	-	-	-	-	-	-	-	
	ON 1/2013	20	-	-	-	-	-	-	-	-	
	QC 12/2012	20	97	-	-	-	-	-	-	-	
2-aminoethanol	US ACGIH 3/2012	3	7.5	-	6	15	-	-	-	-	
	AB 4/2009	3	7.5	-	6	15	-	-	-	-	[3]
	BC 4/2012	3	-	-	6	-	-	-	-	-	
	ON 1/2013	3	7.5	-	6	15	-	-	-	-	
	QC 12/2012	3	7.5	-	6	15	-	-	-	-	

[3]Skin sensitization

### Mexico

#### Occupational exposure limits

## 8. Exposure controls/personal protection

Ingredient	Exposure limits
2,2',2''-nitrioltriethanol	<b>ACGIH TLV (United States, 3/2012).</b> TWA: 5 mg/m <sup>3</sup> 8 hours.
2-butoxyethanol	<b>NOM-010-STPS (Mexico, 9/2000). Absorbed through skin.</b>
	LMPE-PPT: 26 ppm 8 hours.
	LMPE-PPT: 120 mg/m <sup>3</sup> 8 hours.
	LMPE-CT: 360 mg/m <sup>3</sup> 15 minutes.
	LMPE-CT: 75 ppm 15 minutes.
2-aminoethanol	<b>NOM-010-STPS (Mexico, 9/2000).</b>
	LMPE-PPT: 3 ppm 8 hours.
	LMPE-PPT: 8 mg/m <sup>3</sup> 8 hours.
	LMPE-CT: 15 mg/m <sup>3</sup> 15 minutes.
	LMPE-CT: 6 ppm 15 minutes.

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** : Use only with adequate ventilation. Use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits.
- Hygiene measures** : 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.
- Personal protection**
- Respiratory** : 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.
- Hands** : 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.
- Eyes** : 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.
- Skin** : 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.
- Environmental exposure controls** : 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.

## 8. Exposure controls/personal protection

## 9. Physical and chemical properties

<b>Physical state</b>	: Liquid [Clear.]
<b>Flash point</b>	: Closed cup: Not applicable. [Product does not sustain combustion.]
<b>Auto-ignition temperature</b>	: Not applicable.
<b>Flammable limits</b>	: Not available.
<b>Color</b>	: Colorless
<b>Odor</b>	: Bland.
<b>pH</b>	: 10 to 11
<b>Boiling/condensation point</b>	: 100°C (212°F)
<b>Melting/freezing point</b>	: Not available.
<b>Density</b>	: 1 to 1.01 g/cm <sup>3</sup>
<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 and hot water.
<b>VOC</b>	: 26.3 g/L
<b>VOC Method</b>	: ASTM E 1868

## 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''-nitrioltriethanol	LD50 Oral	Rat	7.39 g/kg	-
2-butoxyethanol	LC50 Inhalation Gas.	Rat	450 ppm	4 hours
	LD50 Dermal	Rabbit	220 mg/kg	-
	LD50 Oral	Rat	250 mg/kg	-
2-aminoethanol	LD50 Oral	Rat	1720 mg/kg	-

**Conclusion/Summary** : May be harmful if absorbed through skin or if swallowed.

#### Chronic toxicity

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

## 11. Toxicological information

### Irritation/Corrosion

Product/ingredient name	Result	Species	Score	Exposure	Observation
2,2',2''-nitrilotriethanol	Eyes - Mild irritant	Rabbit	-	10 milligrams	-
	Eyes - Severe irritant	Rabbit	-	20 milligrams	-
	Skin - Mild irritant	Human	-	72 hours 15 milligrams Intermittent	-
	Skin - Severe irritant	Mouse	-	50 Percent	-
	Skin - Mild irritant	Rabbit	-	24 hours 560 milligrams	-
2-butoxyethanol	Eyes - Moderate irritant	Rabbit	-	24 hours 100 milligrams	-
	Eyes - Severe irritant	Rabbit	-	100 milligrams	-
	Skin - Mild irritant	Rabbit	-	500 milligrams	-
Alcohols, C12-15, ethoxylated propoxylated	Eyes - Severe irritant	Rabbit	-	100 microliters	-
	Skin - Mild irritant	Rabbit	-	500 microliters	-
2-aminoethanol	Eyes - Severe irritant	Rabbit	-	250 Micrograms	-
	Skin - Moderate irritant	Rabbit	-	505 milligrams	-

### Conclusion/Summary

- Skin** : May cause skin irritation.
- Eyes** : May cause eye irritation.
- Respiratory** : Repeated or prolonged exposure to spray or mist may produce respiratory tract irritation.

