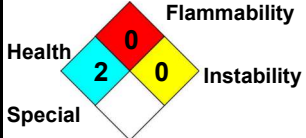





# Material Safety Data Sheet

NFPA	HMIS	WHMIS	TDG	DOT								
	<table border="1"> <tr><td>Health</td><td>2</td></tr> <tr><td>Flammability</td><td>0</td></tr> <tr><td>Physical hazards</td><td>0</td></tr> <tr><td>Suggested PPE</td><td>G</td></tr> </table>	Health	2	Flammability	0	Physical hazards	0	Suggested PPE	G			
Health	2											
Flammability	0											
Physical hazards	0											
Suggested PPE	G											

## 1 . Product and Company Identification

Product name **Tetra Bor 10**

Synonym

MSDS prepared by the **3/26/2012.**  
Environment, Health & Safety  
Department on:

Material uses Fertilizer.

Version 1.01

MSDS Number 35123, 35773, 35823

### In Case of Emergency

**Transportation: 1-800-792-8311**  
**Medical: 1-888-615-0015**

**Manufacturer** Agrium Advanced Technologies  
Fairbury Micronutrients  
56906 Hwy 8  
Fairbury, NE 68352

For more information on Agrium AT or our products,  
please go to:  
<http://www.agriumat.com>  
or contact us at Toll-Free:800-461-6471

## 2 . Hazards Identification

**Physical state** Liquid.

**Odor** Mild.

**OSHA/HCS status** This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

**Emergency overview** WARNING!

CAUSES EYE IRRITATION. MAY BE HARMFUL IF SWALLOWED. MAY CAUSE SKIN IRRITATION. CONTAINS MATERIAL THAT MAY CAUSE TARGET ORGAN DAMAGE, BASED ON ANIMAL DATA.

May be harmful if swallowed. Severely irritating to eyes. Moderately irritating to the skin. Do not ingest. Do not get in eyes. Avoid breathing vapor or mist. Avoid contact with skin and clothing. Contains material that may cause target organ damage, based on animal data. Wash thoroughly after handling.

**Routes of entry** Inhalation.  
Ingestion.  
Dermal contact.

### Potential acute health effects

**Inhalation** May irritate the respiratory tract if inhaled.

**Ingestion** Harmful if swallowed.

**Skin** Moderately irritating to the skin.

**Eyes** Severely irritating to eyes. Risk of serious damage to eyes.

### Potential chronic health effects

**Chronic effects** No known significant effects or critical hazards.

## 2 . Hazards Identification

<b>Carcinogenicity</b>	No known significant effects or critical hazards.
<b>Mutagenicity</b>	No known significant effects or critical hazards.
<b>Teratogenicity</b>	No known significant effects or critical hazards.
<b>Developmental effects</b>	No known significant effects or critical hazards.
<b>Fertility effects</b>	No known significant effects or critical hazards.
<b>Target organs</b>	Contains material which may cause damage to the following organs: kidneys, the nervous system, liver, gastrointestinal tract, upper respiratory tract, skin, central nervous system (CNS), eye, lens or cornea, testes.

### Over-exposure signs/symptoms

<b>Inhalation</b>	No specific data.
<b>Ingestion</b>	No specific data.
<b>Skin</b>	Adverse symptoms may include the following: irritation redness
<b>Eyes</b>	Adverse symptoms may include the following: pain or irritation watering redness
<b>Medical conditions aggravated by over-exposure</b>	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

<u>Name</u>	<u>CAS number</u>	<u>%</u>
Boric acid	10043-35-3	30 - 60
2-aminoethanol	141-43-5	10 - 30

### Canada

<u>Name</u>	<u>CAS number</u>	<u>%</u>
Boric acid	10043-35-3	30 - 60
2-aminoethanol	141-43-5	10 - 30

### Mexico

<u>Name</u>	<u>CAS number</u>	<u>UN number</u>	<u>%</u>	<u>IDLH</u>	<u>Classification</u>			
					<u>H</u>	<u>F</u>	<u>R</u>	<u>Special</u>
Boric acid	10043-35-3	Not available.	30 - 60	-	1	0	0	
2-aminoethanol	141-43-5	Not available.	10 - 30	30 ppm	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

<b>Eye contact</b>	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.
<b>Skin contact</b>	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.
<b>Inhalation</b>	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.
<b>Ingestion</b>	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.
<b>Protection of first-aiders</b>	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.
<b>Notes to physician</b>	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

