

According to the UN GHS revision 8

Creation Date: April 29, 2026

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## 1. IDENTIFICATION

### 1.1 GHS Product identifier

Product name: L-Gulono-1,4-lactone

Catalog Number: T5578

CAS Number: 1128-23-0

### 1.2 Other means of identification

Other names: -

### 1.3 Recommended use of the chemical and restrictions on use

Identified uses: no data available

### 1.4 Supplier's details

Company: Targetmol Chemicals Inc.

Address: 34 Washington Street, Wellesley Hills, Massachusetts 02481 USA

Tel/Fax: (781) 999-4286

### 1.5 Emergency phone number

Emergency phone number: 781-999-4286

Service hours: Monday to Friday, 9am-5pm (Standard timezone: UTC/GMT -5 hours).

## 2. HAZARD IDENTIFICATION

### 2.1 Classification of the substance or mixture

GHS Classification in accordance with 29 CFR 1910 (OSHA HCS)

Skin corrosion/irritation (Category 2),H315

Serious eye damage/eye irritation (Category 2A),H319

### 2.2 GHS label elements, including precautionary statements

Pictogram(s):



Signal word: Warning

Hazard statement(s):  
H315 Causes skin irritation  
H319 Causes serious eye irritation

Precautionary statement(s):

Prevention:

P261 Avoid breathing dust/fume/gas/mist/vapours/spray.  
P264 Wash hands thoroughly after handling  
P270 Do not eat, drink or smoke when using this product.  
P271 Use only outdoors or in a well-ventilated area.  
P280 Wear protective gloves/protective clothing/eye protection/face protection.

Response:

P302+P352 IF ON SKIN: Wash with plenty of soap and water.  
P304+P340 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.  
P330 Rinse mouth.  
P362+P364 Take off contaminated clothing and wash it before reuse.

**Storage:** P405 Store locked up.

**Disposal:** P501 Dispose of contents/container to in accordance with local regulation.

## 2.3 Other hazards which do not result in classification

no data available

## 3. COMPOSITION/INFORMATION ON INGREDIENTS

### 3.1 Substances

| Chemical name        | Common names and synonyms | CAS number | EC number |
|----------------------|---------------------------|------------|-----------|
| L-Gulono-1,4-lactone | -                         | 1128-23-0  | -         |

## 4. FIRST-AID MEASURES

### 4.1 Description of necessary first-aid measures

#### General advice

no data available

#### If inhaled

Move the victim into fresh air. If breathing is difficult, give oxygen. If not breathing, give artificial respiration and consult a doctor immediately. Do not use mouth to mouth resuscitation if the victim ingested or inhaled the chemical.

#### Following skin contact

Take off contaminated clothing immediately. Wash off with soap and plenty of water. Consult a doctor.

#### Following eye contact

Rinse with pure water for at least 15 minutes. Consult a doctor.

#### Following ingestion

Rinse mouth with water. Do not induce vomiting. Never give anything by mouth to an unconscious person. Call a doctor or Poison Control Center immediately.

### 4.2 Most important symptoms/effects, acute and delayed

no data available

### 4.3 Indication of immediate medical attention and special treatment needed, if necessary

no data available

## 5. FIRE-FIGHTING MEASURES

### 5.1 Extinguishing media

Use dry chemical, carbon dioxide or alcohol-resistant foam.

### 5.2 Specific hazards arising from the chemical

no data available

### 5.3 Special protective actions for fire-fighters

Wear self-contained breathing apparatus for firefighting if necessary.

## 6. ACCIDENTAL RELEASE MEASURES

### 6.1 Personal precautions, protective equipment and emergency procedures

Avoid dust formation. Avoid breathing mist, gas or vapours. Avoid contacting with skin and eye. Use personal protective equipment. Wear chemical impermeable gloves. Ensure adequate ventilation. Remove all sources of ignition. Evacuate personnel to safe areas. Keep people away from and upwind of spill/leak.

### 6.2 Environmental precautions

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Prevent further spillage or leakage if it is safe to do so. Do not let the chemical enter drains. Discharge into the environment must be avoided.