### 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.

### Classification

Product/ingredient name	ACGIH	IARC	EPA	NIOSH	NTP	OSHA
2,2',2''-nitrilotriethanol	-	3	-	-	-	-
2-butoxyethanol	A3	3	-	-	-	-

### 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



## 11. Toxicological information

**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''-nitrilotriethanol 2-butoxyethanol	LD50 Oral	Rat	7.39 g/kg	-
	LC50 Inhalation Gas.	Rat	450 ppm	4 hours
	LD50 Dermal	Rabbit	220 mg/kg	-
2-aminoethanol	LD50 Oral	Rat	250 mg/kg	-
	LD50 Oral	Rat	1720 mg/kg	-

**Conclusion/Summary** : May be harmful if absorbed through skin or if swallowed.

#### 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''-nitrilotriethanol	Eyes - Mild irritant	Rabbit	-	10 milligrams	-
	Eyes - Severe irritant	Rabbit	-	20 milligrams	-
	Skin - Mild irritant	Human	-	72 hours 15 milligrams Intermittent	-
2-butoxyethanol	Skin - Severe irritant	Mouse	-	50 Percent	-
	Skin - Mild irritant	Rabbit	-	24 hours 560 milligrams	-
	Eyes - Moderate irritant	Rabbit	-	24 hours 100 milligrams	-
Alcohols, C12-15, ethoxylated propoxylated	Eyes - Severe irritant	Rabbit	-	100 milligrams	-
	Skin - Mild irritant	Rabbit	-	500 milligrams	-
	Eyes - Severe irritant	Rabbit	-	100 microliters	-
2-aminoethanol	Skin - Mild irritant	Rabbit	-	500 microliters	-
	Eyes - Severe irritant	Rabbit	-	250 Micrograms	-
	Skin - Moderate irritant	Rabbit	-	505 milligrams	-

#### Conclusion/Summary

- Skin** : May cause skin irritation.
- Eyes** : May cause eye irritation.
- Respiratory** : Repeated or prolonged exposure to spray or mist may produce respiratory tract irritation.

#### 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

## 11. Toxicological information

**Conclusion/Summary** : There are no data available on the mixture itself. Carcinogenicity not suspected for humans.

### Classification

Product/ingredient name	ACGIH	IARC	EPA	NIOSH	NTP	OSHA
2,2',2''-nitrioltriethanol	-	3	-	-	-	-
2-butoxyethanol	A3	3	-	-	-	-

### 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.

### Mexico

#### Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
2,2',2''-nitrioltriethanol	LD50 Oral	Rat	7.39 g/kg	-
2-butoxyethanol	LC50 Inhalation Gas.	Rat	450 ppm	4 hours
	LD50 Dermal	Rabbit	220 mg/kg	-
	LD50 Oral	Rat	250 mg/kg	-
2-aminoethanol	LD50 Oral	Rat	1720 mg/kg	-

**Conclusion/Summary** : May be harmful if absorbed through skin or if swallowed.

#### 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
2,2',2''-nitrioltriethanol	Eyes - Mild irritant	Rabbit	-	10 milligrams	-
	Eyes - Severe irritant	Rabbit	-	20 milligrams	-
	Skin - Mild irritant	Human	-	72 hours 15 milligrams	-
				Intermittent	-
2-butoxyethanol	Skin - Severe irritant	Mouse	-	50 Percent	-
		Rabbit	-	24 hours 560 milligrams	-
	Eyes - Moderate irritant	Rabbit	-	24 hours 100 milligrams	-
				Eyes - Severe irritant	-
Alcohols, C12-15, ethoxylated propoxylated	Skin - Mild irritant	Rabbit	-	100 milligrams	-
				500 milligrams	-
	Eyes - Severe irritant	Rabbit	-	100 microliters	-
2-aminoethanol	Eyes - Severe irritant	Rabbit	-	500 microliters	-
				250 Micrograms	-

## 11. Toxicological information

	Skin - Moderate irritant	Rabbit	-	505 milligrams	-
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### Conclusion/Summary

- Skin** : May cause skin irritation.  
**Eyes** : May cause eye irritation.  
**Respiratory** : Repeated or prolonged exposure to spray or mist may produce respiratory tract irritation.