<b>Flammability of the product</b>	In a fire or if heated, a pressure increase will occur and the container may burst.
<b><u>Extinguishing media</u></b>	
<b>Suitable</b>	Use an extinguishing agent suitable for the surrounding fire.
<b>Not suitable</b>	None known.
<b>Special exposure hazards</b>	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.
<b>Hazardous thermal decomposition products</b>	Decomposition products may include the following materials: carbon dioxide carbon monoxide nitrogen oxides
<b>Special protective equipment for fire-fighters</b>	Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.
<b>Special remarks on fire hazards</b>	No additional remark.
<b>Special remarks on explosion hazards</b>	No additional remark.

## 6 . Accidental Release Measures

<b>Personal precautions</b>	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).
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## 6 . Accidental Release Measures

### Environmental precautions

Avoid dispersal of spilled material and runoff into waterways, drains, and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers or waterways).

### 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.

### 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
Boric acid	<p><b>ACGIH TLV (United States, 2/2010).</b> TWA: 2 mg/m<sup>3</sup> 8 hour(s). Form: Inhalable fraction. See Appendix C, paragraph A. Inhalable Particulate Mass TLVs (IPM-TLVs) for those materials that are hazardous when deposited anywhere in the respiratory tract. STEL: 6 mg/m<sup>3</sup> 15 minute(s). Form: Inhalable fraction. See Appendix C, paragraph A. Inhalable Particulate Mass TLVs (IPM-TLVs) for those materials that are hazardous when deposited anywhere in the respiratory tract.</p>
2-aminoethanol	<p><b>ACGIH TLV (United States, 2/2010).</b> TWA: 3 ppm 8 hour(s). TWA: 7.5 mg/m<sup>3</sup> 8 hour(s). STEL: 6 ppm 15 minute(s). STEL: 15 mg/m<sup>3</sup> 15 minute(s). <b>OSHA PEL (United States, 6/2010).</b> TWA: 3 ppm 8 hour(s). TWA: 6 mg/m<sup>3</sup> 8 hour(s).</p>

## 8 . Exposure Controls / Personal Protection

### 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
Boric acid	US ACGIH 2/2010	-	-	2	-	6	-	-	-	-	[a]
	BC 9/2010	-	-	2	-	6	-	-	-	-	[b]
	ON 7/2010	-	-	2	-	6	-	-	-	-	[a]
2-aminoethanol	US ACGIH 2/2010	3	-	7.5	6	15	-	-	-	-	[3]
	AB 4/2009	3	-	7.5	6	15	-	-	-	-	
	BC 9/2010	3	-	-	6	-	-	-	-	-	
	ON 7/2010	3	-	7.5	6	15	-	-	-	-	
	QC 6/2008	3	-	7.5	6	15	-	-	-	-	

[3]Skin sensitization

**Form:** [a]Inhalable fraction. See Appendix C, paragraph A. Inhalable Particulate Mass TLVs (IPM-TLVs) for those materials that are hazardous when deposited anywhere in the respiratory tract. [b]Inhalable

### Mexico

Ingredient	Exposure limits
Boric acid	<p><b>ACGIH TLV (United States, 2/2010).</b>            TWA: 2 mg/m<sup>3</sup> 8 hour(s). Form: Inhalable fraction. See Appendix C, paragraph A. Inhalable Particulate Mass TLVs (IPM-TLVs) for those materials that are hazardous when deposited anywhere in the respiratory tract.            STEL: 6 mg/m<sup>3</sup> 15 minute(s). Form: Inhalable fraction. See Appendix C, paragraph A. Inhalable Particulate Mass TLVs (IPM-TLVs) for those materials that are hazardous when deposited anywhere in the respiratory tract.</p>
2-aminoethanol	<p><b>NOM-010-STPS (Mexico, 9/2000).</b>            LMPE-PPT: 3 ppm 8 hour(s).            LMPE-PPT: 8 mg/m<sup>3</sup> 8 hour(s).            LMPE-CT: 15 mg/m<sup>3</sup> 15 minute(s).            LMPE-CT: 6 ppm 15 minute(s).</p>

### Consult local authorities for acceptable exposure limits.

<b>Recommended monitoring procedures</b>	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.
<b>Engineering measures</b>	No special ventilation requirements. Good general ventilation should be sufficient to control worker exposure to airborne contaminants. If this product contains ingredients with exposure limits, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure below any recommended or statutory limits.
<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.

