1. IDENTIFICATION

Product Identifier
Product Name: NutriSphere-NH₃®

Other means of identification
SDS #: FFN: 04010
UN/ID No: UN1760

Recommended use of the chemical and restrictions on use
Recommended Use: Fertilizer.

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 Phone: (919) 535-3652

Emergency Telephone (24 hr): INFOTRAC 1-352-323-3500 (International)
1-800-535-5053 (North America)

2. HAZARDS IDENTIFICATION

Appearance: Amber to light brown liquid
Physical State: Liquid
Odor: Characteristic

Classification
Skin corrosion/irritation: Category 1  Sub-category C
Serious eye damage/eye irritation: Category 1

Signal Word
Danger

Hazard Statements
Causes severe skin burns and eye damage

Precautionary Statements - Prevention
Do not breathe dust/fume/gas/mist/vapors/spray
Wash face, hands and any exposed skin thoroughly after handling
Wear protective gloves/protective clothing/eye protection/face protection
Precautionary Statements - Response
Immediately call a poison center or doctor/physician
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
Immediately call a poison center or doctor/physician
IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower
Wash contaminated clothing before reuse
IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing
Immediately call a poison center or doctor/physician
IF SWALLOWED: Rinse mouth. Do NOT induce vomiting

Precautionary Statements - Storage
Store locked up

Precautionary Statements - Disposal
Dispose of contents/container to an approved waste disposal plant

3. COMPOSITION/INFORMATION ON INGREDIENTS
Please also refer to subsequent sections of this SDS for additional information regarding the components of this product.

Chemical Family
Carboxylated polymer.

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>CAS No</th>
<th>Weight-%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maleic-itaconic copolymer, partial calcium salt</td>
<td>877469-38-0</td>
<td>Proprietary</td>
</tr>
</tbody>
</table>

**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

<table>
<thead>
<tr>
<th>General Advice</th>
<th>Provide this SDS to medical personnel for treatment.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Eye Contact</td>
<td>Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Immediate medical attention is required.</td>
</tr>
<tr>
<td>Skin Contact</td>
<td>Wash off immediately with plenty of water. Take off contaminated clothing. Wash contaminated clothing before reuse. If skin irritation persists, call a physician.</td>
</tr>
<tr>
<td>Inhalation</td>
<td>If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen &amp; get medical attention immediately.</td>
</tr>
<tr>
<td>Ingestion</td>
<td>Do not induce vomiting. Rinse mouth. Call a physician immediately.</td>
</tr>
</tbody>
</table>

Most important symptoms and effects

| Symptoms                        | Causes severe skin burns and eye damage. Will cause gastrointestinal 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, dry chemical, carbon dioxide, foam.

Unsuitable Extinguishing Media
Not determined.

Specific Hazards Arising from the Chemical
Toxic fumes may be given off when material is exposed to fire.

Hazardous Combustion Products: Under fire conditions, may produce gases such as oxides of carbon and nitrogen.

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. Use water spray to keep fire-exposed containers cool. Do not release runoff from fire control methods to sewers or waterways.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Personal Precautions
Use personal protective equipment as required.

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
Keep in suitable, closed containers for disposal.

7. HANDLING AND STORAGE

Precautions for safe handling

Advice on Safe Handling
Use personal protection recommended in Section 8. Avoid contact with skin, eyes or clothing. Do not breathe vapors or spray mist. Wash face, hands, and any exposed skin thoroughly after handling. Use with adequate ventilation.

Conditions for safe storage, including any incompatibilities

Storage Conditions
Keep containers tightly closed in a dry, cool and well-ventilated place. Store locked up.

Incompatible Materials

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.
Individual protection measures, such as personal protective equipment

