Safety Data Sheet

Issue Date: 15-Jan-2002 **Revision Date:** 01-Sep-2016 **Version** 1

1. IDENTIFICATION

Product Identifier

Product Name Steric K DS

Other means of identification

SDS # VLS-180

Product Code 0263

Recommended use of the chemical and restrictions on use

Recommended Use Foliar or Soil Nutrient.

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 Dry soluble powder Yellow crystals **Physical state** Solid **Odor** No odor

Classification

Hazards Not Otherwise Classified (HNOC)

May be harmful if swallowed

3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	CAS No.	Weight-%
Potassium Nitrate	7757-79-1	Proprietary
Potassium Sulfate	7778-80-5	Proprietary
Potassium Chloride	7447-40-7	Proprietary
Citric Acid	77-92-9	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 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.

Skin Contact Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower. Wash contaminated clothing before reuse. Get medical attention if irritation occurs.

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 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

Symptoms May be harmful if swallowed.

Indication of any immediate medical attention and special treatment needed

Notes to Physician Treat symptomatically.

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.

Hazardous Combustion Products Oxides of sulfur. Oxides of zinc.

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 Wear protective clothing as described in Section 8 of this safety data sheet.

Environmental precautions

Environmental precautions 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. Neutralize residue with sodium bicarbonate. Or other acid neutralizing agent. Soak up and contain spill with an absorbent material.

Methods for Clean-Up 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.

Conditions for safe storage, including any incompatibilities

Storage Conditions Keep container tightly closed and store in a cool, dry and well-ventilated place. Keep in properly labeled containers. Protect from direct sunlight. Protect from excessive heat. Protect from freezing.

Incompatible Materials Strong alkaline materials such as caustic potash (potassium hydroxide) and caustic soda (sodium hydroxide). Mildly corrosive to common metals.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Exposure Guidelines

Chemical Name	ACGIH TLV	OSHA PEL	NIOSH IDLH
Citric Acid 77-92-9	-	15 mg / m3 (Total)	-

Appropriate engineering controls

Engineering Controls Apply technical measures to comply with the occupational exposure limits. Maintain eye wash fountain and quick-drench facilities in work area. Use general or local exhaust ventilation to meet TLV requirements.

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. Wear rubber or neoprene gloves. Refer to 29 CFR 1910.138 for appropriate skin and body protection.

Respiratory Protection If necessary, wear a MSHA/NIOSH-approved respirator. 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

Physical state	Solid		
Appearance	Dry soluble powder Yellow crystals	**Odor**	No odor
Color	Yellow	**Odor Threshold**	No data available

Property	**Values**	**Remarks • Method**
pH	3.9	
Melting Point/Freezing Point	N/A	
Boiling Point/Boiling Range	100 °C / 212 °F	
Flash Point	N/A	
Evaporation Rate	Not known	
Flammability (Solid, Gas)	Not determined	
Flammability Limits in Air		
Upper Flammability Limits	N/A	
Lower Flammability Limit	N/A	
Vapor Pressure	Not known	
Vapor Density	Not known	
Relative Density	N/A	
Water Solubility	By Wt. Approx. 98%	
Solubility in other solvents	Not determined	
Partition Coefficient	Not determined	
Auto-ignition Temperature	N/A	
Decomposition Temperature	Not determined	
Kinematic Viscosity	Not determined	
Dynamic Viscosity	Not determined	
Explosive Properties	Not determined	
Oxidizing Properties	Not determined	

Other Information

VOC Content (%) Not known

10. STABILITY AND REACTIVITY

Reactivity
Not reactive under normal conditions.

Chemical Stability
Stable under recommended storage conditions.

Possibility of Hazardous Reactions
Hazardous polymerization does not occur.

Conditions to Avoid
Keep out of reach of children.

Incompatible Materials
Strong alkaline materials such as caustic potash (potassium hydroxide) and caustic soda (sodium hydroxide). Mildly corrosive to common metals.

Hazardous Decomposition Products
Oxides of zinc and sulfur.

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Product Information

Eye Contact Avoid contact with eyes.

Skin Contact Avoid contact with skin and clothing.

Inhalation May cause irritation if inhaled.

Ingestion May be harmful if swallowed.

Component Information

Chemical Name	Oral LD50	Dermal LD50	Inhalation LC50
Potassium Nitrate 7757-79-1	= 3015 mg/kg (Rat)	-	-
Potassium Sulfate 7778-80-5	= 6600 mg/kg (Rat)	-	-
Potassium Chloride 7447-40-7	= 2600 mg/kg (Rat)	-	-
Citric Acid 77-92-9	= 3 g/kg (Rat) = 3000 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 Nitrate or nitrite ingested under conditions that result in endogenous nitrosation are considered IARC group 2A carcinogens.

Chemical Name	ACGIH	IARC	NTP	OSHA
Potassium Nitrate 7757-79-1		Group 2A		X

Legend

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

Numerical measures of toxicity

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

ATEmix (oral) 3,957.00 mg/kg

12. ECOLOGICAL INFORMATION

Ecotoxicity
An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.

Component Information

Chemical Name	Algae/aquatic plants	Fish	Crustacea
Potassium Sulfate 7778-80-5	2900: 72 h Desmodesmus subspicatus mg/L EC50	510 - 880: 96 h Pimephales promelas mg/L LC50 static 3550: 96 h Lepomis macrochirus mg/L LC50 static 653: 96 h Lepomis macrochirus mg/L LC50	890: 48 h Daphnia magna mg/L EC50
Potassium Chloride 7447-40-7	2500: 72 h Desmodesmus subspicatus mg/L EC50	1060: 96 h Lepomis macrochirus mg/L LC50 static 750 - 1020: 96 h Pimephales promelas mg/L LC50 static	825: 48 h Daphnia magna mg/L EC50 83: 48 h Daphnia magna mg/L EC50 Static
Citric Acid 77-92-9		1516: 96 h Lepomis macrochirus mg/L LC50 static	120: 72 h Daphnia magna mg/L EC50

Persistence/Degradability
Not determined.

Bioaccumulation
Not determined.

Mobility

Chemical Name	Partition Coefficient
Citric Acid 77-92-9	-1.72

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
Potassium Nitrate 7757-79-1	Ignitable Reactive

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

Chemical Name	TSCA	DSL/NDSL	EINECS/ELINCS	ENCS	IECSC	KECL	PICCS	AICS
Potassium Nitrate	X	X	X	Present	X	Present	X	X
Potassium Sulfate	X	X	X	Present	X	Present	X	X
Potassium Chloride	X	X	X	Present	X	Present	X	X
Citric Acid	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 %
Potassium Nitrate - 7757-79-1	7757-79-1	Proprietary	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
Potassium Nitrate 7757-79-1	X	X	X

16. OTHER INFORMATION

NFPA	**Health Hazards**	**Flammability**	**Instability**	**Special Hazards**
	Not determined	Not determined	Not determined	Not determined
HMIS	**Health Hazards**	**Flammability**	**Physical hazards**	**Personal Protection**
	Not determined	Not determined	Not determined	Not determined

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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