### Personal protection

<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.

## 8 . Exposure Controls / Personal Protection

**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 or mists.

**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.

**Personal protective equipment (Pictograms)**



**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.

## 9 . Physical and Chemical Properties

<b>Physical state</b>	Liquid.
<b>Flash point</b>	Non-flammable.
<b>Auto-ignition temperature</b>	Non-flammable.
<b>Color</b>	Colorless to light yellow. [Light]
<b>Odor</b>	Mild.
<b>pH</b>	8 (neat)
<b>Boiling/condensation point</b>	>200°F (>93.4°C)
<b>Vapor pressure</b>	Not established
<b>Evaporation rate</b>	(Butyl Acetate = 1): 1
<b>VOC</b>	20 % (w/w)
<b>Solubility</b>	Soluble
<b>Physical/chemical properties comments</b>	11.18 LBS/GAL
<b>Bulk density</b>	11.18 LBS/GAL

## 10 . Stability and Reactivity

<b>Chemical stability</b>	The product is stable.
<b>Possibility of hazardous reactions</b>	Under normal conditions of storage and use, hazardous reactions will not occur.
<b>Hazardous polymerization</b>	Under normal conditions of storage and use, hazardous polymerization will not occur.
<b>Conditions to avoid</b>	Excessive Heat
<b>Materials to avoid</b>	Strong oxidizing agents and acids
<b>Hazardous decomposition products</b>	Oxides of nitrogen and other unknown hazardous material may be formed in a fire situation

## 10 . Stability and Reactivity

**Conditions of reactivity** No additional remarks

Not considered to have explosive properties.

## 11 . Toxicological Information

### United States

#### Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
2-aminoethanol	LD50 Dermal	Rabbit	1 mL/kg	-
	LD50	Rat	1750 mg/kg	-
	Intramuscular			
	LD50	Rat	67 mg/kg	-
	Intraperitoneal			
	LD50	Rat	225 mg/kg	-
	Intravenous			
	LD50 Oral	Rat	1720 mg/kg	-
	LD50	Rat	1500 mg/kg	-
	Subcutaneous			

**Conclusion/Summary** Very low toxicity to humans or animals.

#### Chronic toxicity

**Conclusion/Summary** Potential for long term toxic effects.

#### Irritation/Corrosion

Product/ingredient name	Result	Species	Score	Exposure	Observation
Boric acid	Skin - Mild irritant	Human	-	-	-
2-aminoethanol	Eyes - Severe irritant	Rabbit	-	250 Micrograms	-
	Skin - Moderate irritant	Rabbit	-	505 milligrams	-

**Conclusion/Summary** Not available.

**Skin** Possible skin irritant

**Eyes** Severe Irritant

**Respiratory** May be a respiratory irritant

#### Sensitizer

Product/ingredient name	Route of exposure	Species	Result
None identified.			

**Conclusion/Summary** Not available.

**Skin** Not considered a sensitizer

**Respiratory** Not considered a sensitizer

#### Carcinogenicity

Product/ingredient name	Result	Species	Dose	Exposure
None identified.				

**Conclusion/Summary** Not classified as carcinogenic, teratogenic and mutagenic

#### Classification

Product/ingredient name	ACGIH	IARC	EPA	NIOSH	NTP	OSHA

## 11. Toxicological Information

Boric acid A4 - - - - -

### Mutagenicity

Product/ingredient name	Test	Experiment	Result
None identified.			

**Conclusion/Summary** Not classified as carcinogenic, teratogenic and mutagenic

### Teratogenicity

Product/ingredient name	Result	Species	Dose	Exposure
None identified.				

**Conclusion/Summary** Not classified as carcinogenic, teratogenic and mutagenic

### Reproductive toxicity

Product/ingredient name	Maternal toxicity	Fertility	Development toxin	Species	Dose	Exposure
None identified.						

