

SAFETY DATA SHEET

According to JIS Z 7253:2012
Revision Date 5-Feb-2020
Version 1

Section 1: PRODUCT AND COMPANY IDENTIFICATION

| | |
|---------------------|----------------------------|
| Product name | LABASSAY™ GLDH-Rat(A-type) |
| Product code | LABGLDH-RA |
| CAS RN | N/A |

| | |
|---|--|
| Manufacturer | FUJIFILM Wako Shibayagi Corporation 1062-1, Ishihara, Shibukawa-shi, Gunma-ken, Japan Telephone number: +81-279-25-0279 Fax number: +81-279-23-0313 |
| Supplier | FUJIFILM Wako Pure Chemical Corporation 1-2 Doshomachi 3-Chome, Chuo-ku, Osaka 540-8605, Japan Phone: +81-6-6203-3741 Fax: +81-6-6203-2029 |
| Emergency telephone number | FUJIFILM Wako Shibayagi Corporation 1062-1, Ishihara, Shibukawa-shi, Gunma-ken, Japan Telephone number: +81-279-25-0279 Fax number: +81-279-23-0313 |
| Recommended uses and restrictions on use | For research purposes |

Section 2: HAZARDS IDENTIFICATION

GHS classification

Classification of the substance or mixture

Skin sensitization

Category 1

Pictograms



Signal word

Warning

Hazard statements

H317 - May cause an allergic skin reaction

Precautionary statements-(Prevention)

- Avoid breathing dust/fume/gas/mist/vapors/spray
- Contaminated work clothing should not be allowed out of the workplace
- Protective gloves

Precautionary statements-(Response)

- IF ON SKIN: Wash with plenty of soap and water
- If skin irritation or rash occurs: Get medical advice/attention
- Wash contaminated clothing before reuse.

Precautionary statements-(Storage)

- Not applicable

Precautionary statements-(Disposal)

- Dispose of contents/container to an approved waste disposal plant

Others

Other hazards

Not available

Section 3: COMPOSITION/INFORMATION ON INGREDIENTS

Single Substance or Mixture Kit

| Chemical Name | Weight-% | Molecular weight | ENCS | ISHL No. | CAS RN |
|-------------------------|----------|------------------|------|----------|--------|
| (A) GLDH Standard | - | N/A | N/A | N/A | N/A |
| (B) Reaction reagent 1a | - | N/A | N/A | N/A | N/A |
| (C) Reaction reagent 1b | - | N/A | N/A | N/A | N/A |
| (D) Reaction reagent 2 | - | N/A | N/A | N/A | N/A |

Impurities and/or Additives : Not applicable

Section 4: FIRST AID MEASURES

Inhalation

Remove to fresh air. If symptoms persist, call a physician.

Skin contact

Wash off immediately with soap and plenty of water. If symptoms persist, call a physician.

Eye contact

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediate medical attention is required.

Ingestion

Rinse mouth. Never give anything by mouth to an unconscious person. Call a physician or poison control center immediately. Do not induce vomiting without medical advice.

Protection of first-aiders

Use personal protective equipment as required.

Section 5: FIRE FIGHTING MEASURES

Suitable extinguishing media

Use extinguishing measures that are appropriate to local circumstances and the surrounding environment

Unsuitable extinguishing media

No information available

Special extinguishing method

No information available

Specific hazards arising from the chemical product

Thermal decomposition can lead to release of irritating and toxic gases and vapors.

Protection of fire-fighters

Use personal protective equipment as required. Firefighters should wear self-contained breathing apparatus and full firefighting turnout gear.

Section 6: ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

For indoor, provide adequate ventilation process until the end of working. Deny unnecessary entry other than the people involved by, for example, using a rope. While working, wear appropriate protective equipments to avoid adhering it on skin, or inhaling the gas. Work from windward, and retract the people downwind.

Environmental precautions

To be careful not discharged to the environment without being properly handled waste water contaminated.

Methods and materials for contaminant and methods and materials for cleaning up

Absorb dry sand, earth, sawdust and the waste. Collect empty container that can be sealed.

Recovery, neutralization

No information available

Secondary disaster prevention measures

Clean contaminated objects and areas thoroughly observing environmental regulations.

Section 7: HANDLING AND STORAGE

Handling

Technical measures

Use with local exhaust ventilation.

Precautions

Do not rough handling containers, such as upsetting, falling, giving a shock, and dragging. Prevent leakage, overflow, and scattering. Not to generate steam and dust in vain. Seal the container after use. After handling, wash hands and face, and then gargle. In places other than those specified, should not be smoking or eating and drinking. Should not be brought contaminated protective equipment and gloves to rest stops. Deny unnecessary entry of non-emergency personnel to the handling area.

