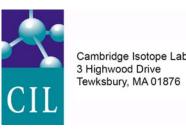
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Cambridge Isotope Laboratories, Inc.

MATERIAL SAFETY DATA SHEET

CHEMICAL PRODUCT AND COMPANY INFORMATION

L-GLUTAMINE (3,4-13C2, 99%) **Product Description**

Cambridge Isotope Laboratories, Inc. 50 Frontage Rd ANDOVER, MA 01810 USA

E-mail cilsales@isotope.com Web Site www.isotope.com

Phone Numbers

Emergency Contact Chemtrec

Emergency Phone 1-800-424-9300 (24 hours)

Customer Service

Phone

1-800-322-1174 (8:30-5:30 EST)

Transportation 1-202-483-7616 (24 hours)

2 **HAZARDS IDENTIFICATION**

OSHA Hazards

No known OSHA hazards.

HMIS Ratings

Physical 0 Flammability 0 Health 0

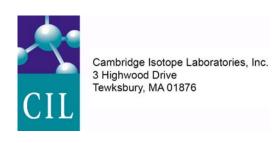
NFPA Codes

0 Fire Health 0 Reactivity 0

Potential Health Effects

Eyes May cause eye irritation. Ingestion May be harmful if swallowed.

Inhalation May be harmful if inhaled. May cause respiratory tract irritation. Skin May be harmful if absorbed through skin. May cause skin irritation.



MATERIAL SAFETY DATA SHEET

3 COMPOSITION / INFORMATION ON INGREDIENTS

Composition / Information on Ingredients

Synonyms (S)-2,5-Diamino-5-oxopentanoic acid. L-Glutamic acid 5-amide.

Chemical Formula H2NCO*CH2*CH2CH(NH2)COOH

Molecular Weight 148.2

CAS No. 56-85-9 (Unlabeled)

EC No. 200-292-1

4 FIRST AID MEASURES

First Aid Measures

Eyes Flush eyes with water as a precaution.

Ingestion Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a

physician.

Inhalation If breathed in, move person to fresh air. If not breathing, give artificial respiration. Consult a

physician.

Skin Wash with soap and plenty of water. Consult a physician.

Additional Information

Move out of dangerous area. Consult a physician and show this safety data sheet.

5 FIRE FIGHTING MEASURE

Fire Fighting Measures

Extinguishing Media Use water spray, alcohol-resistant foam, dry chemical, or carbon dioxide.

Hazardous Hazardous decomposition products formed under fire conditions: Carbon oxides, nitrogen oxides

Decomposition (NOx)

Fire Fighting Equipment

Wear self contained breathing apparatus for fire fighting if necessary.

6 ACCIDENTAL RELEASE MEASURES

Accidental Release Measures



Page 3 of 7

MATERIAL SAFETY DATA SHEET

Personal

Avoid dust formation. Avoid breathing vapors, mist or gas.

Precautions

Environmental Do not empty into drains.

Precautions

Sweep up and shovel. Keep in suitable, closed containers for disposal.

Methods and materials for containment and cleanup

7 HANDLING AND STORAGE

Precautions for Safe Handling

Handling Provide appropriate exhaust ventilation at places where dust is formed. Normal measures for

preventive fire protection.

Conditions for Safe Storage

Store at room temperature away from light and moisture. Storage

8 **EXPOSURE CONTROL / PERSONAL PROTECTION**

Personal Protecton

Wear safety glasses with side shields (or goggles) and a face shield. Eyes - Face

Skin Choose body protection according to the amount and concentration of the dangerous substance at

the work place.

Respiratory When appropriate, use NIOSH/CEN approved respirator.

Protective Clothing Wear suitable protective clothing and gloves.

Work Hygienic

Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks

Practices and at the end of workday.

9 PHYSICAL AND CHEMICAL PROPERTIES

Physical and Chemical Properties (Unlabeled Compound)

Form Powder

Color White





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Odor No data available Odor Threshold No data available

5.0 - 6 at 14.6 g/l at 25 °C (77 °F) рΗ

Melting Point 185 °C (365 °F) **Boiling Point** No data available Flashpoint No data available **Evaporation Rate** No data available No data available Fammability Flammable Limits No data available Lower Explosion No data available

Limit

Upper Explosion

Limit

No data available

Vapor Pressure

No data available Vapor Density No data available

Solubility in Water 14.6 g/l at 20 °C (68 °F) - completely soluble

Partition Coefficient log Pow: -4.609 No data available Auto Ignition

Temperature

Decomposition No data available

Temperature

Viscosity No data available

STABILITY AND REACTIVITY 10

Stability and Reactivity

Chemical Stability Stable if stored under recommended conditions.

Possibility of Hazardous

Reactions

Not available

Conditions to Avoid Not available

Hazardous

Formed under fire conditions: Carbon oxides, nitrogen oxides

decomposition products

Materials to avoid Stong oxidizing agents

TOXICOLOGICAL INFORMATION 11

Acute Toxicity





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LD50 Oral Rat

Serious

7,500 mg/kg No data available

Damage/Eye Irritation

Skin

No data available

Corrosion/Irritation

Inhalation No data available

Respiratory or Skin

Sensitization

Not available

Not available

Germ Cell Mutagenicity

IARC No component of this product present at levels greater than or equal to 0.1% is identifiable as

probable, possible, or confirmed human carcinogen by IARC.

ACGIH No component of this product present at levels greater than or equal to 0.1% is identifiable as a

carcinogen or potential carcinogen by ACGIH.

NTP No component of this product present at levels greater than or equal to 0.1% is identifiable as a

known or anticipated carcinogen by NTP.

OSHA No component of this product present at levels greater than or equal to 0.1% is identified as a

carcinogen or potential carcinogen by OSHA.

Reproductive

Toxicity

Not available

Specific Target Organ Toxicity

Single Exposure No data available Repeated Exposure No data available

Signs and Symptoms of Exposure

To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

Other Information

RTECS MA2275100

General Comments Not available

ECOLOGICAL INFORMATION 12

Toxicity

Persistance and

Not available

Degradability

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MATERIAL SAFETY DATA SHEET

Bioaccumulative

Not available

Potential

Not available

PBT and vPvB Assessment

Mobility in Soil

Not available

Other Adverse

Effects

Not available

13 **DISPOSAL CONSIDERATIONS**

Disposal Considerations

Product Disposal Waste materials should be disposed of under conditions which meet Federal, State, and Local

environmental control regulations.

14 TRANSPORT INFORMATION

Transportation Information-DOT/IATA/IMDG

Special Shipping

Notes

Not dangerous goods.

15 **REGULATORY INFORMATION**

Regulatory Information

No known OSHA hazards.

SARA

Sara 302 No chemicals in this material are subject to the reporting requirements.

Component

Sara 313 No chemicals in this material are subject to the reporting requirements.

Component

STATE REGULATIONS

California This product does not contain any chemicals known to State of California to cause cancer, birth

Proposition 65 defects, or any other reproductive harm.

Canada



MATERIAL SAFETY DATA SHEET

DSL Status All components are on the Canadian DSL list.

16 OTHER INFORMATION

Manufacturer Disclaimer This product is not radioactive. The data given for this product are those of the corresponding unlabeled compound, unless specifically indicated otherwise. Health and safety data for labeled compounds are generally not available, but are assumed to be similar or identical to the corresponding unlabeled compound.

Approved On 01/21/15 Version Number 2