

Safety Data Sheet

Issue Date: 12-May-2017

Revision Date: 01-Sep-2017

Version 1

1. IDENTIFICATION

Product Identifier

Product Name Nutri-Phite K

Other means of identification

SDS # VLS-227

Other Information Product Number: 0-28-26
Factory Formula: 1113

Recommended use of the chemical and restrictions on use

Recommended Use Nutrient solution.

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 colorless solution **Physical state** Liquid **Odor** Faint to slight odor

Classification

Acute toxicity - Oral	Category 4
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Signal Word

Warning

Hazard statements

Harmful if swallowed



Precautionary Statements - Prevention

Wash face, hands and any exposed skin thoroughly after handling
Do not eat, drink or smoke when using this product

Precautionary Statements - Response

IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician
Rinse mouth

Precautionary Statements - Disposal

Dispose of contents/container to an approved waste disposal plant

3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	CAS No.	Weight-%
Proprietary Buffering/Reducing Agent	Proprietary	30-40
Proprietary Phosphorus Source	Proprietary	30-40
Proprietary Chelating Agent	Proprietary	<10
Surfactant	Proprietary	<5

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

Eye Contact	Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. If eye irritation persists: Get medical advice/attention.
Skin Contact	Wash off immediately with plenty of water for at least 15 minutes. Take off contaminated clothing. 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. Drink 1 or 2 glasses of water. Never give anything by mouth to an unconscious person. Immediate medical attention is required.

Most important symptoms and effects

Symptoms May cause eye, skin and respiratory tract irritation.

Indication of any immediate medical attention and special treatment needed

Notes to Physician Treat symptomatically.

5. FIRE-FIGHTING MEASURES

Suitable Extinguishing Media

Water spray (fog). Foam. Halon. Carbon dioxide (CO₂). Dry chemical. ABC-powder.

Unsuitable Extinguishing Media Not determined.

Specific Hazards Arising from the Chemical

Thermal decomposition can lead to release of irritating and toxic gases and vapors.

Hazardous Combustion Products Carbon oxides. Phosphorus oxides. Phosphine gas. Ammonia.

Explosion Data**Sensitivity to Mechanical Impact** Not applicable.**Sensitivity to Static Discharge** Not applicable.**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. Prevent runoff from fire control or dilution from entering streams, sewers, or drinking water supply.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures**Personal Precautions**

In case of a spill, clear the affected area and protect people. Uncontrolled releases should be responded to by appropriately trained personnel in proper personal protective equipment, using pre-planned procedures. In terms of small, incidental releases (e.g. 1 gallon from a leaking container), the minimum personal protective equipment should be as follows: gloves, goggles, and appropriate body protection (e.g. boots, Tyvek suit). For large releases (e.g. 55 gallon drum), the minimum personal protective equipment should be Level C. In the event of a spill in which excessive amounts of mists are generated, or one in which the level of oxygen is below 19.5% or is unknown, the minimum equipment should be Level B.

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.

Methods for Clean-Up

Absorb spilled liquid with polypads or other suitable absorbent materials. Rinse area thoroughly. Decontaminate the area thoroughly. Place all spill residue in an appropriate container and seal. Reuse or dispose of this product in accordance with all regulations.

7. HANDLING AND STORAGE

Precautions for safe handling**Advice on Safe Handling**

Wash thoroughly after handling. Do not eat, drink or smoke when using this product. Use personal protection recommended in Section 8. Avoid breathing vapors or mists. Use only in well-ventilated areas. Always open containers slowly to allow any excess pressure to vent. Emptied container retains product residue. Observe all labeled safeguards until container is cleaned, reconditioned or destroyed. Ensure containers are properly labeled. Inspect all incoming containers before storage to ensure that containers are properly labeled and are not damaged.

Conditions for safe storage, including any incompatibilities**Storage Conditions**

Keep containers tightly closed in a dry, cool and well-ventilated place. Protect from direct sunlight. Keep from freezing. Store away from incompatible materials. Keep away from heat.

Incompatible Materials

Strong bases. Strong oxidizers. Strong reducing agents. Water-reactive materials.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Exposure Guidelines

Chemical Name	ACGIH TLV	OSHA PEL	NIOSH IDLH
Proprietary Buffering/Reducing Agent	Ceiling: 2 mg/m ³	(vacated) Ceiling: 2 mg/m ³	Ceiling: 2 mg/m ³
Proprietary Chelating Agent	-	15 mg / m3 (Total)	-
Surfactant	-	TWA: 15 mg/m ³ mist, total particulate TWA: 5 mg/m ³ mist, respirable fraction (vacated) TWA: 10 mg/m ³ mist, total particulate (vacated) TWA: 5 mg/m ³ mist, respirable fraction	-

Appropriate engineering controls

Engineering Controls Use local exhaust ventilation where mist or spray may be generated. Showers. Eyewash stations.

Individual protection measures, such as personal protective equipment

Eye/Face Protection Splash goggles or safety glasses. Wear face shield for operations involving more than 5 gallons of this solution in which splashes or sprays can be generated.

