

# Safety Data Sheet

Issue Date: 28-Nov-2016

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Version 1

## 1. IDENTIFICATION

### Product Identifier

**Product Name** Enhanced Sulfate

### Other means of identification

**SDS #** VLS-193

**Product Code** FFN-00076

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

**Recommended Use** Soil Amendment.

### 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** Clear liquid

**Physical state** Liquid

### Classification

This chemical does not meet the hazardous criteria set forth by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200). However, this Safety Data Sheet (SDS) contains valuable information critical to the safe handling and proper use of this product. This SDS should be retained and available for employees and other users of this product.

## 3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	CAS No.	Weight-%
Ammonium Sulfate	7783-20-2	30-40

\*\*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>General Advice</b>	Provide this SDS to medical personnel for treatment.
<b>Eye Contact</b>	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.
<b>Skin Contact</b>	Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower. Wash contaminated clothing before reuse. Get medical attention if irritation occurs.
<b>Inhalation</b>	Remove exposed individual(s) to fresh air for 20 minutes. Consult a physician / poison center if individual's condition declines or if symptoms persist.
<b>Ingestion</b>	Rinse mouth. Do not induce vomiting without medical advice. Drink 1 or 2 glasses of water. Never give anything by mouth to an unconscious person. Call a poison center or doctor/physician if you feel unwell.

### Most important symptoms and effects

<b>Symptoms</b>	May cause skin and eye irritation.
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### Indication of any immediate medical attention and special treatment needed

<b>Notes to Physician</b>	Treat symptomatically. Consideration should be given to the possibility that overexposure to materials other than this product may have occurred.
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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

Product is not flammable or combustible.

### 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

<b>Personal Precautions</b>	Wear protective clothing as described in Section 8 of this safety data sheet.
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### Environmental precautions

<b>Environmental precautions</b>	See Section 12 for additional Ecological Information.
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### Methods and material for containment and cleaning up

<b>Methods for Containment</b>	Prevent further leakage or spillage if safe to do so. Soak up and contain spill with an absorbent material.
<b>Methods for Clean-Up</b>	Sweep up absorbed material and shovel into suitable containers for disposal. For waste disposal, see section 13 of the SDS.

## 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. Use only in well-ventilated areas. Wear appropriate personal protective equipment. Avoid breathing vapors or mists. Do not eat, drink, smoke, or apply cosmetics while handling this product. Wash thoroughly with soap and water after handling. Remove and wash contaminated clothing and footwear before reuse.

### Conditions for safe storage, including any incompatibilities

#### **Storage Conditions**

Keep container tightly closed and store in a cool, dry and well-ventilated place. Store above 35° F and below 100° F. Do not contaminate water, food, or feed by storage or disposal.

#### **Incompatible Materials**

Strong oxidizing agents. Acids. Bases.

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

### Exposure Guidelines

No exposure limits noted for ingredient(s). The following information is given as general guidance

### Appropriate engineering controls

#### **Engineering Controls**

Maintain eye wash fountain and quick-drench facilities in work area. Good general ventilation should be used. Local exhaust ventilation recommended.

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

#### **Eye/Face Protection**

Safety glasses. Refer to 29 CFR 1910.133 for eye and face protection regulations.

#### **Skin and Body Protection**

Wear impervious protective clothing, including boots, gloves, lab coat, apron or coveralls, as appropriate, to prevent skin contact. Refer to 29 CFR 1910.138 for appropriate skin and body protection.

#### **Respiratory Protection**

Wear an appropriate NIOSH/MSHA approved respirator if ventilation is inadequate. Refer to 29 CFR 1910.134 for respiratory protection requirements.