**Conclusion/Summary** Not considered to be toxic to the reproductive system.

### Canada

#### Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure	
2-aminoethanol	LD50 Dermal	Rabbit	1 mL/kg	-	
	LD50 Intramuscular	Rat	1750 mg/kg	-	
	LD50 Intraperitoneal	Rat	67 mg/kg	-	
	LD50 Intravenous	Rat	225 mg/kg	-	
	LD50 Oral	Rat	1720 mg/kg	-	
	LD50 Subcutaneous	Rat	1500 mg/kg	-	

**Conclusion/Summary** Very low toxicity to humans or animals.

#### Chronic toxicity

**Conclusion/Summary** Potential for long term toxic effects.

#### Irritation/Corrosion

Product/ingredient name	Result	Species	Score	Exposure	Observation
Boric acid	Skin - Mild irritant	Human	-	-	-
2-aminoethanol	Eyes - Severe irritant	Rabbit	-	250 Micrograms	-
	Skin - Moderate irritant	Rabbit	-	505 milligrams	-

**Conclusion/Summary** Not available.

**Skin** Possible skin irritant

**Eyes** Severe Irritant

**Respiratory** May be a respiratory irritant

#### Sensitizer

Product/ingredient name	Route of exposure	Species	Result
None identified.			



## 11. Toxicological Information

**Conclusion/Summary** Not available.

**Skin** Not considered a sensitizer

**Respiratory** Not considered a sensitizer

### Carcinogenicity

Product/ingredient name	Result	Species	Dose	Exposure
None identified.				

**Conclusion/Summary** Not classified as carcinogenic, teratogenic and mutagenic

### Classification

Product/ingredient name	ACGIH	IARC	EPA	NIOSH	NTP	OSHA
Boric acid	A4	-	-	-	-	-

### Mutagenicity

Product/ingredient name	Test	Experiment	Result
None identified.			

**Conclusion/Summary** Not classified as carcinogenic, teratogenic and mutagenic

### Teratogenicity

Product/ingredient name	Result	Species	Dose	Exposure
None identified.				

**Conclusion/Summary** Not classified as carcinogenic, teratogenic and mutagenic

### Reproductive toxicity

Product/ingredient name	Maternal toxicity	Fertility	Development toxin	Species	Dose	Exposure
None identified.						

**Conclusion/Summary** Not considered to be toxic to the reproductive system.

### Mexico

#### Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure	
2-aminoethanol	LD50 Dermal	Rabbit	1 mL/kg	-	
	LD50 Intramuscular	Rat	1750 mg/kg	-	
	LD50 Intraperitoneal	Rat	67 mg/kg	-	
	LD50 Intravenous	Rat	225 mg/kg	-	
	LD50 Oral	Rat	1720 mg/kg	-	
	LD50 Subcutaneous	Rat	1500 mg/kg	-	

**Conclusion/Summary** Very low toxicity to humans or animals.

#### Chronic toxicity

**Conclusion/Summary** Potential for long term toxic effects.

#### Irritation/Corrosion

Product/ingredient name	Result	Score	Score	Exposure	Observation
Boric acid	Skin - Mild irritant	Human	-	-	-

## 11. Toxicological Information

2-aminoethanol	Eyes - Severe irritant	Rabbit	-	250 Micrograms	-
	Skin - Moderate irritant	Rabbit	-	505 milligrams	-

**Conclusion/Summary** Not available.

**Skin** Possible skin irritant

**Eyes** Severe Irritant

**Respiratory** May be a respiratory irritant

### Sensitizer

Product/ingredient name	Route of exposure	Species	Result
None identified.			

**Conclusion/Summary** Not available.

**Skin** Not considered a sensitizer

**Respiratory** Not considered a sensitizer

### Carcinogenicity

Product/ingredient name	Result	Species	Dose	Exposure
None identified.				

**Conclusion/Summary** Not classified as carcinogenic, teratogenic and mutagenic

### Classification

Product/ingredient name	ACGIH	IARC	EPA	NIOSH	NTP	OSHA
Boric acid	A4	-	-	-	-	-

### Mutagenicity

Product/ingredient name	Test	Experiment	Result
None identified.			

**Conclusion/Summary** Not classified as carcinogenic, teratogenic and mutagenic

### Teratogenicity

Product/ingredient name	Result	Species	Dose	Exposure
None identified.				

**Conclusion/Summary** Not classified as carcinogenic, teratogenic and mutagenic

### Reproductive toxicity

Product/ingredient name	Maternal toxicity	Fertility	Development toxin	Species	Dose	Exposure
None identified.						

