



# Safety Data Sheet

Issue Date: 14-Jul-2014

Revision Date: 17-Jul-2014

Version 1

## 1. IDENTIFICATION

**Product Identifier**

**Product Name** TopSide Liquid Boron

**Other means of identification**

**SDS #** CAG-051

**Recommended use of the chemical and restrictions on use**

**Recommended Use** Plant Nutrients.

**Details of the supplier of the safety data sheet**

**Supplier Address**

Triangle Chemical  
 P.O. Box 4528  
 Macon, GA 31208 Cardinal Chemical  
 P.O. Box 368  
 Kinston, NC 28506

**Emergency Telephone Number**

**Company Phone Number** Triangle Chemical: (478) 743-1548 Cardinal Chemical: (252) 523-1181  
**Emergency Telephone (24 hr)** Chemtrec 1-800-424-9300 (North America) 1-703-527-3887 (International)

## 2. HAZARDS IDENTIFICATION

**Appearance** Clear blue liquid                      **Physical State** Liquid                      **Odor** Slight amine

**Classification**

Acute toxicity - Inhalation (Dusts/Mists)	Category 4
Reproductive toxicity	Category 1B

**Signal Word**

Danger

**Hazard Statements**

Harmful if inhaled  
 May damage fertility or the unborn child



**Precautionary Statements - Prevention**

Obtain special instructions before use  
 Do not handle until all safety precautions have been read and understood  
 Use personal protective equipment as required  
 Avoid breathing dust/fume/gas/mist/vapors/spray  
 Use only outdoors or in a well-ventilated area

**Precautionary Statements - Response**

If exposed or concerned: Get medical advice/attention  
 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing  
 Call a poison center or doctor/physician if you feel unwell

**Precautionary Statements - Storage**

Store locked up

**Precautionary Statements - Disposal**

Dispose of contents/container to an approved waste disposal plant

### 3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	CAS No	Weight-%
A proprietary blend of Primary Plant Nutrients (N) & Micronutrients in an aqueous solution	Proprietary	>99
Nitrogen (as derived from Urea)	Proprietary	6 (included in above blend)
Boron (as derived from Boric Acid)	Proprietary	6 (included in above blend)

\*\*If Chemical Name/CAS No is "proprietary" and/or Weight-% is listed as a range, the specific chemical identity and/or percentage of composition has been withheld as a trade secret.\*\*

### 4. FIRST-AID MEASURES

**First Aid Measures**

<b>Eye Contact</b>	Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Seek immediate medical attention/advice.
<b>Skin Contact</b>	Remove contaminated clothing. Wash skin with soap and water. Get medical attention if irritation develops or persists.
<b>Inhalation</b>	IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a poison center or doctor/physician if you feel unwell.
<b>Ingestion</b>	If conscious, give water or milk. Seek medical attention immediately.

**Most important symptoms and effects**

<b>Symptoms</b>	Direct contact with eyes may cause irritation or damage. Contact with skin may cause irritation. Inhalation may cause respiratory tract irritation. Ingestion may cause irritation of the gastrointestinal tract, cramps, vomiting or diarrhea. Ingestion may cause sore throat, abdominal pain, nausea, and severe burns of the mouth, throat, and stomach. Severe exposures can lead to shock, circulatory collapse, and death.
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**Indication of any immediate medical attention and special treatment needed**

<b>Notes to Physician</b>	Treat symptomatically. Exposure may aggravate medical conditions such as asthma, lung disease, and skin disorders. Chronic ingestion may cause damage to heart, liver, and blood-forming tissues. Ingestion of large quantities may cause headache, mental impairment, dizziness, and may be fatal.
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## 5. FIRE-FIGHTING MEASURES

### Suitable Extinguishing Media

Dry chemical. Carbon dioxide (CO<sub>2</sub>). Water spray (fog). Foam. Do not release runoff from fire control methods to sewers or waterways.

**Unsuitable Extinguishing Media** Not determined.

### Specific Hazards Arising from the Chemical

If product is heated to an anhydrous state, it may emit ammonia or nitrogenous compounds, which can be toxic. Exposure to high heat can emit toxic vapors.