**Eye/Face Protection**
Use chemical safety goggles / face shield.

**Skin and Body Protection**
Chemical resistant protective gloves.

**Respiratory Protection**
Ensure adequate ventilation, especially in confined areas. Use in well-ventilated area.

**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

Information on basic physical and chemical properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Values</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical State</td>
<td>Liquid</td>
<td></td>
</tr>
<tr>
<td>Appearance</td>
<td>Amber to light brown liquid</td>
<td></td>
</tr>
<tr>
<td>Color</td>
<td>Amber to light brown</td>
<td></td>
</tr>
<tr>
<td>Odor</td>
<td>Characteristic</td>
<td></td>
</tr>
<tr>
<td>Odor Threshold</td>
<td>Not determined</td>
<td></td>
</tr>
<tr>
<td>pH</td>
<td>1.0 - 2.0</td>
<td></td>
</tr>
<tr>
<td>Melting Point/Freezing Point</td>
<td>-3.88 °C / 25 °F</td>
<td></td>
</tr>
<tr>
<td>Boiling Point/Boiling Range</td>
<td>Not determined</td>
<td></td>
</tr>
<tr>
<td>Flash Point</td>
<td>None</td>
<td></td>
</tr>
<tr>
<td>Evaporation Rate</td>
<td>Not determined</td>
<td></td>
</tr>
<tr>
<td>Flammability (Solid, Gas)</td>
<td>n/a-liquid</td>
<td></td>
</tr>
<tr>
<td>Upper Flammability Limits</td>
<td>Not determined</td>
<td></td>
</tr>
<tr>
<td>Lower Flammability Limit</td>
<td>Not determined</td>
<td></td>
</tr>
<tr>
<td>Vapor Pressure</td>
<td>Not determined</td>
<td></td>
</tr>
<tr>
<td>Vapor Density</td>
<td>Not determined</td>
<td></td>
</tr>
<tr>
<td>Specific Gravity</td>
<td>1.1-1.4</td>
<td></td>
</tr>
<tr>
<td>Water Solubility</td>
<td>Not determined</td>
<td></td>
</tr>
<tr>
<td>Solubility in other solvents</td>
<td>Not determined</td>
<td></td>
</tr>
<tr>
<td>Partition Coefficient</td>
<td>Not determined</td>
<td></td>
</tr>
<tr>
<td>Auto-ignition Temperature</td>
<td>Not determined</td>
<td></td>
</tr>
<tr>
<td>Decomposition Temperature</td>
<td>Not determined</td>
<td></td>
</tr>
<tr>
<td>Kinematic Viscosity</td>
<td>Not determined</td>
<td></td>
</tr>
<tr>
<td>Dynamic Viscosity</td>
<td>Not determined</td>
<td></td>
</tr>
<tr>
<td>Explosive Properties</td>
<td>Not determined</td>
<td></td>
</tr>
<tr>
<td>Oxidizing Properties</td>
<td>Not determined</td>
<td></td>
</tr>
</tbody>
</table>

### 10. STABILITY AND REACTIVITY

**Reactivity**
Not reactive under normal conditions.

**Chemical Stability**
Stable under recommended storage conditions.

**Possibility of Hazardous Reactions**
Exposure to excessively high pH may lead to ammonia gas evolution. Can react with metals to give off hydrogen, heat and/or steam. Can react with bases and metal oxides with high evolution of heat and/or steam. Can react with carbonates to give off carbon dioxide, heat and/or steam.

**Conditions to Avoid**
Incompatible Materials.
Incompatible Materials

Hazardous Decomposition Products
Under fire conditions, may produce gases such as oxides of carbon and nitrogen.

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Product Information

Eye Contact Causes severe eye damage.

Skin Contact Causes severe skin burns.

Inhalation May cause irritation to the mucous membranes and upper respiratory tract.

Ingestion Can cause gastrointestinal disturbance.

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

Not determined

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 | Toxicity to microorganisms | Crustacea
--- | --- | --- | --- | ---
Propylene Glycol 57-55-6 | 19000: 96 h Pseudokirchneriella subcapitata mg/L EC50 | 51400: 96 h Pimephales promelas mg/L LC50 static 710: 96 h Pimephales promelas mg/L LC50 51600: 96 h Oncorhynchus mykiss mg/L LC50 static 41 - 47: 96 h Oncorhynchus mykiss mL/L LC50 static | 1000: 48 h Daphnia magna mg/l EC50 Static 10000: 24 h Daphnia magna mg/L EC50 |
Bioaccumulation
Not determined.

Mobility
Not determined

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

Note
Please see current shipping paper for most up to date shipping information, including exemptions and special circumstances.

DOT
UN/ID No UN1760
Proper Shipping Name Corrosive Liquid, n.o.s (Maleic-itaconic copolymer, partial calcium salt)
Hazard Class 8
Packing Group III

15. REGULATORY INFORMATION

International Inventories

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>TSCA</th>
<th>DSL</th>
<th>NDSL</th>
<th>EINECS</th>
<th>ELINCS</th>
<th>ENCS</th>
<th>IECSC</th>
<th>KECL</th>
<th>PICCS</th>
<th>AICS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maleic-itaconic copolymer, partial calcium salt</td>
<td>Present</td>
<td></td>
<td></td>
<td>X</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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 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

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>New Jersey</th>
<th>Massachusetts</th>
<th>Pennsylvania</th>
</tr>
</thead>
<tbody>
<tr>
<td>Propylene Glycol</td>
<td>X</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>57-55-6</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

16. OTHER INFORMATION

NFPA
Health Hazards: Not determined
Flammability: Not determined
Instability: Not determined
Special Hazards: Not determined

HMIS
Health Hazards: 2
Flammability: 0
Physical Hazards: 1
Personal Protection: B

Issue Date: 12-Jun-2015
Revision Date: 29-Apr-2016
Revision Note: Address Change

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