Safety handling precautions

Use personal protective equipment as required.

Storage

Safe storage conditions

Storage conditions Store away from sunlight in a cool (2-8 °C) well-ventilated dry place.

Safe packaging material Containers supplied by the manufacturer

Incompatible substances Strong oxidizing agents

Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

Engineering controls

In case of indoor workplace, seal the source or use a local exhaust system. Provide the safety shower facility, and hand- and eye-wash facility. And display their position clearly.

Exposure limits

| Chemical Name | JSOH (Japan) | ISHL (Japan) | ACGIH |
|--|--------------|--------------|--------------------------|
| 2,2',2''-Nitrilotriethanol 102-71-6 | N/A | N/A | TWA: 5 mg/m ³ |

Personal protective equipment

Respiratory protection Protective mask
Hand protection Protection gloves
Eye protection protective eyeglasses or chemical safety goggles
Skin and body protection Long-sleeved work clothes

General hygiene considerations

Handle in accordance with good industrial hygiene and safety practice.

Section 9: PHYSICAL AND CHEMICAL PROPERTIES

Form

| | |
|---|-----------------------|
| Appearance | Kit (Set of mixtures) |
| Odor | No data available |
| pH | No data available |
| Melting point/freezing point | No data available |
| Boiling point, initial boiling point and boiling range | No data available |
| Flash point | No data available |
| Evaporation rate: | No data available |
| Flammability (solid, gas): | No data available |
| Upper/lower flammability or explosive limits | |
| Upper : | No data available |
| Lower : | No data available |
| Vapour pressure | No data available |
| Vapour density | No data available |
| Specific Gravity / Relative density | No data available |
| Solubilities | No data available |
| n-Octanol/water partition coefficient: (log Pow) | No data available |
| Auto-ignition temperature: | No data available |

| | |
|--------------------------------------|-------------------|
| Decomposition temperature: | No data available |
| Viscosity (coefficient of viscosity) | No data available |
| Dynamic viscosity | No data available |

Section 10: STABILITY AND REACTIVITY

Stability

Stability Stable under recommended storage conditions.

Reactivity No data available

Hazardous reactions

None under normal processing

Conditions to avoid

Extremes of temperature and direct sunlight

Incompatible materials

Strong oxidizing agents

Hazardous decomposition products

Carbon monoxide (CO), Carbon dioxide (CO₂), Nitrogen oxides (NO_x)

Section 11: TOXICOLOGICAL INFORMATION

Described as Hazardous Component.

Acute toxicity

| Chemical Name | Acute toxicity -oral- source information | Acute toxicity -dermal- source information | Acute toxicity -inhalation gas-source information |
|----------------------------|--|---|---|
| 2,2',2''-Nitrilotriethanol | LD50 (orl, rat) : 8680mg/kg, 9110mg/kg (ACGIH 7th, 2001), 8000–9110mg/kg (PATTY 4th, 1994), 8000-9000mg/kg and 4200-11300mg/kg (NTP TR 518, 2004). | Based on the NITE GHS classification results. | Based on the NITE GHS classification results. |

| Chemical Name | Acute toxicity -inhalation vapor- source information | Acute toxicity -inhalation dust-source information | Acute toxicity -inhalation mist-source information |
|----------------------------|--|--|--|
| 2,2',2''-Nitrilotriethanol | Based on the NITE GHS classification results. | Based on the NITE GHS classification results. | Based on the NITE GHS classification results. |

Skin irritation/corrosion

| Chemical Name | Skin corrosion irritation source information |
|----------------------------|---|
| 2,2',2''-Nitrilotriethanol | Based on the NITE GHS classification results. |

Serious eye damage/ irritation

| Chemical Name | Serious eye damage source information |
|----------------------------|---|
| 2,2',2''-Nitrilotriethanol | Based on the NITE classification results. |

Respiratory or skin sensitization

| Chemical Name | Respiratory, Skin sensitization source information |
|----------------------------|---|
| 2,2',2''-Nitrilotriethanol | Respiratory sensitization: No data, Skin : Allergic contact dermatitis was observed in humans. (ACGIH (7th, 2001) , IARC 77 (2000) and NTP TR 518 (2004)). |

Reproductive cell mutagenicity

| Chemical Name | Mutagenic source information |
|----------------------------|---|
| 2,2',2''-Nitrilotriethanol | Based on the NITE GHS classification results. |

Carcinogenicity

| Chemical Name | Carcinogenicity source information |
|----------------------------|---|
| 2,2',2''-Nitrilotriethanol | Based on the NITE GHS classification results. |

| Chemical Name | NTP | IARC | ACGIH | JSOH (Japan) |
|--|-----|---------|-------|--------------|
| 2,2',2''-Nitrilotriethanol 102-71-6 | - | Group 3 | - | - |