**Hazardous Combustion Products** Volatile organic compounds. Nitrogen oxides (NO<sub>x</sub>). Ammonia. Cyanuric acid.

### Protective equipment and precautions for firefighters

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

## 6. ACCIDENTAL RELEASE MEASURES

### Personal precautions, protective equipment and emergency procedures

**Personal Precautions** Use personal protective equipment as required.

**Environmental Precautions** Prevent from entering into soil, ditches, sewers, waterways and/or groundwater. See Section 12, Ecological Information. See Section 13: DISPOSAL CONSIDERATIONS.

### Methods and material for containment and cleaning up

**Methods for Containment** Prevent further leakage or spillage if safe to do so.

**Methods for Clean-Up** For small spills, absorb with sand, clay, or other inert absorbent. For large spills contained material may be salvaged for use if uncontaminated.

## 7. HANDLING AND STORAGE

### Precautions for safe handling

**Advice on Safe Handling** Handle in accordance with good industrial hygiene and safety practice. Avoid contact with skin, eyes or clothing. Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Use personal protective equipment as required. Avoid breathing dust/fume/gas/mist/vapors/spray. Use only outdoors or in a well-ventilated area. Use in accordance with product label instructions.

### Conditions for safe storage, including any incompatibilities

**Storage Conditions** Store in closed, properly labeled containers in a cool, ventilated area. Store in compatible containers. Keep away from children, pets, domestic animals, and wildlife. Product may be corrosive to aluminum, mild steel, and brass. Store in stainless steel containers. Use only stainless steel, PVC, or polypropylene fittings. Store locked up.

**Incompatible Materials** Strong acids. Strong oxidizing agents. Alkalis.

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

### Exposure Guidelines

Chemical Name	ACGIH TLV	OSHA PEL	NIOSH IDLH
Boron (as derived from Boric Acid)	STEL: 6 mg/m <sup>3</sup> inhalable fraction TWA: 2 mg/m <sup>3</sup> inhalable fraction	-	-

### Appropriate engineering controls

**Engineering Controls**                      Ensure adequate ventilation, especially in confined areas. Eyewash stations. Showers.

### Individual protection measures, such as personal protective equipment

**Eye/Face Protection**                      Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.133.

**Skin and Body Protection**                      Wear chemically protective gloves to prevent skin contact. Wear protective clothing. Contaminated Equipment: Separate contaminated work clothes from street clothes. Launder before reuse. Remove this material from your shoes and clean personal protective equipment.

**Respiratory Protection**                      Follow OSHA respirator regulations (29 CFR 1910.134) and, if necessary, wear a MSHA/NIOSH-approved respirator. Seek professional advice prior to respirator selection and use. Select respirator based on its suitability to provide adequate worker protection for given working conditions, level of airborne contamination, and presence of sufficient oxygen. **WARNING!** Air-purifying respirators do not protect workers in oxygen-deficient atmospheres. If respirators are used, OSHA requires a written respiratory program that includes at least: medical certification, training, fit-testing, periodic environmental monitoring, maintenance, inspection, cleaning, and convenient, sanitary storage areas.

**General Hygiene Considerations** Handle in accordance with good industrial hygiene and safety practice. Never eat, drink, or smoke in work areas. Practice good personal hygiene after using this material, especially before eating, drinking, smoking, using the toilet, or applying cosmetics.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

### Information on basic physical and chemical properties

<b>Physical State</b>	Liquid	<b>Odor</b>	Slight amine
<b>Appearance</b>	Clear blue liquid	<b>Odor Threshold</b>	Not determined
<b>Color</b>	Clear blue		

<u>Property</u>	<u>Values</u>	<u>Remarks • Method</u>
pH	Not determined	
Melting Point/Freezing Point	Not Available	
Boiling Point/Boiling Range	>100 °C / >212 °F	
Flash Point	Not Available	
Evaporation Rate	Not determined	
Flammability (Solid, Gas)	Liquid-Not Applicable	
Upper Flammability Limits	Not Available	
Lower Flammability Limit	Not Available	
Vapor Pressure	Not Available	
Vapor Density	Not Available	
Specific Gravity	1.212	(Water = 1)
Water Solubility	Soluble in water	
Solubility in other solvents	Not determined	
Partition Coefficient	Not determined	
Auto-ignition Temperature	Not determined	
Decomposition Temperature	Not determined	
Kinematic Viscosity	Not determined	
Dynamic Viscosity	Not determined	
Explosive Properties	Not determined	
Oxidizing Properties	Not determined	

## 10. STABILITY AND REACTIVITY

### Reactivity

Not reactive under normal conditions.

### Chemical Stability

Stable under recommended storage conditions.