**Conclusion/Summary** Not considered to be toxic to the reproductive system.

## 12 . Ecological Information

**Environmental effects** No known significant effects or critical hazards.

### United States

### Aquatic ecotoxicity

Product/ingredient name	Test	Result	Species	Exposure
Boric acid	-	Acute EC50 777 ppm Fresh water	Daphnia - Water flea - Daphnia magna - <24 hours	48 hours
	-	Acute EC50 226 ppm Fresh water	Daphnia - Water flea - Daphnia magna - <24 hours	48 hours
	-	Acute EC50 133 ppm Fresh water	Daphnia - Water flea - Daphnia magna - <24 hours	48 hours
	-	Acute LC50 137.99 mg/L Marine water	Crustaceans - Opossum shrimp - Americamysis bahia - Juvenile (Fledgling, Hatchling, Weanling) - <24 hours	48 hours
	-	Acute LC50 92.83 mg/L Marine water	Crustaceans - Opossum shrimp - Americamysis bahia - Juvenile (Fledgling, Hatchling, Weanling) - <24 hours	48 hours
	-	Acute LC50 89.07 mg/L Marine water	Crustaceans - Opossum shrimp - Americamysis bahia - Juvenile (Fledgling, Hatchling, Weanling) - <24 hours	48 hours
	-	Acute LC50 84.28 mg/L Marine water	Crustaceans - Opossum shrimp - Americamysis bahia - Juvenile (Fledgling, Hatchling, Weanling) - <24 hours	48 hours
	-	Acute LC50 50 to 100 ppm Fresh water	Fish - Rainbow trout, donaldson trout - Oncorhynchus mykiss	96 hours
	-	Acute LC50 447000 ug/L Fresh water	Fish - Coho salmon, silver salmon - Oncorhynchus kisutch - Fry - 0.5 g	96 hours

## 12 . Ecological Information

	-	Acute LC50 280000 ug/L Fresh water	Fish - Bonytail - Gila elegans - Swim-up - 11 to 18 days	96 hours
	-	Acute LC50 279000 ug/L Fresh water	Fish - Colorado squawfish - Ptychocheilus lucius - Swim-up - 17 to 31 days	96 hours
	-	Acute LC50 233000 ug/L Fresh water	Fish - Razorback sucker - Xyrauchen texanus - Swim- up - 10 to 17 days	96 hours
	-	Acute LC50 226000 ug/L Fresh water	Daphnia - Water flea - Daphnia magna - <24 hours	48 hours
	-	Acute LC50 133000 ug/L Fresh water	Daphnia - Water flea - Daphnia magna - Neonate	48 hours
	-	Acute LC50 125000 ug/L Fresh water	Fish - Flannelmouth sucker - Catostomus latipinnis - Larvae - 12 to 13 days	96 hours
	-	Acute LC50 >100000 ug/L Fresh water	Fish - Colorado squawfish - Ptychocheilus lucius - Juvenile (Fledgling, Hatchling, Weanling) - 99 to 115 days - 0.4 to 1.1 g	96 hours
2-aminoethanol	-	Acute EC50 80000 ug/L Fresh water	Algae - ekd:k3n0:7pt - Isochrysis galbana	96 hours
	-	Acute LC50 300 mg/L Fresh water	Fish - Bluegill - Lepomis macrochirus - 0.3 g	96 hours
	-	Acute LC50 >200 mg/L Fresh water	Fish - Rainbow trout,donaldson trout - Oncorhynchus mykiss - Fingerling	96 hours
	-	Acute LC50 150 mg/L Fresh water	Fish - Rainbow trout,donaldson trout - Oncorhynchus mykiss - Yolk- sac fry	96 hours
	-	Acute LC50 2070000 ug/L Fresh water	Fish - Fathead minnow - Pimephales promelas - 30	96 hours

## 12 . Ecological Information

-	Acute LC50 337500 ug/L	days - 18.3 mm - 0.09 g Fish - Western mosquitofish - Gambusia affinis - 20 to 30 mm	96 hours
-	Acute LC50 329160 ug/L	Fish - Bluegill - Lepomis macrochirus - 40 to 50 mm	96 hours
-	Acute LC50 170000 ug/L Fresh water	Fish - Goldfish - Carassius auratus - 3.3 g	96 hours
-	Acute LC50 >100000 ug/L Marine water	Crustaceans - Common shrimp, sand shrimp - Crangon crangon - Adult	48 hours

