Safety Data Sheet

Date of revision: 2021/02/26 1.Product and company identification N-Acetyl-L-Leucine Product name Name of manufacturer Yoneyama Yakuhin Kogyo Co.,Ltd. 2-3-11 Doshomachi , Chuo-ku, Osaka, 541-0045, Japan Address Contact for Information Sales Division Telephone number 06-6231-3555 Fax number 06-6223-1093 SDS No. 29831 2.Hazards identification GHS Classification Does not meet the classification criteria. GHSLabel Elements Svmbol Signal ward Hazard statement 3.Composition/information on ingredients Substance/Mixture Substance Chemical name or commercial name N-Acetyl-L-Leucine Synonyms Chemical formula C₈H₁₅NO₃ CAS RN:1188-21-2 Numerical identifier 100% Ingredients and composition 4.First and measures INHALATION Move the exposed person to fresh air at once. Keep the affected person warm and at rest. Call a POISON CENTER/doctor if you feel unwell. SKIN CONTACT before removing clothing. If skin irritation occurs: Get medical advice/attention. Remove contact lenses, if present and easy to do. Continue rinsing. EYE CONTACT Get medical advice/attention. INGESTION Rinse mouth. 5.Fire fighting measures Suitable extinguishing media spray water, alcohol-resistant foam, powder, carbon dioxide Unsuitable extinguishing media No data Specific hazards arising from chemical No data Particular fire fighting No data Special protective actions for fire-fighters Firefighting should be done upwind and avoid inhalation of toxic fumes. Depending on the risk, wear appropriate protective equipment. 6 Accidental release measure Personal precaution, protective equipment and Wear appropriate protective equipment and work from upwind to emergency procedures evacuate people downwind. Wear protective clothing, respirator, chemical safety goggles, rubber boots and heavy rubber gloves. Environmental precautions impact. Removal measure Store the vessels in a well-ventilated location. Entrust them to the appropriate authorities for disposal. No data 7.Handling and storage Precautions for safe handling Technical measures Stop or reduce leak if safe to do so. Precautions for safe handling Do not handle the container by tumbling it, dropping it, giving it an

Incompatible materials

Hygiene measures Storage

Rinse immediately contaminated clothing and skin with plenty of water

Be careful not to discharge it into rivers, etc. and cause environmental

impact, or dragging it. Provision of very good ventilation in the working area. Seal the container after use Rinse and then wash skin with water and soap.

Conditions for safe storage Keep away from direct sunlight, high temperature and high humidity and store tightly closed. Handle with care, avoiding high temperature and humidity. Packaging compatibilities polyethylene, polypropylene 8.Exposure controls/personal protection Exposure limits ACGIH Equipment measures Provision of very good ventilation in the working area. Washing facility at the workplace required. Protective equipment Respiratory protection Air - supplied or self - contained NIOSH approved breathing apparatus. Hand protection Impervious protective gloves. Eve protection Safety goggles. Skin protection Protective clothing, protective boots. 9.Physical and chemical properties Physical state crystal powder Appearance white Odor No data 189~190°C Melting point/Freezing point Boiling point No data Combustible No data Upper/lower explosive limits No data Flash point No data Auto-ignition temperature No data Decomposition temperature No data pН No data Viscosity No data Solubility 8,100mg/L (water, 25°C) Partition coefficient: n-octanol/water log P = 0.790 Vapor pressure No data Specific gravity No data Vapor density No data No data Relative evaporation rate 10.Stability and reactively Reactivity No data Chemical stability Stable under normal handling. Possibility of hazardous reaction No data Condition to avoid sunlight, high temperature, high humidity Incompatible materials strong oxidizing substances Hazardous decomposition products nitrogen oxides, carbon monoxide 11.Toxicological information No data Acute toxicity Skin corrosion/irritation No data Eye damage/irritation No data No data Respiratory sensitization and Skin sensitization Germ cell mutagenicity No data Not listed (NTP. IARC. OSHA) (Classification not possible) Carcinogenicity Reproductive toxicity No data Specific target organ toxicity (single exposure) No data No data Specific target organ toxicity(repeated exposure) No data Aspiration hazard 12.Ecological information Hazardous to the aquatic environment No data Persistence and degradability No data Bioaccumulative potential No data Mobility in soil No data Not enumerated in Montreal Protocol on Substances that Deplete the Hazardous to the ozone layer Ozone Laver.

13.Disposal considerations Residual disposal

If there is no way of recycling it must be disposed of in compliance with the respective national and local regulation.

| | It consigns it to the industrial waste disposal trader who has permission. |
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| 14.Transport information | |
| UN Number | _ |
| UN proper shipping name | _ |
| Transport hazard class | _ |
| Packing group | _ |
| Additional identification | Ensure vehicle driver is aware of the potential hazards of the load and knows what to do in the event of an accident or an emergency. Before transporting product containers ensure that they are firmly |
| | secured. Ensure that the containers around the closed and not leaking. Prevent the product containers from falling over or falling. |
| 15.Regulatory information | |
| | Please apply to the regulatory control in each country. |
| 16.Other information | |
| References | National Institute of Technology and Evaluation(NITE) |
| | Hazardous Substances Data Bank(HSDS) |
| Attention | The Safety Data Sheet (SDS) is prepared based on JIS Z7253. All information contained herein is given in good faith and no warranty expressed or implied is made to its accuracy. The recommended industrial hygiene and safe handling procedures are believed to be generally applicable. |
| | However, each user should review these recommendations and determine whether they are appropriate. |