L-ALLO-ISOLEUCINE (13C6, 97-99%; 15N, 97-99%)

Safety Data Sheet

according to Regulation (EC) No. 453/2010 and according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Date of issue: 22/07/2011 Revision date: 28/10/2016 Supersedes: 20/11/2013 Version: 3.0

CNLM-8670

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Product form	:	Substance
Substance name	:	L-ALLO-ISOLEUCINE (13C6, 97-99%; 15N, 97-99%)
EC no	:	216-142-3 (Unlabeled)
CAS No	:	1509-34-8 (Unlabeled)
Product code	:	CNLM-8670
Formula	:	*C6H13*NO2
Synonyms	:	(2S,3R)-2-Amino-3methylpentanoic acid / L-Alloisoleucine

1.2. Relevant identified uses of the substance or mixture and uses advised against

1.2.1. Relevant identified uses

Main use category	:	Professional use
Industrial/Professional use spec	:	For professional use only.

1.2.2. Uses advised against

No additional information available

1.3. Details of the supplier of the safety data sheet

Cambridge Isotope Laboratories, Inc.
50 Frontage Road
Andover, MA 01810
USA

USA: 1-800-322-1174 Int: 1-978-749-8000
cilsales@isotope.com www.isotope.com

Emergency telephone number

Emergency numbers:

Chemtrec: 1-800-424-9300 (24 hours)
International: 1-703-741-5970 (24 hours)

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification according to Regulation (EC) No. 1272/2008 [CLP]

Not classified

Classification according to Directive 67/548/EEC [DSD] or 1999/45/EC [DPD]

Not classified

Classification (GHS-US)

Not classified

Adverse physicochemical, human health and environmental effects

No additional information available

2.2. Label elements

Labeling according to Regulation (EC) No. 1272/2008 [CLP]

No labeling applicable

GHS-US labeling

No labeling applicable

2.3. Other hazards

No additional information available

SECTION 3: Composition/Information on ingredients

3.1. Substance

Name	Product identifier	%	Classification according to Directive 67/548/EEC
L-ALLO-ISOLEUCINE (13C6, 97-99%; 15N, 97-99%) (Main constituent)	(CAS No) 1509-34-8 (Unlabeled) (EC no) 216-142-3 (Unlabeled)	100	Not classified

Name	Product identifier	%	Classification according to Regulation (EC) No. 1272/2008 [CLP]
L-ALLO-ISOLEUCINE (13C6, 97-99%; 15N, 97-99%) (Main constituent)	(CAS No) 1509-34-8 (Unlabeled) (EC no) 216-142-3 (Unlabeled)	100	Not classified

Full text of R- and H- phrases: see section 16

Name	Product identifier	%	Classification (GHS-US)
L-ALLO-ISOLEUCINE (13C6, 97-99%; 15N, 97-99%) (Main constituent)	(CAS No) 1509-34-8 (Unlabeled)	100	Not classified

Full text of H-phrases: see section 16

3.2. Mixture

Not applicable

SECTION 4: First aid measures

4.1. Description of first aid measures

First-aid measures general : Move out of dangerous area. Consult a physician and show this safety data sheet.

First-aid measures after inhalation : If breathed in, move person into fresh air. If not breathing, give artificial respiration.

First-aid measures after skin contact : Wash off with soap and plenty of water.

First-aid measures after eye contact : Flush eyes with water as a precaution.

First-aid measures after ingestion : Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

4.2. Most important symptoms and effects, both acute and delayed

Symptoms/injuries after inhalation : May be harmful if inhaled. May cause respiratory tract irritation.

Symptoms/injuries after skin contact : May be harmful if absorbed through skin. May cause skin irritation.

Symptoms/injuries after eye contact : May cause eye irritation.

Symptoms/injuries after ingestion : May be harmful if swallowed.

4.3. Indication of any immediate medical attention and special treatment needed

No additional information available

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media : Use water spray, alcohol-resistant foam, dry chemical, or carbon dioxide.

5.2. Special hazards arising from the substance or mixture

No additional information available

5.3. Advice for firefighters

Firefighting instructions : Wear self contained breathing apparatus for fire fighting if necessary.

Protection during firefighting : Do not enter fire area without proper protective equipment, including respiratory protection.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

General measures : Not flammable or combustible.

6.1.1. For non-emergency personnel

Emergency procedures : Avoid dust formation. Avoid breathing vapors, mist or gas.

6.1.2. For emergency responders

No additional information available

6.2. Environmental precautions

Do not let product enter drains.

6.3. Methods and material for containment and cleaning up

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

6.4. Reference to other sections

No additional information available

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Additional hazards when processed	:	Provide appropriate exhaust ventilation at places where dust is formed. Normal measures for preventive fire protection.
Hygiene measures	:	Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

7.2. Conditions for safe storage, including any incompatibilities

Technical measures	:	Keep container tightly closed in a dry and well-ventilated place.
Storage conditions	:	Store at room temperature away from light and moisture.

7.3. Specific end use(s)

No additional information available

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

No additional information available

8.2. Exposure controls

Personal protective equipment : Gloves. Protective clothing. Protective goggles. Self-contained breathing apparatus.

