

Safety Data Sheet

Issue Date: 02-Feb-2015

Revision Date: 11-May-2016

Version 2

1. IDENTIFICATION

Product Identifier

Product Name PolyAmine Boron

Other means of identification FFN 00008
SDS # VLS-131

Recommended use of the chemical and restrictions on use

Recommended Use Soil (No Additives, Fertilizers, or Inhibitors).

Details of the supplier of the safety data sheet

Supplier Address

Verdesian Life Sciences, U.S., LLC.
1001 Winstead Drive, Suite 480
Cary, NC 27513

Emergency Telephone Number

Company Phone Number Business Phone: (800) 868-6446
Fax: (919) 535-3652
Emergency Telephone (24 hr) INFOTRAC 1-352-323-3500 (International)
1-800-535-5053 (North America)

2. HAZARDS IDENTIFICATION

Appearance Colorless to pale yellow liquid **Physical state** Liquid **Odor** Fishy

Classification

Skin corrosion/irritation	Category 2
Serious eye damage/eye irritation	Category 2

Signal Word

Warning

Hazard statements

Causes skin irritation
Causes serious eye irritation



Precautionary Statements - Prevention

Wash face, hands and any exposed skin thoroughly after handling
Wear protective gloves/protective clothing/eye protection/face protection

Precautionary Statements - Response

If exposed or concerned: Get medical advice/attention

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing

If eye irritation persists: Get medical advice/attention

IF ON SKIN: Wash with plenty of soap and water

Take off contaminated clothing and wash before reuse

If skin irritation occurs: Get medical advice/attention

Other hazards

Harmful to aquatic life with long lasting effects

3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	CAS No	Weight-%
Boric Acid	10043-35-3	Proprietary
Monoethanolamine	141-43-5	Proprietary

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

General Advice	Provide this SDS to medical personnel for treatment.
Eye Contact	If contact with eyes, immediately flush eyes with plenty of water for at least 15 minutes lifting upper and lower eyelids occasionally. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.
Skin Contact	Wash with soap and water. Take off contaminated clothing. Wash contaminated clothing before reuse. Get medical attention if irritation develops or persists.
Inhalation	Remove exposed individual(s) to fresh air for 20 minutes. Consult a physician / poison center if individual's condition declines or if symptoms persist.
Ingestion	Do not induce vomiting without medical advice. Never give anything by mouth to an unconscious person. Get medical attention immediately.

Most important symptoms and effects

Symptoms	Causes skin irritation. Causes serious eye irritation. May cause irritation to the mucous membranes and upper respiratory tract.
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Indication of any immediate medical attention and special treatment needed

Notes to Physician	Treat symptomatically and supportively. Persons with pre-existing skin disorders or impaired respiratory function may be more susceptible to the effects of the substance.
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5. FIRE-FIGHTING MEASURES

Suitable Extinguishing Media

Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Unsuitable Extinguishing Media Not determined.

Specific Hazards Arising from the Chemical

Emits toxic fumes under fire conditions.

Hazardous Combustion Products Carbon oxides.

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 Evacuate personnel to safe areas. Ventilate affected area. Use personal protection recommended in Section 8.

Environmental precautions

Environmental precautions Do not flush into surface water or sanitary sewer system. See Section 12 for additional Ecological Information.

Methods and material for containment and cleaning up

Methods for Containment Prevent further leakage or spillage if safe to do so. Soak up and contain spill with an absorbent material.

Methods for Clean-Up Sweep up absorbed material and shovel into suitable containers for disposal. Discard any product, residue, disposable container or liner in full compliance with federal, state, and local regulations.

7. HANDLING AND STORAGE

Precautions for safe handling

Advice on Safe Handling Wash face, hands, and any exposed skin thoroughly after handling. Wear protective gloves/protective clothing and eye/face protection. Use personal protection recommended in Section 8. Avoid contact with skin, eyes or clothing. Do not eat, drink or smoke when using this product. Handle in accordance with good industrial hygiene and safety practice.

Conditions for safe storage, including any incompatibilities

Storage Conditions Keep container tightly closed and store in a cool, dry and well-ventilated place.

Incompatible Materials Strong oxidizing agents. Strong acids. Strong alkalis.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Exposure Guidelines

Chemical Name	ACGIH TLV	OSHA PEL	NIOSH IDLH
Boric Acid 10043-35-3	STEL: 6 mg/m ³ inhalable fraction TWA: 2 mg/m ³ inhalable fraction	-	-
Monoethanolamine 141-43-5	STEL: 6 ppm TWA: 3 ppm	TWA: 3 ppm TWA: 6 mg/m ³ (vacated) TWA: 3 ppm (vacated) TWA: 8 mg/m ³ (vacated) STEL: 6 ppm	IDLH: 30 ppm TWA: 3 ppm TWA: 8 mg/m ³ STEL: 6 ppm STEL: 15 mg/m ³

	(vacated) STEL: 15 mg/m ³	
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Appropriate engineering controls

Engineering Controls Maintain eye wash fountain and quick-drench facilities in work area.

Individual protection measures, such as personal protective equipment

Eye/Face Protection Use safety goggles, safety glasses with side shields and/or a full face shield as described by OSHA's eye and face protection regulations in 29CFR 1910.133.

Skin and Body Protection Wear impervious protective clothing, including boots, gloves, lab coat, apron or coveralls, as appropriate, to prevent skin contact.

Respiratory Protection Refer to 29 CFR 1910.134 for respiratory protection requirements.

