

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product Name: Steric S
Product Number: FFN-00570
Product Use: Macronutrient Fertilizer

Supplier Information: Verdesian Life Sciences, U.S., LLC
1001 Winstead Drive, Suite 480
Cary, NC 27513
1-800-868-6446

Emergency Number: 1-800-535-5053 INFOTRAC

2. HAZARDS IDENTIFICATION**CLASSIFICATION****HAZARDS NOT OTHERWISE CLASSIFIED (HNOC)**

May be harmful if swallowed.

OTHER HAZARDS

Harmful to aquatic life with long lasting effects

3. COMPOSITION / INFORMATION ON INGREDIENTS

COMPONENTS	CAS NO.	% BY WEIGHT
Ammonium Sulfate	7783-20-2	Proprietary
Other Ingredients	Proprietary	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.

If in Eyes: If contact with eyes, immediately flush eyes with plenty of water for at least 15 minutes lifting upper and lower eyelids occasionally. If eye irritation persists: Get medical advice/attention.

If on Skin: Wash with soap and water. Take off contaminated clothing. Wash contaminated clothing before reuse. Get medical attention if irritation develops or persists.

If Inhaled: Remove exposed individual(s) to fresh air for 20 minutes. Consult a physician / poison center if individual's condition declines or if symptoms persist.

If Swallowed: Do not induce vomiting without medical advice. Rinse mouth. Never give anything by mouth to an unconscious person. Call a physician or poison control center immediately.

Most important symptoms and effects: May cause eye, skin, and respiratory tract irritation. May cause nausea, vomiting, stomach ache, and diarrhea.

Recommendations for immediate medical care and special treatment, if needed:

Note 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.

5. FIRE FIGHTING MEASURES

Extinguishing Media: Use extinguishing media suitable for surrounding materials. Dry chemical, carbon dioxide, foam, water spray or fog.

Specific Hazards Arising from the substance/mixture during a fire: Emits toxic fumes under fire conditions.

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: Ventilate affected area. Wear appropriate protective gear for the situation. See Personal Protection information in Section 8.

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

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

Methods for Clean-Up: Avoid creating dust. Sweep up and shovel into suitable containers for disposal. Discard any product, residue, disposable container or liner in full compliance with federal, state, and local regulations. See Section 13: DISPOSAL CONSIDERATIONS for more information.

7. HANDLING AND STORAGE

Precautions for Safe Handling

Handling: Handle in accordance with good industrial hygiene and safety practice. Use personal protection recommended in Section 8. Use with adequate ventilation. Avoid contact with skin, eyes or clothing. Do not eat, drink or smoke when using this product. Wash face, hands, and any exposed skin thoroughly after handling. Avoid generation of dust.

Conditions for safe storage, including any incompatibilities

Storage: Keep containers tightly closed in a dry, cool and well-ventilated place. Do not contaminate water, food or feed by storage or disposal.

Incompatible Materials: Strong oxidizing agents; strong alkalis.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Exposure Guidelines:

Component	OSHA		ACGIH		Unit
	TWA	STEL	TWA	STEL	
Citric acid (77-92-9)	15 (Total)	NE	NE	NE	mg/m ³

NE = Not Established

Engineering Controls:

Where engineering controls are indicated by specific use conditions or a potential for excessive exposure, use local exhaust ventilation at the point of generation.

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: Follow OSHA respirator regulations (29 CFR 1910.134) and, if necessary, wear a MSHA/NIOSH-approved respirator.

General Hygiene Considerations: Avoid contact with skin, eyes and clothing. After handling this product, wash hands before eating, drinking, or smoking. If contact occurs, remove contaminated clothing. If needed, take first aid action shown on section 4 of this SDS. Launder contaminated clothing before reuse.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	Clear liquid
Odor:	None
Odor threshold:	No data available
pH:	5.5
Melting point/freezing point:	No data available
Initial boiling point and boiling range	No data available
Flash point:	No data available
Evaporation rate:	No data available
Flammability (solid, gas):	No data available
Upper/lower flammability or explosive limits:	No data available
Vapor pressure:	No data available
Vapor density:	No data available
Relative density:	No data available
Solubility(ies):	Miscible
Partition coefficient: n-octanol/water:	No data available
Autoignition temperature:	No data available
Decomposition temperature:	No data available
Viscosity:	No data available

Note: Physical data are typical values, but may vary from sample to sample. A typical value should not be construed as a guaranteed analysis or as a specification.

10. STABILITY AND REACTIVITY

Reactivity:

Chemical Stability: This material is stable under normal handling and storage conditions.