Reproductive toxicity

| Chemical Name | Reproductive toxicity source information |
|----------------------------|---|
| 2,2',2''-Nitrilotriethanol | Based on the NITE GHS classification results. |

STOT-single exposure

| Chemical Name | STOT -single exposure- source information |
|----------------------------|---|
| 2,2',2''-Nitrioltriethanol | Based on the NITE GHS classification results. |

STOT-repeated exposure

| Chemical Name | STOT -repeated exposure- source information |
|----------------------------|---|
| 2,2',2''-Nitrioltriethanol | Based on the NITE GHS classification results. |

Aspiration hazard

| Chemical Name | Aspiration Hazard source information |
|----------------------------|---|
| 2,2',2''-Nitrioltriethanol | Based on the NITE GHS classification results. |

Section 12: ECOLOGICAL INFORMATION

Described as Hazardous Component.

Ecotoxicity

| Chemical Name | Algae/aquatic plants | Fish | Crustacea |
|----------------------------|--|---|--|
| 2,2',2''-Nitrioltriethanol | <i>EC50:Desmodesmus subspicatus</i> 216 mg/L 72 h <i>EC50:Desmodesmus subspicatus</i> 169 mg/L 96 h | <i>LC50:Pimephales promelas</i> 10600 - 13000 mg/L 96 h <i>LC50:Pimephales promelas</i> 1000 mg/L 96 h <i>LC50:Lepomis macrochirus</i> 450 - 1000 mg/L 96 h | <i>EC50:Daphnia magna</i> 1386 mg/L 24 h |

Other data

| Chemical Name | Aquatic toxicity -Acute- source information | Aquatic toxicity -Chronic- source information |
|----------------------------|---|---|
| 2,2',2''-Nitrioltriethanol | Based on the NITE GHS classification results. | Based on the NITE GHS classification results. |

| | |
|--------------------------------------|--------------------------|
| Persistence and degradability | No information available |
| Bioaccumulative potential | No information available |
| Mobility in soil | No information available |
| Hazard to the ozone layer | No information available |

Section 13: DISPOSAL CONSIDERATIONS

Waste from residues

Disposal should be in accordance with applicable regional, national and local laws and regulations.

Contaminated container and contaminated packaging

Disposal should be in accordance with applicable regional, national and local laws and regulations.

Section 14: TRANSPORT INFORMATION

| | |
|---|--------------------------|
| ADR/RID | Not regulated |
| UN number | - |
| Proper shipping name: | |
| UN classification | |
| Subsidiary hazard class | |
| Packing group | |
| Marine pollutant | Not applicable |
| IMDG | Not regulated |
| UN number | - |
| Proper shipping name: | |
| UN classification | |
| Subsidiary hazard class | |
| Packing group | |
| Marine pollutant (Sea) | Not applicable |
| Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code | No information available |

| | |
|--|----------------|
| IATA | Not regulated |
| UN number | - |
| Proper shipping name: | |
| UN classification | |
| Subsidiary hazard class | |
| Packing group | |
| Environmentally Hazardous Substance | Not applicable |

Section 15: REGULATORY INFORMATION

International Inventories

| | |
|----------------------|---|
| EINECS/ELINCS | - |
| TSCA | - |

Japanese regulations

| | |
|--|---|
| Fire Service Act | Not applicable |
| Poisonous and Deleterious Substances Control Law | Not applicable |
| Industrial Safety and Health Act | Notifiable Substances (Law Art.57-2, Enforcement Order Art.18-2 Attached Table No.9)No.381 |
| Regulations for the carriage and storage of dangerous goods in ship | Not applicable |
| Civil Aeronautics Law | Not applicable |
| Pollutant Release and Transfer Register Law | Not applicable |
| Water Pollution Control Act | Harmful Substances (Law Art.2, Enforcement Order Art.2, Ordinance Designating Wastewater Standards Art.1) |

Section 16: OTHER INFORMATION

Key literature references and sources for data etc.

NITE: National Institute of Technology and Evaluation (JAPAN)
<http://www.safe.nite.go.jp/japan/db.html>
 IATA dangerous Goods Regulations
 RTECS:Registry of Toxic Effects of Chemical Substances
 Japan Industrial Safety and Health Association GHS Model SDS
 Dictionary of Synthetic Organic Chemistry, SSOCJ, Koudansha Scientific Co.Ltd.
 Chemical Dictionary, Kyouritsu Publishing Co., Ltd.
 etc

Disclaimer

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 GHS Classification is according to JIS Z7252(2014). *JIS: Japanese Industrial Standards

End of Safety Data Sheet