

Safety Data Sheet



1. Identification of the Substance/Mixture and the Supplier

Supplier : National Institute of Advanced Industrial Science and Technology (AIST)

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Identity of Substance/Mixture : Certified reference material: NMIJ CRM 6018-a
L-Lysine Monohydrochloride

Recommended Use of the Chemical and Restriction on Use : This reference material can be used for calibration of analysis equipment and validation of analysis method/equipment of amino acid analysis. Do not use this reference material for other purposes than testing/research.
This CRM is a reference material (specified in the Japanese Industrial Standard (JIS) Q 0030).

2. Hazards Identification

GHS Classification : Cannot be classified

GHS Label Element : -

Signal Word : -

Hazards Statement : -

Other Hazards Statement : One of essential amino acids and hardly toxic
Harmful, however, if inhaled or orally ingested in large amounts.
Causes irritation to eyes, throat and mucous membrane.

Precautionary Statement : [Safety Precaution]
Use appropriate personal protective equipment so as to avoid inhalation and contact with eyes, skin and clothing.
[First-Aid Measure]
If inhaled : Remove victim to fresh air. Keep victim warm with blanket etc. and keep at rest. Get medical advice/attention.
If on skin : Rinse away with plenty of soap and water.
Get medical advice/attention as required.
If in eyes : Rinse way thoroughly with clean water immediately.
Get medical advice/attention.
If ingested : Make victim drink water or salt solution to induce

vomiting. Get medical advice/attention if there is any problem.

[Storage]

Store in clean desiccator in a light-shielded environment at room temperature (15° C to 25 °C).

[Disposal]

Entrust disposal of this reference material to a professional waste disposal company licensed by prefectural governor.

The other hazards than the above do not result in classification or are not covered by the GHS.

3. Composition/Information on Ingredients

Substance/Mixture	:	Substance
Chemical Identity	:	L- Lysine Monohydrochloride
Synonym	:	(S)-2,6-diaminohexanoic acid-Monohydrochloride, Lysine hydrochloride
Content	:	99.8 %
Chemical Formula	or	$\text{H}_2\text{N}(\text{CH}_2)_4\text{CH}(\text{NH}_2)\text{COOH} \cdot \text{HCl}$
Structural Formula		
Molecular Weight	:	182.65
Content	:	99.9 % or over
Reference Number	in	Act on the Evaluation of Chemical Substances and Regulation
Gazetted List in Japan		of Their Manufacture, etc. : (9)-1633, (1)-215
		Industrial Safety and Health Act : Published
CAS Number	:	657-27-2

4. First-aid Measures

If in Eyes	:	Rinse away thoroughly with clean water immediately. Get medical advice/attention.
If on Skin	:	Rinse away with plenty of soap and water. Get medical advice/attention as required.
If Inhaled	:	Remove victim to fresh air. Keep victim warm and at rest. Get medical advice/attention.
If Ingested	:	Make victim drink plenty of water to induce vomiting. Get medical advice/attention if there is any problem.
Measures to be taken to protect the person applying first aid	:	Use personal protective equipment.

5. Fire-fighting Measures

Extinguishing Media	:	Water spray, Powder, Foam, Carbon dioxide (CO ₂), Dry sand
Fire-Specific Hazards	:	As irritating or toxic gas is generated in the case of fire, use appropriate personal protective equipment to avoid breathing it.

- Specific Fire-Fighting Method : Eliminate ignition sources at the origin of a fire and put out fire by using extinguishing media. Remove movable containers promptly to a safe place. In the case of immovable containers, cool their surroundings with sprayed water.
- Protection of Fire-Fighters : Carry out fire-fighting from the windward in order to avoid breathing hazardous gas. Use personal protective equipment such as compressed air open-circuit self-contained breathing apparatus as necessary.

6. Accidental Release Measures

- Personal Precaution, Personal Protective Equipment and Emergency Procedures : Ventilate the affected areas thoroughly, if it is in an indoor environment, until the clean-up operation is completed. Use appropriate personal protective equipment during the operation to avoid skin contact of splash etc. and inhalation of dust and gas.
- Environmental Precautions : Take precautions to prevent spillage from draining into rivers etc. to adversely impact the environment. Make it sure to appropriately treat contaminated wastewater in order to prevent untreated wastewater from being released into the surrounding environment.
- Recovery and Neutralization : Collect spillage in empty containers. Rinse away the remains with plenty of water.
- Prevention of Secondary Disaster : Mark the restricted area with rope etc. to keep out unauthorized people. Carry out the clean-up operation from the windward and make people on the leeward side evacuate.