General Hygiene Considerations Wash with soap and water before meals and at the end of each work shift. Good manufacturing practices require amounts of any chemical be removed from the skin as soon as practical, especially before eating or smoking.

9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Physical state	Liquid	Odor	Fishy
Appearance	Colorless to pale yellow liquid	Odor Threshold	Not determined
Color	Colorless to pale yellow		

<u>Property</u>	<u>Values</u>	<u>Remarks • Method</u>
pH	8.1	
Melting Point/Freezing Point	Not determined	
Boiling Point/Boiling Range	94 °C / 201 °F	
Flash Point	Not determined	
Evaporation Rate	Not determined	
Flammability (Solid, Gas)	Not determined	
Flammability Limits in Air		
Upper Flammability Limits	Not determined	
Lower Flammability Limit	Not determined	
Vapor Pressure	Not determined	
Vapor Density	Not determined	
Relative Density	Not determined	
Water Solubility	Miscible 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

None under normal processing.

Hazardous Polymerization Hazardous polymerization does not occur.**Conditions to Avoid**

Keep out of reach of children.

Incompatible Materials

Strong oxidizing agents. Strong acids. Strong alkalis.

Hazardous Decomposition Products

Thermal decomposition produces oxides of phosphorus, nitrogen and carbon.

11. TOXICOLOGICAL INFORMATION**Information on likely routes of exposure****Product Information**

Eye Contact Causes serious eye irritation.

Skin Contact Causes skin irritation.

Inhalation Do not inhale.

Ingestion Ingestion may cause irritation to mucous membranes.

Component Information

Chemical Name	ATEmix (oral)	ATEmix (dermal)	Inhalation LC50
Boric Acid 10043-35-3	= 2660 mg/kg (Rat)	> 2000 mg/kg (Rabbit)	> 0.16 mg/L (Rat) 4 h
Monoethanolamine 141-43-5	= 1720 mg/kg (Rat)	= 1 mL/kg (Rabbit) = 1000 mg/kg (Rabbit)	-

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** Based on the information provided, this product does not contain any carcinogens or potential carcinogens as listed by OSHA, IARC or NTP.**12. ECOLOGICAL INFORMATION****Ecotoxicity**

Harmful to aquatic life with long lasting effects.

Component Information

Chemical Name	Algae/aquatic plants	Fish	Crustacea
Boric Acid 10043-35-3		1020: 72 h Carassius auratus mg/L LC50 flow-through	115 - 153: 48 h Daphnia magna mg/L EC50

Monoethanolamine 141-43-5	15: 72 h <i>Desmodesmus subspicatus</i> mg/L EC50	3684: 96 h <i>Brachydanio rerio</i> mg/L LC50 static 200: 96 h <i>Oncorhynchus mykiss</i> mg/L LC50 flow-through 227: 96 h <i>Pimephales promelas</i> mg/L LC50 flow-through 300 - 1000: 96 h <i>Lepomis macrochirus</i> mg/L LC50 static 114 - 196: 96 h <i>Oncorhynchus mykiss</i> mg/L LC50 static	65: 48 h <i>Daphnia magna</i> mg/L EC50

Persistence/Degradability

Not determined.

Bioaccumulation

Not determined.

Mobility

Chemical Name	Partition Coefficient
Boric Acid 10043-35-3	-0.757
Monoethanolamine 141-43-5	-1.91

Other Adverse Effects

Not determined

13. DISPOSAL CONSIDERATIONS

Waste Treatment Methods

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

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
Boric Acid 10043-35-3	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
Marine Pollutant This material may meet the definition of a marine pollutant

15. REGULATORY INFORMATION

International Inventories

Chemical Name	TSCA	DSL/NDSL	EINECS/E LINCS	ENCS	IECSC	KECL	PICCS	AICS
Yeast Extract	X	X	X		X	Present	X	X
Boric Acid	X	X	X	Present	X	Present	X	X
Monoethanolamine	X	X	X	Present	X	Present	X	X

Legend:

- TSCA* - United States Toxic Substances Control Act Section 8(b) Inventory
- DSL/NDSL* - Canadian Domestic Substances List/Non-Domestic Substances List
- EINECS/ELINCS* - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances
- ENCS* - Japan Existing and New Chemical Substances
- IECSC* - China Inventory of Existing Chemical Substances
- KECL* - Korean Existing and Evaluated Chemical Substances
- PICCS* - Philippines Inventory of Chemicals and Chemical Substances
- AICS* - Australian Inventory of Chemical Substances

US Federal Regulations

CERCLA

This material, as supplied, does not contain any substances regulated as hazardous substances under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302) or the Superfund Amendments and Reauthorization Act (SARA) (40 CFR 355).

SARA 311/312 Hazard Categories

Acute Health Hazard	Yes
Chronic Health Hazard	No
Fire Hazard	No
Sudden Release of Pressure Hazard	No
Reactive Hazard	No

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

CWA (Clean Water Act)

This product does not contain any substances regulated as pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42)

US State Regulations

California Proposition 65

This product does not contain any Proposition 65 chemicals.

U.S. State Right-to-Know Regulations

Chemical Name	New Jersey	Massachusetts	Pennsylvania
Boric Acid 10043-35-3	X		
Monoethanolamine 141-43-5	X	X	X

16. OTHER INFORMATION

<u>NFPA</u>	Health Hazards 1	Flammability 0	Instability 0	Special Hazards Not determined
<u>HMIS</u>	Health Hazards 2	Flammability 0	Physical hazards 0	Personal Protection B

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 Revision Note: GHS Reclassification

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