

Date of issue: 13/02/2018

Safety Data Sheet

 Identification of the substance/mixture and of the company/undertaking Product identifier: Product name: L-Valine Product code(SDS NO): 8412E-1
 Details of the supplier of the safety data sheet Manufacturer/Supplier: KISHIDA CHEMICAL CO., LTD. Address: 3-1, Honmachibashi, Chuo-ku,Osaka 540-0029,JAPAN Division: Safety Management Dept. of Chemicals Telephone number: +81-6-6946-8061 FAX: +81-6-6946-1607 e-mail address: kagakuhinanzenkanri@kishida.co.jp

Hazards identification
 GHS classification and label elements of the product
 Classification of the substance or mixture
 (Note) GHS classification without description: Not applicable/Out of classification/Not
 classifiable

3. Composition/information on ingredients

Mixture/Substance selection: Substance Ingredient name:L-Valine Content(%):99(min) Chemical formula:(CH3)2CHCH(NH2)COOH Chemicals No, Japan:9-1604 CAS No.:72-18-4 MW:117.15 ECNO:200-773-6 Note : The figures shown above are not the specifications of the product.

4. First-aid measures

Descriptions of first-aid measures

IF INHALED

Remove person to fresh air and keep comfortable for breathing.

Call a POISON CENTER or doctor/physician if you feel unwell.

IF ON SKIN (or hair)

Take off immediately all contaminated clothing. Rinse skin with water/shower.

If skin irritation or rash occurs: Get medical advice/attention.

IF IN EYES

Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

If eye irritation persists: Get medical advice/attention.

IF SWALLOWED

Rinse mouth.

Call a POISON CENTER or doctor/physician if you feel unwell.



5. Fire-fighting measures	
Extinguishing media	
Suitable extinguishing media	
Use appropriate extinguishing media suitable for surrounding facilities.	
Specific hazards arising from the substance or mixture	
Containers may explode when heated.	
Fire may produce irritating, corrosive and/or toxic gases.	
Advice for firefighters	
Specific fire-fighting measures	
Evacuate non-essential personnel to safe area.	
Special protective equipment and precautions for fire-fighters	
Wear fire/flame resistant/retardant clothing.	
Wear protective gloves/protective clothing/eye protection/face protection.	
Firefighters should wear self-contained breathing apparatus with full face peace operated	
positive pressure mode.	
6. Accidental release measures	
Personnel precautions, protective equipment and emergency procedures	
Ventilate area after material pick up is complete.	
Wear proper protective equipment.	
Methods and materials for containment and cleaning up	
Sweep up, place in a bag and hold for waste disposal.	
Preventive measures for secondary accident	
Collect spillage.	
7. Handling and storage	
Precautions for safe handling	
Preventive measures	
(Distortion measures assignt five and evaluation)	

(Protective measures against fire and explosion)

- Keep away from heat/sparks/open flames/hot surfaces. No smoking.
- Exhaust/ventilator

Exhaust/ventilator should be available.

- Safety treatments
 - Avoid contact with skin.

Avoid contact with eyes.

- Safety Measures/Incompatibility
 - Wear protective gloves, protective clothing or face protection.
- When using do not eat, drink or smoke.

Conditions for safe storage, including any incompatibilities

- Recommendation for storage
 - Keep container tightly closed.
 - Store in a cool, dry place. Do not store in direct sunlight.

8. Exposure controls/personal protection

Exposure controls

Appropriate engineering controls

Do not use in areas without adequate ventilation.

- Eye wash station should be available.
- Washing facilities should be available.



Individual protection measures Respiratory protection Wear respiratory protection. Hand protection Wear protective gloves. Eye protection

Wear eye/face protection.

9. Physical and Chemical Properties Information on basic physical and chemical properties Physical properties Appearance: Crystals or crystalline powder Color: White Odor: Odourless or slightly characteristic odour Phase change temperature Initial Boiling Point/Boiling point data N.A. Melting point/Freezing point: 315°C Decomposition temperature data N.A. Flash point data N.A. Auto-ignition temperature data N.A. Explosive properties data N.A. Vapor pressure data N.A. Vapor density data N.A. Specific gravity/Density: 1.230 g/ml(20°C) Solubility Solubility in water: Soluble n-Octanol /water partition coefficient data N.A.

10. Stability and Reactivity
 Chemical stability
 Stable under normal storage/handling conditions.
 Conditions to avoid
 Contact with incompatible materials.
 Contact with fire source.
 Incompatible materials
 Oxidizing agents
 Hazardous decomposition products
 Carbon oxides, Nitrogen oxides

11. Toxicological Information
Information on toxicological effects
No Acute toxicity data available
No Irritant properties data available
No Allergenic and sensitizing effects data available
No Mutagenic effects data available
No Carcinogenic effects data available
No Teratogenic effects data available
No reproductive toxicity data available
No STOT-single/repeated exposure data available
No Aspiration hazard data available
Additional data



May cause lung disorders by massive inhalation of powdered substance. -e.g. fibrosis of lung tissue, cough, sputum, breath shortness, dyspnea, decline of lung function, interstitial lung disease, pneumothorax

12. Ecological Information

Ecotoxicity

No Aquatic toxicity data available

No Persistence and degradability data available

No Bioaccumulative potential data available

No Mobility in soil data available

Ozone depleting chemical data not available

13. Disposal considerations

Waste treatment methods

Dispose of contents/container in accordance with local/national regulation.

14. Transport Information Not applicable to UN NO.

15. Regulatory Information

Safety, health and environmental regulations/legislation specific for the substance or mixture US major regulations

TSCA

L-Valine

Other regulatory information

Ensure this material in compliance with federal requirements and ensure conformity to local regulations.

16. Other information

The product is not applicable to GHS classifications.

Reference Book

Globally Harmonized System of classification and labelling of chemicals, (5th ed., 2013), UN Recommendations on the TRANSPORT OF DANGEROUS GOODS 19th edit., 2015 UN Classification, labelling and packaging of substances and mixtures (table3-1 ECNO6182012) 2016 EMERGENCY RESPONSE GUIDEBOOK (US DOT)

2017 TLVs and BEIs. (ACGIH)

http://monographs.iarc.fr/ENG/Classification/index.php

Supplier's data/information

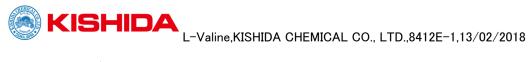
Hazard Communication Standard – 2012

General Disclaimer

This information contained in this data sheet represents the best information currently available to us. However, no warranty is made with respect to its completeness and we assume no liability resulting from its use. It are advised to make their own tests to determinate the safety and suitability of each such product or combination for their own purposes.

The data given here is based on current knowledge and experience. The purpose of this Safety Data Sheet is to describe the products in terms of their safety requirements. The data does not signify any warranty with regard to the products' properties.

The GHS classification data given here is based on current Japan official data (NITE published in



2016).