7. Handling and Storage

- Handling
- Engineering Precautions : Nothing special.
- Precautions : Avoid rough handling such as turning over, dropping, giving a shock to or dragging containers. Prevent spill, overflow and scattering, and avoid dust and vapor generation. Keep container tightly closed after using this reference material. Wash hands, face etc. thoroughly and gargle after handling this reference material. Restrict drinking, eating and smoking to a designated area. Do not bring gloves and other contaminated personal protective equipment into staff room.
- Precautions for Safe Handling : Use appropriate personal protective equipment to avoid inhalation and contact with eyes, skin and clothing. Use local ventilation system when using this reference material in an indoor workplace.

Storage

Appropriate Storage : Store in clean desiccator in a light-shielded environment at room
Conditions temperature (15 °C to 25 °C).
Engineering : Nothing special
Precautions
Incompatible : No data available
Substances
Safe Container : Glass
Packaging Material

8. Exposure Controls/Personal Protection

Threshold Limit Value

Not specified

Permissible Concentration

- ACGIH TLV-TWA : Not specified
- Values recommended : Not specified
by Japan Society for
Occupational Health
- OSHA PEL TWA : Not specified

Engineering Controls

Ventilation/Exhaust : Keep container tightly closed and install local ventilation
system when dust is generated.
Install facilities to rinse eyes and to wash hands and body in
the vicinity of a place handling this reference material and
label them.

Safety control/
Gas detection : -

Storage Precautions : Store in a clean light-shielded environment at room
temperature (15 °C to 25 °C).

Personal Protective Equipment (PPE)

- Respiratory System : Dust protective mask
- Hands : Protective gloves
- Eyes : Eye protector (Goggle type as necessary)
- Skin and Body : Protective clothing with long sleeves

Hygiene measure

Treat in accordance with rules on Industrial hygiene and Industrial safety.

9. Physical and Chemical Properties

- Appearance, etc. : Powder
- Color : White
- Odor : No data
- pH : No data
- Melting point : 224.5 °C (Decomposition point)
- Boiling point : No data
- Flashing point : No data
- Explosive range : No data

- Vapor pressure : No data
- Relative vapor density(Air=1) : No data
- Specific gravity or bulk specific gravity : No data
- Solubility : Easily-soluble in water, Hardly-soluble in ethanol, Insoluble in ether.
- *n*-Octanol/water partition coefficient (Log Po/w) : No data
- Auto-ignition temperature : No data

10. Stability and Reactivity

Stability

- Stable

Reactivity

- No data available

Conditions to Avoid

- No data available

Hazardous Decomposition Products

- No data available

11. Toxicological Information

Carcinogenicity Hard to acquire information

Reproductive Toxicity Abdominal cavity Rat TDLO : 44 g/kg (Day 5 to 15 of gestation)

Oral Rat TDLO : 138 g/kg (Day 5 to 15 of gestation)

12. Ecological Information

Persistence and Degradability

- No data available

Bioaccumulative Potential

- No data available

Ecotoxicity

- No data available

13. Disposal Considerations

Residual Waste : Incineration method
Incinerate in an incinerator equipped with scrubber.
Dispose of this reference material in accordance with applicable legislation and local government ordinance.
When the above-mentioned treatments are not possible, entrust disposal of residual waste to a professional waste disposal company licensed by prefectural governor.

Contaminated Container and : Dispose of containers after thoroughly removing their contents.

Package

14. Transport Information

UN Number : Not applicable
UN Classification : Not applicable
Shipping Name : -
Marine Pollutant : Not applicable
Precautions : Transport this reference material carefully while keeping it away from direct sunlight and fire and preventing accidental release due to falling, overturning, etc.

15. Regulatory Information

- No applicable laws and regulations
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16. Other Information

Other

The information in this document is not intended to be exhaustive and is based on currently available information and data. The measures given in this document are applicable only to normal handling conditions. When handling this reference material under special conditions etc., it is recommended to take safety measures appropriate to each specific application and context of use. This document is intended to provide information and not intended to guarantee anything in handling this reference material.
