

Safety Data Sheet



1. Identification of the Substance/Mixture and the Supplier

Supplier : National Institute of Advanced Industrial Science and Technology (AIST)
Address : 1-3-1 Kasumigaseki, Chiyoda, Tokyo, Japan
Office in Charge : Reference Materials Office, Center for Quality Management of Metrology, National Metrology Institute of Japan
Person in Charge : Certified Reference Material Staff
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Emergency Contact : Same as above

Prepared on : January 21, 2010

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Reference No. : 6015001

Identity of Substance/Mixture : Certified Reference Material NMIJ CRM 6015-a
L-Valine
Recommended Use of the Chemical and Restriction on Use : This reference material can be used, in amino acid analysis, for preparation of standard solution, calibration of analysis equipment and validation of analysis method/equipment. 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 : Not classifiable
GHS Label element : -
Signal word : -
Hazard communication: : -
Other hazard communication : One of the essential amino acids very low in toxicity, but harmful if inhaled or ingested in large quantity. Irritates eye, respiratory tract and mucous membrane.
Precautionary statement : [Preventive Measures]
Use appropriate protective equipment to prevent the inhalation and contact with eye, skin or clothing
[Response]
If inhaled: Remove from area of exposure and get some fresh air. Keep warm with a blanket, and keep one at rest. Get medical treatment.
If on skin: Wash with soap and plenty of water. If necessary, get medical assistance
If in eye: Immediately flush with plenty of clean water and get medical treatment
If swallowed: Induce vomit by drinking water or salt solution, get

medical assistance if there is any abnormal condition.

[Storage]

Store in a clean desiccator at room temperature (about 15 °C to 25 °C) protected from light.

[Disposal]

Commission waste disposal to a specialized industrial waste disposal contractor licensed by the prefectural governor.

Hazardous and toxic properties not specified in the above are not subject to the classification or not classifiable.

3. Composition/Information on Ingredients

Single or compound product	:	Single product
Chemical Ingredient Name	:	L-Valine
Other name	:	(S)-2-amino-3-methylbutane acid
Content	:	99.8 %
Chemical formula or structural formula	:	$(\text{CH}_3)_2\text{CHCH}(\text{NH}_2)\text{COOH}$
Molecular Weight	:	117.15
Content	:	>99.9 %
Reference Number in Gazetted List in Japan	:	Act on the Evaluation of Chemical Substances and Regulation of Their Manufacture, etc. : (9)-1604 Industrial Safety and Health Act : Published
CAS No.	:	72-18-4
Hazardous component	:	None

4. First-aid Measures

If in eyes	:	Rinse with plenty of clean water, get medical assistance
If on skin	:	Wash with soap and plenty of water, if necessary, get medical assistance
If inhaled	:	Remove from area of exposure and get some fresh air. Keep warm and at rest. Get medical assistance
If swallowed	:	Drink a lot of water and induce vomit, get medical assistance if there is any abnormal condition
Measures to be taken to protect the person applying first aid	:	Use personal protective equipment.

5. Fire-fighting Measures

Extinguishing media	:	Water, powder, carbon dioxide, foam, dry sand
Specific hazards at the time of fire	:	May generate irritating or toxic gas
Specific extinguishing	:	Immediately remove combustible or ignitable materials from

measures	near the fire and start extinguishing with extinguishing agent, promptly transfer movable containers to a safe place, if impossible to move, cool the periphery of the container with water spray
Protecting fire-fighting personnel	: Fire extinguishing activities from the windward and avoid inhaling toxic gas. Use personal protective equipment such as fire-safe clothing, air breathing apparatus, etc. as the situation demands.

6. Accidental Release Measures

Personal precaution	: If indoor, ventilate well until the treating process is completed properly.
Protective equipment and emergency procedures	Wear appropriate protective equipment to protect the skin from spattering droplets, etc. and prevent inhaling dust/particulate or gas
Environmental precautions	: To prevent causing environmental impact, do not release the product into rivers, etc. through drainage. Before discharging contaminated waste water, treat the waste water properly.
Collection, neutralization	: Collect the leakage in a container. Wash down the leaked area with plenty of water. Rope in the leakage area and prohibit the entrance of unauthorized persons. Work at windward and evacuate the people in leeward.
Secondary disaster prevention	

7. Handling and Storage

Handlings

- Avoid unnecessary dust generation causing leakage, spillage, scattering, etc.
- Use appropriate protective equipment to avoid contact with eye, skin, clothing, etc.
- No eating, drinking and smoking when working
- Wash hands, face, etc. and gargle well after the handling
- Restrict the access to the handling area
- Store the product in an airtight container
- Use of the product is restricted to research experiments
- Do not use the product for in vivo experiments

Storage

- Protect from light and store in a clean desiccator at room temperature (about 15 °C to 25 °C).

8. Exposure Controls/Personal

Administrative Level

Not established

Occupational exposure limit

- ACGIH TLV-TWA : Not established
- Japan Society for Occupational Health recommended reference value : Not established
- OSHA PEL TWA : Not established

Facility engineering control

Ventilation, exhaust : If generating dust/particle, seal the source of release and install local exhaust ventilation equipment.
Install eye wash facility and emergency safety shower and indicate their location with signage conspicuously.

Safety control, gas detection : -

Storage precaution : -

Protective equipment

Respiratory tract protection : Dust protective mask.

Hands : Protective gloves

Eyes : Protective eyeglasses (safety goggles as needed)

Skin and body : Long-sleeved protective clothing

9. Physical and Chemical Properties

- Appearance, etc. : Powder
- Color : White
- Odor : No data
- pH : No data
- Melting point : 315 °C (sealed tube)
- 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 : In 1L water, 83.4 g(25 °C)、88.5 g (50 °C) dissolved. Not soluble in ethanol, ether
- *n*-Octanol/water partition coefficient (Log Po/w) : No data
- Auto-ignition temperature : No data

10. Stability and Reactivity

◇Stability

- Stable under normal condition

◇Reactivity

- May react in contact with strong oxidizer

◇Condition to avoid

- Sunlight, heat

◇Hazardous decomposition products

- Carbon monoxide, nitrogen oxide

11. Toxicological Information

Acute toxicity Intraperitoneal rat LD 50: 5390 mg/kg (RTECS)

12. Ecological Information

Degradability, concentration

•No data available

Bioaccumulation

•No data available

Ecotoxicity

•No data available

13. Disposal Considerations

- Disposal shall be in compliance with Laws and Regulations concerned, and ordinances of the local authorities
 - Disposal of an empty container shall be after removing/decontaminating the content completely.
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14. Transport Information

UN number : Not applicable

UN classification : Not applicable

Name : -

Marine pollutant : Not applicable

Precautions : Transfer with care avoiding direct sunlight, leakage or spill due to fall, keep away from sources of ignition.

15. Transport Information

- No applicable laws and regulations

- ◎ **This SDS is originally prepared for the use of the material in Japan, thus the stated laws and regulations are stipulated and carried out in Japan. The use of the material in other countries should be referred to and by application of the relevant laws and regulations of the country in which the material will be used.**
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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.
