

Safety Data Sheet

Issue Date: 19-Jul-2018

Revision Date: 29-Jan-2020

Version 3

1. IDENTIFICATION

Product identifier

Product Name Lyra

Other means of identification

SDS # VLS-264

Product Code FFN 4070

Recommended use of the chemical and restrictions on use

Recommended Use For use on liquid nitrogen fertilizers.

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 INFOTRAC 1-352-323-3500 (International)
1-800-535-5053 (North America)

2. HAZARDS IDENTIFICATION

Emergency Overview The product contains no substances which, at their given concentration, are considered to be hazardous to health.

Appearance Yellow to light brown liquid

Physical state Liquid

Odor Characteristic

Classification

This chemical is not considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200). 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

This product is not hazardous according to OSHA 29 CFR 1910.1200. Components not listed are not hazardous or are below reportable limits. Please also refer to subsequent sections of this SDS for additional information regarding the components of this product.

4. FIRST AID MEASURES

Description of 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.

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| Skin Contact | IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower. Wash contaminated clothing before reuse. If skin irritation persists, call a physician. |
| 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 | Do NOT induce vomiting. Rinse mouth thoroughly with water. Drink 1 or 2 glasses of water. Never give anything by mouth to an unconscious person. If symptoms persist, call a physician. |

Most important symptoms and effects, both acute and delayed

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| Symptoms | May cause gastrointestinal irritation, nausea, diarrhea, and vomiting. May cause skin and eye irritation. |
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Indication of any immediate medical attention and special treatment needed

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| 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

Not determined.

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**

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| Personal Precautions | In case of a spill, clear the affected area and protect people. Wear protective clothing as described in Section 8 of this safety data sheet. |
| For Emergency Responders | Follow applicable OSHA regulations (29 CFR 1910.120). |

Environmental precautions

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| Environmental precautions | See Section 12 for additional Ecological Information. |
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Methods and material for containment and cleaning up

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| Methods for Containment | For small spills, absorb on polypads or other suitable non-reactive absorbent materials. |
| Methods for Clean-Up | 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. |

7. HANDLING AND STORAGE

Precautions for safe handling

Advice on Safe Handling Handle in accordance with good industrial hygiene and safety practice. Use personal protection recommended in Section 8. Wash face, hands and any exposed skin thoroughly after handling. Wash contaminated clothing before reuse. Avoid contact with skin, eyes or clothing.

Conditions for safe storage, including any incompatibilities

Storage Conditions Keep containers tightly closed in a dry, cool and well-ventilated place. Store away from heat, sparks, flame. Keep out of the reach of children.

Incompatible Materials None known based on information supplied.

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. Ventilation must be adequate to maintain the ambient workplace atmosphere below the exposure limit(s) outlined in the SDS.

Individual protection measures, such as personal protective equipment

Eye/Face Protection Splash goggles or safety glasses. Refer to 29 CFR 1910.133 for eye and face protection regulations.

Skin and Body Protection Use body protection appropriate for task. An apron or other impermeable body protection is suggested. Full-body chemical protective clothing is recommended for emergency response procedures. Wear suitable gloves appropriate for the risk of exposure. Refer to 29 CFR 1910.138 for appropriate skin and body protection.

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

Information on basic physical and chemical properties

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|---------------------------------------|------------------------------|--------------------------------|----------------|
| Physical state | Liquid | Odor | Characteristic |
| Appearance | Yellow to light brown liquid | Odor Threshold | Not determined |
| Color | Yellow to light brown liquid | | |
| <u>Property</u> | <u>Values</u> | <u>Remarks • Method</u> | |
| pH | 4.00 – 4.25 | | |
| Melting point / freezing point | Not determined | | |
| Boiling point / boiling range | Not determined | | |
| Flash point | Not determined | | |
| Evaporation Rate | Not determined | | |

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|---|----------------|
| Flammability (Solid, Gas) | Not determined |
| Flammability Limit in Air | |
| Upper flammability or explosive limits | Not determined |
| Lower flammability or explosive limits | Not determined |
| Vapor Pressure | Not determined |
| Vapor Density | Not determined |
| Relative Density | 1.1 – 1.2 |
| Water Solubility | Not determined |
| Solubility in other solvents | Not determined |
| Partition Coefficient | Not determined |
| Autoignition temperature | Not determined |
| Decomposition temperature | Not determined |
| Kinematic Viscosity | Not determined |
| Dynamic Viscosity | Not determined |
| Explosive Properties | Not determined |
| Oxidizing Properties | 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

Incompatible Materials.

Incompatible materials

None known based on information supplied.

Hazardous decomposition products

Thermal decomposition may produce oxides of carbon.

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Product Information

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| Eye Contact | May cause temporary irritation on eye contact. |
| Skin Contact | Prolonged contact may cause redness and irritation. |
| Inhalation | May cause irritation if inhaled. |
| Ingestion | May cause gastrointestinal irritation, nausea, diarrhea, and vomiting. |

Component Information

| Chemical name | Oral LD50 | Dermal LD50 | Inhalation LC50 |
|---------------|------------------|-------------|-----------------|
| Trade Secret | > 1 g/kg (Rat) | - | - |

| | | | |
|-------------|-------------------|--------------------------|---|
| Proprietary | = 20 g/kg (Rat) | = 20800 mg/kg (Rabbit) | - |
|-------------|-------------------|--------------------------|---|

Symptoms related to the physical, chemical and toxicological characteristics

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.

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 | 19000: 96 h Pseudokirchneriella subcapitata mg/L EC50 | 51600: 96 h Oncorhynchus mykiss mg/L LC50 static 41 - 47: 96 h Oncorhynchus mykiss mL/L LC50 static 710: 96 h Pimephales promelas mg/L LC50 51400: 96 h Pimephales promelas mg/L LC50 static | 1000: 48 h Daphnia magna mg/L EC50 Static 10000: 24 h Daphnia magna mg/L EC50 |

Persistence/Degradability

Not determined.

Bioaccumulation

There is no data for this product.

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 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 |
|---------------|------|----------|-------------------|------|-------|------|-------|------|
| Trade Secret | X | X | X | X | X | X | X | X |
| Proprietary | X | X | X | X | X | X | 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

Not determined

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 |
|---------------|------------|---------------|--------------|
| Proprietary | X | | X |

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| 16. OTHER INFORMATION |
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|--------------------|----------------------------|--------------------------|------------------------------|--|
| <u>NFPA</u> | Health Hazards 1 | Flammability 0 | Instability 0 | Special Hazards Not determined |
| <u>HMIS</u> | Health Hazards 1 | Flammability 0 | Physical hazards 1 | Personal Protection X |

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Revision Note: Revision update

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