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

### Canada

#### Aquatic ecotoxicity

Product/ingredient name	Test	Result	Species	Exposure
Boric acid	-	Acute EC50 777 ppm Fresh water	Daphnia - Water flea - Daphnia magna - <24 hours	48 hours
	-	Acute EC50 226 ppm Fresh water	Daphnia - Water flea - Daphnia magna - <24 hours	48 hours
	-	Acute EC50 133 ppm Fresh water	Daphnia - Water flea - Daphnia magna - <24 hours	48 hours
	-	Acute LC50 137.99 mg/L Marine water	Crustaceans - Opossum shrimp - Americamysis bahia - Juvenile (Fledgling, Hatchling, Weanling) - <24 hours	48 hours
	-	Acute LC50 92.83 mg/L Marine water	Crustaceans - Opossum shrimp - Americamysis bahia - Juvenile (Fledgling, Hatchling, Weanling) - <24 hours	48 hours
	-	Acute LC50 89.07 mg/L Marine water	Crustaceans - Opossum shrimp - Americamysis bahia - Juvenile (Fledgling, Hatchling, Weanling) - <24 hours	48 hours

## 12 . Ecological Information

-	Acute LC50 84.28 mg/L Marine water	Crustaceans - Opossum shrimp - Americamysis bahia - Juvenile (Fledgling, Hatchling, Weanling) - <24 hours	48 hours
-	Acute LC50 50 to 100 ppm Fresh water	Fish - Rainbow trout,donaldson trout - Oncorhynchus mykiss	96 hours
-	Acute LC50 447000 ug/L Fresh water	Fish - Coho salmon,silver salmon - Oncorhynchus kisutch - Fry - 0.5 g	96 hours
-	Acute LC50 280000 ug/L Fresh water	Fish - Bonytail - Gila elegans - Swim-up - 11 to 18 days	96 hours
-	Acute LC50 279000 ug/L Fresh water	Fish - Colorado squawfish - Ptychocheilus lucius - Swim-up - 17 to 31 days	96 hours
-	Acute LC50 233000 ug/L Fresh water	Fish - Razorback sucker - Xyrauchen texanus - Swim- up - 10 to 17 days	96 hours
-	Acute LC50 226000 ug/L Fresh water	Daphnia - Water flea - Daphnia magna - <24 hours	48 hours
-	Acute LC50 133000 ug/L Fresh water	Daphnia - Water flea - Daphnia magna - Neonate	48 hours
-	Acute LC50 125000 ug/L Fresh water	Fish - Flannelmouth sucker - Catostomus latipinnis - Larvae - 12 to 13 days	96 hours
-	Acute LC50 >100000 ug/L Fresh water	Fish - Colorado squawfish - Ptychocheilus lucius - Juvenile (Fledgling, Hatchling, Weanling) - 99 to 115 days - 0.4 to 1.1 g	96 hours
2-aminoethanol	Acute EC50 80000 ug/L Fresh water	Algae - ekd:k3n0:7pt - Isochrysis galbana	96 hours
-	Acute LC50 300	Fish - Bluegill -	96 hours

## 12 . Ecological Information

	mg/L Fresh water	Lepomis macrochirus - 0.3 g	
-	Acute LC50 >200 mg/L Fresh water	Fish - Rainbow trout, donaldson trout - Oncorhynchus mykiss - Fingerling	96 hours
-	Acute LC50 150 mg/L Fresh water	Fish - Rainbow trout, donaldson trout - Oncorhynchus mykiss - Yolksac fry	96 hours
-	Acute LC50 2070000 ug/L Fresh water	Fish - Fathead minnow - Pimephales promelas - 30 days - 18.3 mm - 0.09 g	96 hours
-	Acute LC50 337500 ug/L	Fish - Western mosquitofish - Gambusia affinis - 20 to 30 mm	96 hours
-	Acute LC50 329160 ug/L	Fish - Bluegill - Lepomis macrochirus - 40 to 50 mm	96 hours
-	Acute LC50 170000 ug/L Fresh water	Fish - Goldfish - Carassius auratus - 3.3 g	96 hours
-	Acute LC50 >100000 ug/L Marine water	Crustaceans - Common shrimp, sand shrimp - Crangon crangon - Adult	48 hours