### 6.3 Methods and materials for containment and cleaning up

Collect and arrange disposal. Keep the chemical in suitable and closed containers for disposal. Remove all sources of ignition. Use spark-proof tools and explosion-proof equipment. Adhered or collected material should be promptly disposed of, in accordance with appropriate laws and regulations.

## 7. HANDLING AND STORAGE

### 7.1 Precautions for safe handling

Handling in a well ventilated place. Wear suitable protective clothing. Avoid contact with skin and eyes. Avoid formation of dust and aerosols. Use non-sparking tools. Prevent fire caused by electrostatic discharge steam.

### 7.2 Conditions for safe storage, including any incompatibilities

Store the container tightly closed in a dry, cool and well-ventilated place. Store apart from foodstuff containers or incompatible materials.

Powder: -20°C for 3 years | In solvent: -80°C for 1 year

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

### 8.1 Control parameters

#### Occupational Exposure limit values

no data available

#### Biological limit values

no data available

### 8.2 Appropriate engineering controls

Ensure adequate ventilation. Handle in accordance with good industrial hygiene and safety practice. Set up emergency exits and the risk-elimination area.

### 8.3 Individual protection measures, such as personal protective equipment (PPE)

#### Eye/face protection

Wear tightly fitting safety goggles with side-shields conforming to EN 166(EU) or NIOSH (US).

#### Skin protection

Wear fire/flame resistant and impervious clothing. Handle with gloves. Gloves must be inspected prior to use. Wash and dry hands. The selected protective gloves have to satisfy the specifications of EU Directive 89/686/EEC and the standard EN 374 derived from it.

#### Respiratory protection

If the exposure limits are exceeded, irritation or other symptoms are experienced, use a full-face respirator.

#### Thermal hazards

no data available

## 9. PHYSICAL AND CHEMICAL PROPERTIES

|  |                   |
|--|-------------------|
| Physical state   | Solid             |
| Color  | no data available |
| Odour  | no data available |
| Melting point/freezing point                             | -32°C(lit.)       |
| Boiling point or initial boiling point and boiling range | 159°C(lit.)       |
| Flammability   | no data available |
| Lower and upper explosion limit/flammability limit       | no data available |
| Flash point  | 33°C(lit.)        |

|  |  |
|--|--|
| <b>Auto-ignition temperature</b>             | no data available  |
| <b>Decomposition temperature</b>             | no data available  |
| <b>pH</b>                                    | no data available  |
| <b>Kinematic viscosity</b>                   | no data available  |
| <b>Solubility</b>                            | DMSO: 50 mg/mL (280.68 mM),Sonication is recommended.<br>H2O: 30 mg/mL (168.41 mM),Sonication is recommended.<br>(< 1 mg/ml refers to the product slightly soluble or insoluble) |
| <b>N-octanol-water partition coefficient</b> | no data available  |
| <b>Vapour pressure</b>                       | 1.01E-10mmHg at 25°C   |
| <b>Density and/or relative density</b>       | 1.766 g/cm <sup>3</sup>  |
| <b>Relative vapour density</b>               | no data available  |
| <b>Particle characteristics</b>              | no data available  |

### 10. STABILITY AND REACTIVITY

#### 10.1 Reactivity

no data available

#### 10.2 Chemical stability

no data available

#### 10.3 Possibility of hazardous reactions

no data available

#### 10.4 Conditions to avoid

no data available

#### 10.5 Incompatible materials

no data available

#### 10.6 Hazardous decomposition products

no data available

### 11. TOXICOLOGICAL INFORMATION

#### Acute toxicity

Oral: no data available  
Inhalation: no data available  
Dermal: no data available