### 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.

### Classification

Product/ingredient name	ACGIH	IARC	EPA	NIOSH	NTP	OSHA
2,2',2"-nitrilotriethanol	-	3	-	-	-	-
2-butoxyethanol	A3	3	-	-	-	-

### 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** : Readily biodegradable

### United States

#### Aquatic ecotoxicity

Product/ingredient name	Result	Species	Exposure
2,2',2"-nitrilotriethanol	Acute LC50 100000 µg/l Marine water	Crustaceans - Crangon crangon - Adult	48 hours
2-butoxyethanol	Acute LC50 11800000 µg/l Fresh water	Fish - Pimephales promelas	96 hours
	Chronic NOEC 16000 µg/l Fresh water	Daphnia - Daphnia magna	21 days
	Acute EC50 >1000 mg/l Fresh water	Daphnia - Daphnia magna	48 hours
	Acute LC50 800000 µg/l Marine water	Crustaceans - Crangon crangon	48 hours
Alcohols, C12-15, ethoxylated propoxylated	Acute LC50 1250000 µg/l Marine water	Fish - Menidia beryllina	96 hours
	Acute EC50 5.36 mg/l Fresh water	Crustaceans - Ceriodaphnia dubia - Neonate	48 hours
	Acute EC50 80000 µg/l Fresh water	Algae - Isochrysis galbana	96 hours
2-aminoethanol	Acute LC50 >100000 µg/l Marine water	Crustaceans - Crangon crangon - Adult	48 hours

## 12. Ecological information

	Acute LC50 170000 µg/l Fresh water	Fish - Carassius auratus	96 hours
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**Conclusion/Summary** : There are no data available on the mixture itself.

### Persistence/degradability

#### **Conclusion/Summary**

: This product has not been tested for biodegradation. Readily biodegradable This product is not expected to bioaccumulate through food chains in the environment.

### Canada

#### Aquatic ecotoxicity

Product/ingredient name	Result	Species	Exposure
2,2',2''-nitrilotriethanol	Acute LC50 100000 µg/l Marine water	Crustaceans - Crangon crangon - Adult	48 hours
2-butoxyethanol	Acute LC50 11800000 µg/l Fresh water	Fish - Pimephales promelas	96 hours
	Chronic NOEC 16000 µg/l Fresh water	Daphnia - Daphnia magna	21 days
	Acute EC50 >1000 mg/l Fresh water	Daphnia - Daphnia magna	48 hours
	Acute LC50 800000 µg/l Marine water	Crustaceans - Crangon crangon	48 hours
Alcohols, C12-15, ethoxylated propoxylated	Acute LC50 1250000 µg/l Marine water	Fish - Menidia beryllina	96 hours
	Acute EC50 5.36 mg/l Fresh water	Crustaceans - Ceriodaphnia dubia - Neonate	48 hours
	Acute EC50 80000 µg/l Fresh water	Algae - Isochrysis galbana	96 hours
2-aminoethanol	Acute LC50 >100000 µg/l Marine water	Crustaceans - Crangon crangon - Adult	48 hours
	Acute LC50 170000 µg/l Fresh water	Fish - Carassius auratus	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. Readily biodegradable This product is not expected to bioaccumulate through food chains in the environment.

### Mexico

#### Aquatic ecotoxicity

Product/ingredient name	Result	Species	Exposure
2,2',2''-nitrilotriethanol	Acute LC50 100000 µg/l Marine water	Crustaceans - Crangon crangon - Adult	48 hours
2-butoxyethanol	Acute LC50 11800000 µg/l Fresh water	Fish - Pimephales promelas	96 hours
	Chronic NOEC 16000 µg/l Fresh water	Daphnia - Daphnia magna	21 days
	Acute EC50 >1000 mg/l Fresh water	Daphnia - Daphnia magna	48 hours
	Acute LC50 800000 µg/l Marine water	Crustaceans - Crangon crangon	48 hours
Alcohols, C12-15, ethoxylated propoxylated	Acute LC50 1250000 µg/l Marine water	Fish - Menidia beryllina	96 hours
	Acute EC50 5.36 mg/l Fresh water	Crustaceans - Ceriodaphnia dubia - Neonate	48 hours
	Acute EC50 80000 µg/l Fresh water	Algae - Isochrysis galbana	96 hours
2-aminoethanol	Acute LC50 >100000 µg/l Marine water	Crustaceans - Crangon crangon - Adult	48 hours
	Acute LC50 170000 µg/l Fresh water	Fish - Carassius auratus	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. Readily biodegradable This product is not expected to bioaccumulate through food chains in the environment.

