SAFETY DATA SHEET

Revision date 10-April-2020

| 1. Identification | | |
|--|--|--|
| Product identifier | | |
| Product Name | L-LYSINE MONOHYDROCHLORIDE, BIO-CERTIFIED, USP, JP | |
| Other means of identification | | |
| Product Code(s) | L9800 | |
| Synonyms | None | |
| Recommended use of the chemical and restrictions on use | | |
| Recommended use | No information available | |
| Restrictions on use | No information available | |
| Details of the supplier of the safety data sheet | | |
| Supplier Address Spectrum Chemical Mfg. Corp. 14422 South San Pedro St. Gardena, CA 90248 (310) 516-8000 | | |
| Emergency telephone number | | |
| Emergency Telephone | Chemtrec 1-800-424-9300 | |

2. Hazard(s) identification

Classification

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

Hazards not otherwise classified (HNOC)

Not applicable

Label elements

Hazard statements

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

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

Appearance Powder crystalline Granular

Physical state Solid

Odor Odorless



Revision Number 1

Other information

No information available.

3. Composition/information on ingredients

Substance

| Chemical name | CAS No | Weight-% | Trade secret |
|--------------------------|----------|----------|--------------|
| Lysine Monohydrochloride | 657-27-2 | 100 | * |

*The exact percentage (concentration) of composition has been withheld as a trade secret.

| 4. First-aid measures |
|-----------------------|
| |

Description of first aid measures

| Inhalation | Remove to fresh air. | |
|--|--|--|
| Eye contact | Rinse thoroughly with plenty of water for at least 15 minutes, lifting lower and upper eyelids. Consult a physician. | |
| Skin contact | Wash skin with soap and water. | |
| Ingestion | Clean mouth with water and drink afterwards plenty of water. | |
| Most important symptoms and effects, both acute and delayed Symptoms No information available. | | |

Indication of any immediate medical attention and special treatment needed

Note to physicians Treat symptomatically.

5. Fire-fighting measures

| Suitable Extinguishing Media | Use extinguishing measures that are appropriate to local circumstances and the surrounding environment. | |
|--|--|--|
| Large Fire | CAUTION: Use of water spray when fighting fire may be inefficient. | |
| Unsuitable extinguishing media | Do not scatter spilled material with high pressure water streams. | |
| Specific hazards arising from the chemical | No information available. | |
| Hazardous combustion products Carbon Monoxide, Carbon Dioxide. Nitrogen oxides (NOx). hydrogen chloride gas. | | |
| Explosion data Sensitivity to mechanical impact none. | | |
| Sensitivity to static discharge | none. | |
| Special protective equipment for fire-fighters | Firefighters should wear self-contained breathing apparatus and full firefighting turnout gear. Use personal protection equipment. | |

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

| Personal precautions | Ensure adequate ventilation. |
|----------------------|------------------------------|
|----------------------|------------------------------|

| Methods and material for containment and cleaning up | | |
|--|---|--|
| Methods for containment | Prevent further leakage or spillage if safe to do so. | |
| Methods for cleaning up | Pick up and transfer to properly labeled containers. | |

7. Handling and storage

| Precautions for safe handling | | |
|--|--|--|
| Advice on safe handling | Handle in accordance with good industrial hygiene and safety practice. | |
| Conditions for safe storage, including any incompatibilities | | |
| Storage Conditions | Keep container tightly closed in a dry and well-ventilated place. | |

8. Exposure controls/personal protection

Control parameters

| Exposure Limits | The following ingredients are the only ingredients of the product above the cut-off level (or level that contributes to the hazard classification of the mixture) which have an exposure limit applicable in the region for which this safety data sheet is intended or other recommended limit. At this time, the other relevant constituents have no known exposure limits from the sources listed here. | |
|---|--|--|
| Appropriate engineering controls | | |
| Engineering controls | Showers Eyewash stations Ventilation systems. | |
| Individual protection measures, such as personal protective equipment | | |
| Eye/face protection | No special protective equipment required. | |
| Skin and body protection | No special protective equipment required. | |
| Respiratory protection | No protective equipment is needed under normal use conditions. If exposure limits are exceeded or irritation is experienced, ventilation and evacuation may be required. | |
| General hygiene considerations | Handle in accordance with good industrial hygiene and safety practice. | |

9. Physical and chemical properties

Information on basic physical and chemical propertiesPhysical stateSolidAppearancePowder crystalline Granular

Color Odor Odor threshold white Odorless No information available

| Description | Malaaa | Damarka Mathaal |
|---------------------------------|--------------------------|------------------|
| Property | <u>Values</u> | Remarks • Method |
| pH | no data available | None known |
| Melting point / freezing point | no data available | None known |
| Boiling point / boiling range | no data available | None known |
| Flash point | no data available | None known |
| Evaporation rate | no data available | None known |
| Flammability (solid, gas) | no data available | None known |
| Flammability Limit in Air | | None known |
| Upper flammability or explosive | No data available | |
| limits | | |
| Lower flammability or explosive | No data available | |
| limits | | |
| Vapor pressure | No data available | None known |
| Vapor density | no data available | None known |
| Relative density | no data available | None known |
| Water solubility | Soluble in water | None known |
| Solubility(ies) | no data available | None known |
| Partition coefficient | No data available | None known |
| Autoignition temperature | no data available | None known |
| Decomposition temperature | | None known |
| Kinematic viscosity | no data available | None known |
| Dynamic viscosity | No data available | None known |
| | | |
| Other information | | |
| Explosive properties | No information available | |
| Oxidizing properties | No information available | |
| Softening point | No information available | |
| Molecular weight | 182.65 | |
| VOC Content (%) | No information available | |
| Liquid Density | No information available | |
| Bulk density | No information available | |
| 2 | | |