#### Skin corrosion/irritation

no data available

#### Serious eye damage/irritation

no data available

#### Respiratory or skin sensitization

no data available

#### Germ cell mutagenicity

no data available

#### Carcinogenicity

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no data available

### **Reproductive toxicity**

no data available

### **STOT-single exposure**

no data available

### **STOT-repeated exposure**

no data available

### **Aspiration hazard**

no data available

## **12. ECOLOGICAL INFORMATION**

### **12.1 Toxicity**

Toxicity to fish: no data available

Toxicity to daphnia and other aquatic invertebrates: no data available

Toxicity to algae: no data available

Toxicity to microorganisms: no data available

### **12.2 Persistence and degradability**

no data available

### **12.3 Bioaccumulative potential**

no data available

### **12.4 Mobility in soil**

no data available

### **12.5 Other adverse effects**

no data available

## **13. DISPOSAL CONSIDERATIONS**

### **13.1 Disposal methods**

#### **Product**

The material can be disposed of by removal to a licensed chemical destruction plant or by controlled incineration with flue gas scrubbing. Do not contaminate water, foodstuffs, feed or seed by storage or disposal. Do not discharge to sewer systems.

#### **Contaminated packaging**

Containers can be triply rinsed (or equivalent) and offered for recycling or reconditioning. Alternatively, the packaging can be punctured to make it unusable for other purposes and then be disposed of in a sanitary landfill. Controlled incineration with flue gas scrubbing is possible for combustible packaging materials.

## **14. TRANSPORT INFORMATION**

### **14.1 UN Number**

no data available

### **14.2 UN Proper Shipping Name**

no data available

### **14.3 Transport hazard class(es)**

no data available

### **14.4 Packing group, if applicable**

no data available

**14.5 Environmental hazards**

no data available

**14.6 Special precautions for user**

no data available

**14.7 Transport in bulk according to IMO instruments**

no data available

**15. REGULATORY INFORMATION****15.1 Safety, health and environmental regulations specific for the product in question**

|  |             |
|--|-------------|
| European Inventory of Existing Commercial Chemical Substances (EINECS)   | Not Listed. |
| EC Inventory   | Not Listed. |
| United States Toxic Substances Control Act (TSCA) Inventory              | Not Listed. |
| China Catalog of Hazardous chemicals 2015                                | Not Listed. |
| New Zealand Inventory of Chemicals (NZIoC)                               | Listed.     |
| Philippines Inventory of Chemicals and Chemical Substances (PICCS)       | Listed.     |
| Vietnam National Chemical Inventory                                      | Listed.     |
| Chinese Chemical Inventory of Existing Chemical Substances (China IECSC) | Not Listed. |
| Korea Existing Chemicals List (KECL)                                     | Not Listed. |

**16. OTHER INFORMATION****Information on revision****Creation Date** April 29, 2026**Revision Date** April 29, 2026**Abbreviations and acronyms**

- CAS: Chemical Abstracts Service
- ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road
- RID: Regulation concerning the International Carriage of Dangerous Goods by Rail
- IMDG: International Maritime Dangerous Goods
- IATA: International Air Transportation Association
- TWA: Time Weighted Average
- STEL: Short term exposure limit
- LC50: Lethal Concentration 50%
- LD50: Lethal Dose 50%
- EC50: Effective Concentration 50%

**References**

IPCS - The International Chemical Safety Cards (ICSC), website: <http://www.ilo.org/dyn/icsc/showcard.home>  
 HSDB - Hazardous Substances Data Bank, website: <https://toxnet.nlm.nih.gov/newtoxnet/hsdb.htm>  
 IARC - International Agency for Research on Cancer, website: <http://www.iarc.fr/>  
 eChemPortal - The Global Portal to Information on Chemical Substances by OECD, website: [http://www.echemportal.org/echemportal/index?pageID=0&request\\_locale=en](http://www.echemportal.org/echemportal/index?pageID=0&request_locale=en)  
 CAMEO Chemicals, website: <http://cameochemicals.noaa.gov/search/simple>  
 ChemIDplus, website: <http://chem.sis.nlm.nih.gov/chemidplus/chemidlite.jsp>  
 ERG - Emergency Response Guidebook by U.S. Department of Transportation, website: <http://www.phmsa.dot.gov/hazmat/library/erg>  
 Germany GESTIS-database on hazard substance, website: <http://www.dguv.de/ifa/gestis/gestis-stoffdatenbank/index-2.jsp>  
 ECHA - European Chemicals Agency, website: <https://echa.europa.eu/>

**Other Information**

no data available

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