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

### Mexico

#### Aquatic ecotoxicity

Product/ingredient name	Test	Result	Species	Exposure
Boric acid	-	Acute EC50 777 ppm Fresh water	Daphnia - Water flea - Daphnia magna - <24 hours	48 hours
	-	Acute EC50 226 ppm Fresh water	Daphnia - Water flea - Daphnia magna - <24 hours	48 hours
	-	Acute EC50 133 ppm Fresh water	Daphnia - Water flea - Daphnia magna - <24 hours	48 hours
	-	Acute LC50 137.99 mg/L Marine water	Crustaceans - Opossum shrimp - Americamysis bahia - Juvenile (Fledgling,	48 hours

## 12 . Ecological Information

-	Acute LC50 92.83 mg/L Marine water	Hatchling, Weanling) - <24 hours Crustaceans - 48 hours Opossum shrimp - Americamysis bahia - Juvenile (Fledgling, Hatchling, Weanling) - <24 hours
-	Acute LC50 89.07 mg/L Marine water	Crustaceans - 48 hours Opossum shrimp - Americamysis bahia - Juvenile (Fledgling, Hatchling, Weanling) - <24 hours
-	Acute LC50 84.28 mg/L Marine water	Crustaceans - 48 hours Opossum shrimp - Americamysis bahia - Juvenile (Fledgling, Hatchling, Weanling) - <24 hours
-	Acute LC50 50 to 100 ppm Fresh water	Fish - Rainbow trout,donaldson trout - 96 hours Oncorhynchus mykiss
-	Acute LC50 447000 ug/L Fresh water	Fish - Coho salmon,silver salmon - 96 hours Oncorhynchus kisutch - Fry - 0.5 g
-	Acute LC50 280000 ug/L Fresh water	Fish - Bonytail - 96 hours Gila elegans - Swim-up - 11 to 18 days
-	Acute LC50 279000 ug/L Fresh water	Fish - Colorado squawfish - 96 hours Ptychocheilus lucius - Swim-up - 17 to 31 days
-	Acute LC50 233000 ug/L Fresh water	Fish - Razorback sucker - 96 hours Xyrauchen texanus - Swim- up - 10 to 17 days
-	Acute LC50 226000 ug/L Fresh water	Daphnia - Water flea - Daphnia magna - <24 hours 48 hours
-	Acute LC50 133000 ug/L Fresh water	Daphnia - Water flea - Daphnia magna - Neonate 48 hours
-	Acute LC50 125000 ug/L	Fish - Flannelmouth 96 hours



## 12 . Ecological Information

		Fresh water	sucker - Catostomus latipinnis - Larvae - 12 to 13 days	
	-	Acute LC50 >100000 ug/L Fresh water	Fish - Colorado squawfish - Ptychocheilus lucius - Juvenile (Fledgling, Hatchling, Weanling) - 99 to 115 days - 0.4 to 1.1 g	96 hours
2-aminoethanol	-	Acute EC50 80000 ug/L Fresh water	Algae - ekd:k3n0:7pt - Isochrysis galbana	96 hours
	-	Acute LC50 300 mg/L Fresh water	Fish - Bluegill - Lepomis macrochirus - 0.3 g	96 hours
	-	Acute LC50 >200 mg/L Fresh water	Fish - Rainbow trout,donaldson trout - Oncorhynchus mykiss - Fingerling	96 hours
	-	Acute LC50 150 mg/L Fresh water	Fish - Rainbow trout,donaldson trout - Oncorhynchus mykiss - Yolk- sac fry	96 hours
	-	Acute LC50 2070000 ug/L Fresh water	Fish - Fathead minnow - Pimephales promelas - 30 days - 18.3 mm - 0.09 g	96 hours
	-	Acute LC50 337500 ug/L	Fish - Western mosquitofish - Gambusia affinis - 20 to 30 mm	96 hours
	-	Acute LC50 329160 ug/L	Fish - Bluegill - Lepomis macrochirus - 40 to 50 mm	96 hours
	-	Acute LC50 170000 ug/L Fresh water	Fish - Goldfish - Carassius auratus - 3.3 g	96 hours
	-	Acute LC50 >100000 ug/L Marine water	Crustaceans - Common shrimp, sand shrimp - Crangon crangon - Adult	48 hours

### Conclusion/Summary

No known significant effects or critical hazards.

## 13 . Disposal Considerations

### Waste disposal

The generation of waste should be avoided or minimized wherever possible. Significant quantities of waste product residues should not be disposed of via the foul sewer but processed in a suitable effluent treatment plant. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. 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. 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.

### Waste stream

No additional remarks.