10. Stability and reactivity

| Reactivity | No information available. |
|------------------------------------|---|
| Chemical stability | Stable under normal conditions. |
| Possibility of hazardous reactions | None under normal processing. |
| Conditions to avoid | None known based on information supplied. |
| Incompatible materials | None known based on information supplied. |
| Hazardous decomposition products | None known based on information supplied. |

11. Toxicological information

Information on likely routes of exposure

| Inhalation | Specific test data for the substance or mixture is not available. |
|--------------|---|
| Eye contact | Specific test data for the substance or mixture is not available. |
| Skin contact | Specific test data for the substance or mixture is not available. |
| Ingestion | Specific test data for the substance or mixture is not available. |

Symptoms related to the physical, chemical and toxicological characteristics

Symptoms

No information available.

Acute toxicity

Numerical measures of toxicity

| Chemical name | Oral LD50 | Dermal LD50 | Inhalation LC50 |
|--------------------------------------|-----------------|-------------|-----------------|
| Lysine Monohydrochloride 657-27-2 | = 10 g/kg (Rat) | - | - |

Delayed and immediate effects as well as chronic effects from short and long-term exposure

| Skin corrosion/irritation Serious eye damage/eye irritation Respiratory or skin sensitization Germ cell mutagenicity | No information available. No information available. No information available. No information available. |
|---|--|
| Reproductive toxicity | No information available. |
| STOT - single exposure STOT - repeated exposure Aspiration hazard | No information available. No information available. No information available. |
| Other adverse effects | No information available. |
| Interactive effects | No information available. |

12. Ecological information

Ecotoxicity

| ECOLOXICILY | | | | |
|---|----------------------|--|-------------------------------|-----------|
| Chemical name | Algae/aquatic plants | Fish | Toxicity to microorganisms | Crustacea |
| Lysine Monohydrochloride 657-27-2 | - | LC50: >103mg/L (96h, Oryzias latipes) | - | - |
| ······ | | on available. odegradable. | | |

Other adverse effects No information available.

| 13. Disposal considerations | | |
|--|---|--|
| Waste treatment methods | | |
| Waste from residues/unused products | Dispose of in accordance with local regulations. Dispose of waste in accordance with environmental legislation. | |
| Contaminated packaging | Do not reuse empty containers. | |

14. Transport information

| not regulated |
|---------------|
| not regulated |
| |

15. Regulatory information

International Inventories

| TSCA | Complies |
|---------------|---|
| | |
| | |
| DSL/NDSL | Complies |
| EINECS/ELINCS | Complies |
| ENCS | This product complies with ENCS: |
| IECSC | This product complies with China: |
| KECL | Complies |
| PICCS | Complies |
| AICS | All the constituents of this material are listed on the Australian Inventory of Chemical Substances (AICS). |

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

US Federal Regulations

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.

SARA 311/312 Hazard Categories

Should this product meet EPCRA 311/312 Tier reporting criteria at 40 CFR 370, refer to Section 2 of this SDS for appropriate classifications.

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).

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). There may be specific reporting requirements at the local, regional, or state level pertaining to releases of this material.

US State Regulations

California Proposition 65

This product does not contain any Proposition 65 chemicals.

U.S. State Right-to-Know Regulations

This product does not contain any substances regulated under applicable state right-to-know regulations

U.S. EPA Label Information

EPA Pesticide Registration Number Not applicable

16. Other information

NFPA Health hazards 0 Flammability 0 Instability 0 Physical and chemical properties -HMIS Health hazards 0 Flammability 0 Physical hazards 0 Personal protection X Key or legend to abbreviations and acronyms used in the safety data sheet Legend Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION TWA (time-weighted average) STEL (Short Term Exposure Limit) TWA STEL Ceiling Maximum limit value Key literature references and sources for data used to compile the SDS Agency for Toxic Substances and Disease Registry (ATSDR) U.S. Environmental Protection Agency ChemView Database European Food Safety Authority (EFSA) EPA (Environmental Protection Agency) Acute Exposure Guideline Level(s) (AEGL(s)) U.S. Environmental Protection Agency Federal Insecticide, Fungicide, and Rodenticide Act U.S. Environmental Protection Agency High Production Volume Chemicals Food Research Journal Hazardous Substance Database International Uniform Chemical Information Database (IUCLID) Japan GHS Classification Australia National Industrial Chemicals Notification and Assessment Scheme (NICNAS) NIOSH (National Institute for Occupational Safety and Health) National Library of Medicine's ChemID Plus (NLM CIP) National Library of Medicine's PubMed database (NLM PUBMED) National Toxicology Program (NTP) New Zealand's Chemical Classification and Information Database (CCID) Organization for Economic Co-operation and Development Environment, Health, and Safety Publications Organization for Economic Co-operation and Development High Production Volume Chemicals Program Organization for Economic Co-operation and Development Screening Information Data Set World Health Organization 10-April-2020 **Revision date Revision Note** No information available.

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