Hand protection	:	Wear suitable protective clothing and gloves.
Eye protection	:	Wear safety glasses with side shields (or goggles) and a face shield.
Skin and body protection	:	Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands. Choose body protection according to the amount and concentration of the dangerous substance at the work place.
Respiratory protection	:	When appropriate, use NIOSH/CEN approved respirator.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	:	Solid
Appearance	:	Powder.
Molecular mass	:	138.12 g/mol (Labeled)
Color	:	White.
Odor	:	No data available.
Odor threshold	:	No data available
pH	:	No data available
Relative evaporation rate (butyl acetate=1)	:	No data available
Melting point	:	285 °C (545 °F)
Freezing point	:	No data available
Boiling point	:	No data available
Flash point	:	No data available
Auto-ignition temperature	:	No data available
Decomposition temperature	:	No data available
Flammability (solid, gas)	:	No data available
Vapor pressure	:	No data available
Relative vapor density at 20 °C	:	No data available
Relative density	:	No data available
Solubility	:	No data available
Log Pow	:	No data available
Log Kow	:	No data available
Viscosity, kinematic	:	No data available
Viscosity, dynamic	:	No data available

Explosive properties	:	No data available
Oxidizing properties	:	No data available
Explosive limits	:	No data available

9.2. Other information

No additional information available

SECTION 10: Stability and reactivity

10.1. Reactivity

No additional information available

10.2. Chemical stability

Stable if stored under recommended conditions.

10.3. Possibility of hazardous reactions

No additional information available

10.4. Conditions to avoid

No additional information available

10.5. Incompatible materials

Strong oxidizing agents.

10.6. Hazardous decomposition products

Formed under fire conditions: Carbon oxides, nitrogen oxides.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity : Not classified

L-ALLO-ISOLEUCINE (13C6, 97-99%; 15N, 97-99%) (1509-34-8 (Unlabeled))	
LD50 Intraperitoneal - rat - 6,954 mg/kg Remarks	Lungs, Thorax, or Respiration

Skin corrosion/irritation	:	Not classified No data available
Serious eye damage/irritation	:	Not classified No data available
Respiratory or skin sensitization	:	Not available No data available
Germ cell mutagenicity	:	Not available
Carcinogenicity	:	Not classified
Reproductive toxicity	:	Not available
Specific target organ toxicity (single exposure)	:	Not classified
Specific target organ toxicity (repeated exposure)	:	Not classified
Aspiration hazard	:	Not classified
Potential Adverse human health effects and symptoms	:	To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.
Symptoms/injuries after inhalation	:	May be harmful if inhaled. May cause respiratory tract irritation.
Symptoms/injuries after skin contact	:	May be harmful if absorbed through skin. May cause skin irritation.
Symptoms/injuries after eye contact	:	May cause eye irritation.
Symptoms/injuries after ingestion	:	May be harmful if swallowed.

SECTION 12: Ecological information

12.1. Toxicity

No additional information available

12.2. Persistence and degradability

L-ALLO-ISOLEUCINE (13C6, 97-99%; 15N, 97-99%) (1509-34-8 (Unlabeled))	
Persistence and degradability	Not available.

12.3. Bioaccumulative potential

L-ALLO-ISOLEUCINE (13C6, 97-99%; 15N, 97-99%) (1509-34-8 (Unlabeled))	
Bioaccumulative potential	Not available.

12.4. Mobility in soil

L-ALLO-ISOLEUCINE (13C6, 97-99%; 15N, 97-99%) (1509-34-8 (Unlabeled))	
Ecology - soil	Not available.

12.5. Results of PBT and vPvB assessment

No additional information available

12.6. Other adverse effects

Other adverse effects : Not available.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Regional legislation (waste) : Waste materials should be disposed of under conditions which meet Federal, State, and Local environmental control regulations.

Waste disposal recommendations : Offer surplus and non-recyclable solutions to a licensed disposal company. Contact a licensed professional waste disposal service to dispose of this material.

Ecology - waste materials : Dispose of as unused product.

SECTION 14: Transport information

In accordance with ADR / RID / IMDG / IATA / ADN

14.1. UN number

Not applicable

14.2. UN proper shipping name

Not applicable

14.3. Additional information

Other information : No supplementary information available.

Special transport precautions : Not dangerous goods.

Overland transport

No additional information available

Transport by sea

No additional information available

Air transport

No additional information available

14.4. Environmental hazards

Other information : No supplementary information available.

14.5. Special precautions for user

Special transport precautions : Not dangerous goods.

14.6. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable

SECTION 15: Regulatory information

15.1. US Federal regulations

No additional information available

15.2. International regulations

CANADA

L-ALLO-ISOLEUCINE (13C6, 97-99%; 15N, 97-99%) (1509-34-8 (Unlabeled))
Not listed on the Canadian DSL (Domestic Substances List) inventory.

15.2.1. National regulations

No additional information available

15.3. US State regulations

L-ALLO-ISOLEUCINE (13C6, 97-99%; 15N, 97-99%)(1509-34-8 (Unlabeled))	
State or local regulations	U.S. - Pennsylvania - RTK (Right to Know) List U.S. - New Jersey - Right to Know Hazardous Substance List This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm.

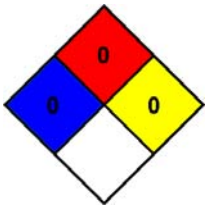
SECTION 16: Other information

Other information : 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.

NFPA health hazard : 0 - Exposure under fire conditions would offer no hazard beyond that of ordinary combustible materials.

NFPA fire hazard : 0 - Materials that will not burn.

NFPA reactivity : 0 - Normally stable, even under fire exposure conditions, and are not reactive with water.



HMIS III Rating

Health : 0 Minimal Hazard - No significant risk to health

Flammability : 0 Minimal Hazard

Physical : 0 Minimal Hazard

CIL Multi-Solvent Mixture SDS

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product