### RCRA classification

None identified.

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	Shipping name	Classes	PG*	Label	Additional information
DOT Classification	Not regulated.	-	-	-		-
TDG Classification	Not regulated.	-	-	-		-
Mexico Classification	Not regulated.	-	-	-		-

PG\* : Packing group

## 15 . Regulatory Information

### United States

#### HCS Classification

Irritating material  
Target organ effects

#### U.S. Federal regulations

**TSCA 8(a) IUR Exempt/Partial exemption:** Not determined  
**United States inventory (TSCA 8b):** All components are listed or exempted.

**SARA 302/304/311/312 extremely hazardous substances:** No products were found.

**SARA 302/304 emergency planning and notification:** No products were found.

**SARA 302/304/311/312 hazardous chemicals:** Boric acid; 2-aminoethanol

**SARA 311/312 MSDS distribution - chemical inventory - hazard identification:**

Boric acid: Immediate (acute) health hazard, Delayed (chronic) health hazard;  
2-aminoethanol: Fire hazard, Immediate (acute) health hazard, Delayed (chronic) health hazard

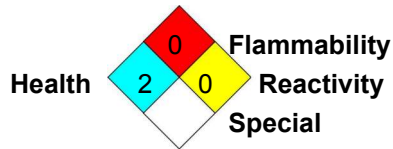
## 15 . Regulatory Information

	<b>Clean Air Act (CAA) 112 accidental release prevention:</b> No products were found.
<b>Clean Air Act Section 112(b) Hazardous Air Pollutants (HAPs)</b>	Not listed
<b>Clean Air Act Section 602 Class I Substances</b>	Not listed
<b>Clean Air Act Section 602 Class II Substances</b>	Not listed
<b>DEA List I Chemicals (Precursor Chemicals)</b>	Not listed
<b>DEA List II Chemicals (Essential Chemicals)</b>	Not listed
<b>State regulations</b>	<p><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: 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 Hazardous Substances:</b> The following components are listed: ETHANOLAMINE; ETHANOL, 2-AMINO-  <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 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-AMINO-  <b>Rhode Island Hazardous Substances:</b> None of the components are listed.</p>
<b>United States inventory (TSCA 8b)</b>	All components are listed or exempted.
<b>Canada</b>	
<b>WHMIS (Canada)</b>	Class D-2B: Material causing other toxic effects (Toxic). Class E: Corrosive material
<b>Canadian lists</b>	<p><b>CEPA Toxic substances:</b> None of the components are listed.  <b>Canadian ARET:</b> None of the components are listed.  <b>Canadian NPRI:</b> None of the components are listed.  <b>Alberta Designated Substances:</b> None of the components are listed.  <b>Ontario Designated Substances:</b> None of the components are listed.  <b>Quebec Designated Substances:</b> None of the components are listed.</p>
<b>Canada inventory</b>	All components are listed or exempted.
<b>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.</b>	

## 15 . Regulatory Information

### Mexico

#### Classification



### EU regulations

#### Hazard symbol or symbols



#### Risk phrases

R60- May impair fertility.  
 R61- May cause harm to the unborn child.  
 R34- Causes burns.

#### Safety phrases

S53- Avoid exposure - obtain special instructions before use.  
 S2- Keep out of the reach of children.  
 S26- In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.  
 S36/37/39- Wear suitable protective clothing, gloves and eye/face protection.  
 S45- In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

### International regulations

#### 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:** All components are listed or exempted.  
**New Zealand Inventory of Chemicals (NZIoC):** All components are listed or exempted.  
**Philippines inventory (PICCS):** 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 BE HARMFUL IF SWALLOWED. MAY CAUSE SKIN IRRITATION. CONTAINS MATERIAL THAT MAY CAUSE TARGET ORGAN DAMAGE, BASED ON ANIMAL DATA.

#### Hazardous Material Information System (U.S.A.)

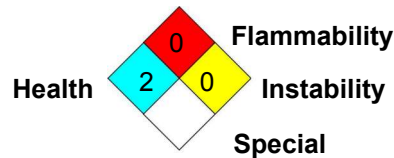
Health	2
Flammability	0
Physical hazards	0

## 16 . Other information

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. Suggested protective clothing might not be adequate. Consult a specialist before handling this product.

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



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Version 1.01

▣ Indicates information that has changed from previously issued version.

### Notice to Reader:

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