**General Hygiene Considerations** Handle in accordance with good industrial hygiene and safety practice.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

### Information on basic physical and chemical properties

<b>Physical state</b>	Liquid	<b>Odor</b>	Not determined
<b>Appearance</b>	Clear liquid	<b>Odor Threshold</b>	Not determined
<b>Color</b>	Clear		

<u>Property</u>	<u>Values</u>	<u>Remarks • Method</u>
<b>pH</b>	5.24	
<b>Melting Point/Freezing Point</b>	Not determined	
<b>Boiling Point/Boiling Range</b>	100 °C / 212 °F	
<b>Flash Point</b>	Not determined	
<b>Evaporation Rate</b>	Not determined	
<b>Flammability (Solid, Gas)</b>	Not determined	
<b>Flammability Limits in Air</b>		
<b>Upper Flammability Limits</b>	Not determined	
<b>Lower Flammability Limit</b>	Not determined	

<b>Vapor Pressure</b>	Not determined
<b>Vapor Density</b>	Not determined
<b>Relative Density</b>	1.197
<b>Water Solubility</b>	Miscible in water
<b>Solubility in other solvents</b>	Not determined
<b>Partition Coefficient</b>	Not determined
<b>Auto-ignition Temperature</b>	Not determined
<b>Decomposition Temperature</b>	Not determined
<b>Kinematic Viscosity</b>	Not determined
<b>Dynamic Viscosity</b>	Not determined
<b>Explosive Properties</b>	Not determined
<b>Oxidizing Properties</b>	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. Excessive heat and freezing temperature.

### Incompatible Materials

Strong oxidizing agents. Acids. Bases.

### Hazardous Decomposition Products

Oxides of nitrogen. Oxides of sulfur.

## 11. TOXICOLOGICAL INFORMATION

### Information on likely routes of exposure

#### Product Information

<b>Eye Contact</b>	Avoid contact with eyes.
<b>Skin Contact</b>	Avoid contact with skin and clothing.
<b>Inhalation</b>	May cause irritation if inhaled.
<b>Ingestion</b>	May cause discomfort if swallowed.

### Component Information

Chemical Name	Oral LD50	Dermal LD50	Inhalation LC50
Ammonium Sulfate 7783-20-2	= 2840 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**

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

**Numerical measures of toxicity**

The following values are calculated based on chapter 3.1 of the GHS document .

ATEmix (oral) 8,328.00 mg/kg

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

Harmful to aquatic life with long lasting effects.

**Component Information**

Chemical Name	Algae/aquatic plants	Fish	Crustacea
Ammonium Sulfate 7783-20-2		18: 96 h Cyprinus carpio mg/L LC50 123 - 128: 96 h Poecilia reticulata mg/L LC50 semi-static 460 - 1000: 96 h Leuciscus idus mg/L LC50 static 32.2 - 41.9: 96 h Oncorhynchus mykiss mg/L LC50 flow-through 480: 96 h Brachydanio rerio mg/L LC50 flow-through 100: 96 h Pimephales promelas mg/L LC50 126: 96 h Poecilia reticulata mg/L LC50 420: 96 h Brachydanio rerio mg/L LC50 semi-static 250: 96 h Brachydanio rerio mg/L LC50 5.2 - 8.2: 96 h Oncorhynchus mykiss mg/L LC50 static	14: 48 h Daphnia magna mg/L LC50 423: 24 h Daphnia magna mg/L EC50

**Persistence/Degradability**

Not determined.

**Bioaccumulation**

Not determined.

**Mobility**

Chemical Name	Partition Coefficient
Ammonium Sulfate 7783-20-2	-5.1

**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.

## 14. TRANSPORT INFORMATION

<b>Note</b>	Please see current shipping paper for most up to date shipping information, including exemptions and special circumstances.
<b>DOT</b>	Not regulated
<b>IATA</b>	Not regulated
<b>IMDG</b>	Not regulated

## 15. REGULATORY INFORMATION

### International Inventories

Chemical Name	TSCA	DSL/NDSL	EINECS/E LINCS	ENCS	IECSC	KECL	PICCS	AICS
Ammonium Sulfate	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 313**

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product contains a chemical or chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372

Chemical Name	CAS No.	Weight-%	SARA 313 - Threshold Values %
Ammonium Sulfate - 7783-20-2	7783-20-2	30-40	1.0

#### **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
Ammonium Sulfate 7783-20-2		X	X

**16. OTHER INFORMATION**

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

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**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**