Skin and Body Protection Wear protective Neoprene™ gloves. Use triple gloves for spill response. Wear protective clothing appropriate for task (coveralls, apron, Tyvek suit).

Respiratory Protection None required under normal circumstances of use. If operations generate aerosols, mists, or sprays which cause exposures in excess of the guidelines listed above, respiratory protection may be needed (e.g. air-purifying respirator with a high efficiency particulate filter) and must comply with the U.S. Federal OSHA Standard (29 CFR 1910.134), applicable U.S. state regulations, or the appropriate standards of Canada and its Provinces.

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	Liquid	Odor	Faint to slight odor
Appearance	Clear colorless solution	Odor Threshold	Not determined
Color	Clear Colorless		

<u>Property</u>	<u>Values</u>	<u>Remarks • Method</u>
pH	6.20-6.40	
Melting Point/Freezing Point	< 0 °C / <32 °F	
Boiling Point/Boiling Range	> 100 °C / >212 °F	
Flash Point	Not applicable	
Evaporation Rate	< 1.0	(butyl acetate = 1)
Flammability (Solid, Gas)	n/a-liquid	
Flammability Limits in Air		
Upper Flammability Limits	Not applicable	
Lower Flammability Limit	Not applicable	
Vapor Pressure	Not established	
Vapor Density	Not established	
Relative Density	1.51	
Water Solubility	Completely soluble	

Solubility in other solvents	Not determined
Partition Coefficient	Not available
Auto-ignition Temperature	Not applicable
Decomposition Temperature	Not determined
Kinematic Viscosity	Not determined
Dynamic Viscosity	Not determined
Explosive Properties	Not determined
Oxidizing Properties	Not determined

Other Information

Density 12.6 lbs/gal

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 bases. Strong oxidizers. Strong reducing agents. Water-reactive materials.

Hazardous Decomposition Products

Carbon oxides. Phosphorous oxides. Phosphine. Ammonia.

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure**Product Information**

Eye Contact May cause temporary irritation on eye contact.

Skin Contact Prolonged contact may cause redness and irritation.

Inhalation Avoid breathing vapors or mists.

Ingestion Harmful if swallowed. Ingestion may cause irritation to mucous membranes.

Component Information

Chemical Name	Oral LD50	Dermal LD50	Inhalation LC50
Proprietary Buffering/Reducing Agent	= 284 mg/kg (Rat)	-	-
Proprietary Phosphorus Source	= 1895 mg/kg (Rat)	-	-
Proprietary Chelating Agent	= 3000 mg/kg (Rat) = 3 g/kg (Rat)	-	-
Surfactant	= 12600 mg/kg (Rat)	> 10 g/kg (Rabbit)	> 570 mg/m ³ (Rat) 1 h

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) 1,064.00 mg/kg
 ATEmix (inhalation-dust/mist) 7.13 mg/L
 ATEmix (inhalation-vapor) 28,500.00 mg/L

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
Proprietary Buffering/Reducing Agent		80: 96 h <i>Gambusia affinis</i> mg/L LC50 static	
Proprietary Phosphorus Source		6980 - 9784: 96 h <i>Brachydanio rerio</i> mg/L LC50 static	
Proprietary Chelating Agent		1516: 96 h <i>Lepomis macrochirus</i> mg/L LC50 static	120: 72 h <i>Daphnia magna</i> mg/L EC50
Surfactant		51 - 57: 96 h <i>Oncorhynchus mykiss</i> mL/L LC50 static	500: 24 h <i>Daphnia magna</i> mg/L EC50

Persistence/Degradability

Not determined.

Bioaccumulation

Not determined.

Mobility

Chemical Name	Partition Coefficient
Proprietary Buffering/Reducing Agent	0.65 0.83
Proprietary Chelating Agent	-1.72
Surfactant	-1.76

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
Proprietary Buffering/Reducing Agent	Toxic Corrosive

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/E LINCS	ENCS	IECSC	KECL	PICCS	AICS
Proprietary Buffering/Reducing Agent	X	X	X	Present	X	Present	X	X
Proprietary Phosphorus Source	X	X	X	Present	X	Present	X	X
Water	X	X	X	X	X	Present	X	X
Proprietary Chelating Agent	X	X	X	Present	X	Present	X	X
Surfactant	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, contains one or more substances regulated as a hazardous substance under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302)

Chemical Name	Hazardous Substances RQs	CERCLA/SARA RQ	Reportable Quantity (RQ)
Proprietary Buffering/Reducing Agent	1000 lb		RQ 1000 lb final RQ RQ 454 kg final RQ

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)

Chemical Name	CWA - Reportable Quantities	CWA - Toxic Pollutants	CWA - Priority Pollutants	CWA - Hazardous Substances
Proprietary Buffering/Reducing Agent	1000 lb			X

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
Proprietary Buffering/Reducing Agent	X	X	X
Proprietary Phosphorus Source	X		
Surfactant	X	X	X

16. OTHER INFORMATION

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

Issue Date: 12-May-2017
Revision Date: 01-Sep-2017
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