## 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
DOT Classification	Not regulated.	-	-	-		-
TDG Classification	Not regulated.	-	-	-		-
Mexico Classification	Not regulated.	-	-	-		-
ADR/RID Class	Not regulated.	-	-	-		-
IMDG Class	Not regulated.	-	-	-		-
IATA-DGR Class	Not regulated.	-	-	-		-

PG\* : Packing group

## 15. Regulatory information

### United States

**HCS Classification** : Toxic material  
Irritating material  
Target organ effects

**U.S. Federal regulations** : **TSCA 4(a) proposed test rules:** sodium 4(or 5)-methyl-1H-benzotriazolide  
**TSCA 8(a) CDR Exempt/Partial exemption:** Not determined  
**Commerce control list precursor:** 2,2',2"-nitrilotriethanol  
**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

## 15. Regulatory information

**Clean Air Act Section 112** : Not 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-butoxyethanol	111-76-2	1-5
<b>Supplier notification</b>	: 2-butoxyethanol	111-76-2	1-5

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

<b>Connecticut Carcinogen Reporting</b>	: None of the components are listed.
<b>Connecticut Hazardous Material Survey</b>	: None of the components are listed.
<b>Florida substances</b>	: None of the components are listed.
<b>Illinois Chemical Safety Act</b>	: None of the components are listed.
<b>Illinois Toxic Substances Disclosure to Employee Act</b>	: None of the components are listed.
<b>Louisiana Reporting</b>	: None of the components are listed.
<b>Louisiana Spill</b>	: None of the components are listed.
<b>Massachusetts Spill</b>	: None of the components are listed.
<b>Massachusetts Substances</b>	: The following components are listed: TRIETHANOLAMINE; 2-BUTOXYETHANOL; ETHANOLAMINE
<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: TRIETHANOLAMINE; ETHANOL, 2,2',2"-NITRILOTRIS-; 2-BUTOXY ETHANOL; BUTYL CELLOSOLVE; ETHANOLAMINE; ETHANOL, 2-AMINO-
<b>New York Acutely Hazardous Substances</b>	: None of the components are listed.
<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: ETHANOL, 2,2',2"-NITRILOTRIS-; ETHANOL, 2-BUTOXY-; ETHANOL, 2-AMINO-

## 15. Regulatory information

**Rhode Island Hazardous Substances** : None of the components are listed.

### California Prop. 65

**WARNING:** This product contains less than 0.1% of a chemical known to the State of California to cause cancer.

Ingredient name	Cancer	Reproductive	No significant risk level	Maximum acceptable dosage level
1,4-dioxane	Yes.	No.	Yes.	No.

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

### Canada

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

### Canadian lists

**Canadian NPRI** : The following components are listed: 2-Butoxyethanol

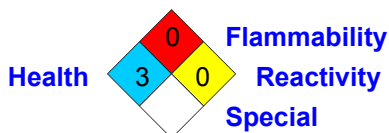
**CEPA Toxic substances** : The following components are listed: 2-butoxyethanol

**Canada inventory; DSL/ NDSL** : All components are listed or exempted.

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

**International lists** :

- Australia inventory (AICS)**: All components are listed or exempted.
- China inventory (IECSC)**: All components are listed or exempted.
- Japan inventory**: At least one component is not listed.
- Korea inventory**: All components are listed or exempted.
- Malaysia Inventory (EHS Register)**: Not determined.
- New Zealand Inventory of Chemicals (NZIoC)**: All components are listed or exempted.
- 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** : Listed

## 16. Other information

**Label requirements** : HARMFUL IF INHALED, ABSORBED THROUGH SKIN OR SWALLOWED. MAY CAUSE EYE AND SKIN IRRITATION.

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

Health	*	2
Flammability		0
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.)** :



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**Prepared by** : Regulatory Department, Chemtool Inc.

▣ Indicates information that has changed from previously issued version.

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