### Possibility of Hazardous Reactions

If product is heated to an anhydrous state, it may emit ammonia or nitrogenous compounds, which can be toxic. Exposure to high heat can emit toxic vapors.

**Hazardous Polymerization**      Hazardous polymerization does not occur.

### Conditions to Avoid

Contact with incompatible materials. Keep out of reach of children. Avoid evaporating to dryness.

### Incompatible Materials

Strong acids. Strong oxidizing agents. Alkalis.

### Hazardous Decomposition Products

Volatile organic compounds. Nitrogen oxides (NOx). Ammonia. Cyanuric acid.

## 11. TOXICOLOGICAL INFORMATION

### Information on likely routes of exposure

#### Product Information

**Eye Contact**      Avoid contact with eyes.

**Skin Contact**      Avoid contact with skin.

**Inhalation**      Harmful if inhaled.

**Ingestion**      Do not ingest.

**Component Information**

Chemical Name	Oral LD50	Dermal LD50	Inhalation LC50
Boron (as derived from Boric Acid)	= 2660 mg/kg ( Rat )	> 2000 mg/kg ( Rabbit )	> 0.16 mg/L ( Rat ) 4 h
Nitrogen (as derived from Urea)	= 8471 mg/kg ( Rat )	-	-

**Information on physical, chemical and toxicological effects**

**Symptoms** Please see section 4 of this SDS for symptoms.

**Delayed and immediate effects as well as chronic effects from short and long-term exposure**

**Carcinogenicity** The table below indicates whether each agency has listed any ingredient as a carcinogen. However, the product as a whole has not been tested.

Chemical Name	ACGIH	IARC	NTP	OSHA
Boron (as derived from Boric Acid)		Group 2A		X

*IARC (International Agency for Research on Cancer)*

*Group 2A - Probably Carcinogenic to Humans*

*OSHA (Occupational Safety and Health Administration of the US Department of Labor)*

*X - Present*

**Reproductive toxicity** May damage fertility or the unborn child.

**Numerical measures of toxicity**

Not determined

**12. ECOLOGICAL INFORMATION****Ecotoxicity**

The product is not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.

**Component Information**

Chemical Name	Algae/aquatic plants	Fish	Toxicity to microorganisms	Crustacea
Boron (as derived from Boric Acid)		1020: 72 h Carassius auratus mg/L LC50 flow-through		115 - 153: 48 h Daphnia magna mg/L EC50
Nitrogen (as derived from Urea)		16200 - 18300: 96 h Poecilia reticulata mg/L LC50		10000: 24 h Daphnia magna Straus mg/L EC50 3910: 48 h Daphnia magna mg/L EC50 Static

**Persistence/Degradability**

Not determined.

**Bioaccumulation**

Not determined.

**Mobility**

Chemical Name	Partition Coefficient
Nitrogen (as derived from Urea)	-1.59
Boron (as derived from Boric Acid)	-0.757

**Other Adverse Effects**

Not determined

### 13. DISPOSAL CONSIDERATIONS

#### Waste Treatment Methods

##### **Disposal of Wastes**

Do not reuse empty container. Triple rinse (or equivalent) and offer for recycling or reconditioning or dispose in a sanitary landfill, or by other means approved by federal, state, or local laws.

##### **Contaminated Packaging**

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

#### California Hazardous Waste Status

Chemical Name	California Hazardous Waste Status
Boron (as derived from Boric Acid)	Toxic

### 14. TRANSPORT INFORMATION

#### Note

Please see current shipping paper for most up to date shipping information, including exemptions and special circumstances.

#### DOT

Not regulated

#### IATA

Not regulated

#### IMDG

Not regulated

### 15. REGULATORY INFORMATION

#### International Inventories

Not determined

#### US Federal Regulations

##### **SARA 313**

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product does not contain any chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372

#### US State Regulations

##### **California Proposition 65**

This product does not contain any Proposition 65 chemicals.

#### U.S. State Right-to-Know Regulations

Not determined

**16. OTHER INFORMATION****NFPA****Health Hazards****Flammability****Instability****Special Hazards**

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Not determined

**HMIS****Health Hazards****Flammability****Physical Hazards****Personal Protection**

Not determined

Not determined

Not determined

Not determined

**Issue Date:** 14-Jul-2014**Revision Date:** 17-Jul-2014**Revision Note:** New format**Disclaimer**

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

**End of Safety Data Sheet**