Possibility of Hazardous Reactions: Hazardous polymerization will not occur.

Conditions to Avoid: Keep out of reach of children.

Incompatible Materials: Strong oxidizing agents; strong alkalis.

Hazardous Decomposition Products: Under fire conditions may produce gases such as oxides of carbon.

11. TOXICOLOGICAL INFORMATION

Potential Health Effects:

To the best of our knowledge, the chemical, physical and toxicological properties of this material have not been thoroughly investigated.

Likely Routes of Exposure: Inhalation, ingestion, eye and skin contact.

Eye Contact: Irritating to eyes.

Skin Contact: Irritating to skin.

Ingestion: May be harmful if swallowed.

Inhalation: Do not inhale.

Toxicological Data:

Chemical Name	Oral LD50	Dermal LD50	Inhalation LC50
Ammonium Sulfate 7783-20-2	= 2000 mg/kg (Rat)	-	-
Citric Acid 77-92-9	= 3000 mg/kg (Rat)	-	-

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

Assessment Carcinogenicity: None listed with ACGIH, IARC, NTP or OSHA.

12. ECOLOGICAL INFORMATION

Ecotoxicity:

Harmful to aquatic life with long lasting effects.

Component Information:

Chemical Name	Fish	Crustacea
Ammonium Sulfate 7783-20-2	250: 96 h Brachydanio rerio mg/L LC50 480: 96 h Brachydanio rerio mg/L LC50 flow-through 126: 96 h Poecilia reticulata mg/L LC50 460 - 1000: 96 h Leuciscus idus mg/L LC50 static 420: 96 h Brachydanio rerio mg/L LC50 semi-static 18: 96 h Cyprinus carpio mg/L LC50 32.2-41.9: 96 h Oncorhynchus mykiss mg/L LC50 flow-through 5.2-8.2: 96 h Oncorhynchus mykiss mg/L LC50 static 100: 96 h Pimephales promelas mg/L LC50 123-128: 96 h Poecilia reticulata mg/L LC50 semi-static	14: 48 h Daphnia magna mg/L LC50 423: 24 h Daphnia magna mg/L EC50
Citric Acid 77-92-9	1516: 96 h Lepomis macrochirus mg/L LC50 static	120: 72 h Daphnia magna mg/L EC50

Persistence and Degradability: No data available

Bioaccumulation: No data available

Mobility in Soil:

Chemical Name	Partition Coefficient
Ammonium Sulfate 7783-20-2	-5.1
Citric Acid 77-92-9	-1.72

Other Adverse Effects: No data available

13. DISPOSAL CONSIDERATIONS

Waste Disposal Method:

Disposal should be in accordance with applicable local, state and federal laws and regulations.

Container Disposal Method:

Disposal should be in accordance with applicable local, state and federal laws and regulations.

14. TRANSPORTATION INFORMATION

Follow the precautions indicated in Section 7: HANDLING AND STORAGE of this SDS.

DOT:

Non Regulated

IMDG:

Non Regulated

IATA:

Non Regulated

15. REGULATORY INFORMATION**U.S. FEDERAL REGULATIONS**

TSCA Inventory: All components are listed.

SARA Hazard Notification/Reporting:

Hazard Categories Under Criteria of SARA Title III Rules (40 CFR Part 370.66):

Immediate

Section 313 Toxic Chemical(s):

None

Reportable Quantity (RQ) under U.S. CERCLA:

None

RCRA Waste Code:

Under RCRA, it is the responsibility of the product user to determine at the time of disposal, whether a material containing the product or derived from the product should be classified as a hazardous waste.

State Information:

Other state regulations may apply. Check individual state requirements.

California Proposition 65: Not Listed.

16. OTHER INFORMATION

National Fire Protection Association (NFPA) Hazard Rating:

Health Hazards: 1 **Flammability:** 1 **Instability:** 0 **Special Hazards:** ND

HMIS

Health Hazards: 1 **Flammability:** 1 **Physical Hazards:** 0 **Personal Protection** ND

Hazards Scale: 0 = Minimal 1 = Slight 2 = Moderate 3 = Serious 4 = Severe

Key to abbreviations:

ACGIH = America Conference of Governmental Industrial Hygiene

IARC = International Agency for Research on Cancer

N/A = Not applicable

ND = Not determined

NDA = No data available

NE = Not Established

NTP = National Toxicology Program

OSHA = Occupational Safety and Health Administration

STEL = Short Term Exposure Limits

TWA = Time Weighted Average

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.

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