

Shanghai Aladdin Biochemical Technology Co., Ltd.  
No. 809, Chuhua Branch Road, Fengxian District, Shanghai

# SAFETY DATA SHEET

Version: v1  
Revision Date: 2024-01-22  
Print Date: 2024-01-29

## SECTION 1: Identification of the substance/mixture and of the company/undertaking

### 1.1 Product identifiers

Product name : Lithium perchlorate  
Product Number : L110163  
Brand : aladdin  
CAS-No. : 7791-03-9

### 1.2 Relevant identified uses of the substance or mixture and uses advised against

Identified uses : Laboratory chemicals, Manufacture of substances.

### 1.3 Details of the supplier of the safety data sheet

Company : Shanghai Aladdin Biochemical Tech Co., Ltd  
Address : 36 Xinjinqiao Road, Shanghai  
Telephone : 400-620-6333  
Fax : no data available

### 1.4 Emergency telephone number

Emergency Phone : 0532-83889090

## SECTION 2: Hazards identification

### 2.1 Classification of the substance or mixture

GHS Classification in accordance with 29 CFR 1910 (OSHA HCS)  
Oxidizing solids (Category 2), H272

Acute toxicity, Oral (Category 4), H302

Skin corrosion/irritation (Category 1A), H314

Serious eye damage/eye irritation (Category 1), H318

Specific target organ toxicity - single exposure (Category 3), Respiratory system, H335

### 2.2 GHS Label elements, including precautionary statements

Pictogram



Signal word

Danger

Hazard statement(s)

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|                            |  |
|----------------------------|--|
| H272                       | May intensify fire; oxidizer   |
| H302                       | Harmful if swallowed   |
| H314                       | Causes severe skin burns and eye damage  |
| H335                       | May cause respiratory irritation   |
| Precautionary statement(s) |  |
| P210                       | Keep away from heat, hot surface, sparks, open flames and other ignition sources. - No smoking.  |
| P220                       | Keep away from clothing and other combustible materials.   |
| P221                       | Take any precaution to avoid mixing with combustibles/...  |
| P260                       | Do not breathe dust/fume/gas/mist/vapors/spray.  |
| P264                       | Wash hands [and ...] 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.   |
| P363                       | Wash contaminated clothing before reuse.   |
| P301+P330+P331             | IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.   |
| P303+P361+P353             | IF ON SKIN (or hair): Take off Immediately all contaminated clothing. Rinse SKIN with water [or shower].   |
| P370+P378                  | In case of fire: Use ... to extinguish.  |
| P405                       | Store locked up.   |
| P403+P233                  | Store in a well-ventilated place. Keep container tightly closed.   |
| P501                       | Dispose of contents/container to an approved waste disposal plant.   |
| P301+P312+P330             | IF SWALLOWED: Call a POISON CENTER/ doctor if you feel unwell. Rinse mouth.  |
| P304+P340+P310             | IF INHALED: Remove person to fresh air and keep comfortable for breathing. Immediately call a POISON CENTER/ doctor.   |
| P305+P351+P338+P310        | IF IN EYES: Rinse cautiously with water for several minutes. If contact lenses are worn and can be easily removed, remove Contact lenses. Continue rinsing. Immediately call an emergency center/doctor. |

## 2.3 Hazards not otherwise classified (HNOC) or not covered by GHS

## SECTION 3: Composition/information on ingredients

### 3.1 Substances

|                  |                                |
|------------------|--------------------------------|
| Synonyms         | : Perchloric Acid Lithium Salt |
| Formula          | : LiClO <sub>4</sub>           |
| Molecular weight | : 106.39                       |
| CAS No.          | : 7791-03-9                    |
| EC-NO.           | : 232-237-2                    |

| Component | Classification | Concentration |
|-----------|----------------|---------------|
|-----------|----------------|---------------|

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| Component           | Classification    | Concentration                   |
|---------------------|-------------------|---------------------------------|
| Lithium perchlorate | no data available | anhydrous,99.9%<br>metals basis |

## SECTION 4: First aid measures

### 4.1 Description of first aid measures

General advice

Show this material safety data sheet to the doctor in attendance.

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.

In case of skin contact

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

In case of eye contact

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

If swallowed

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 and effects, both acute and delayed

no data available

### 4.3 Indication of any immediate medical attention and special treatment needed

no data available

## SECTION 5: Firefighting measures

### 5.1 Extinguishing media

Suitable extinguishing media

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

Unsuitable extinguishing media

no data available

### 5.2 Special hazards arising from the substance or mixture

Hydrogen chloride gas Lithium oxides Not combustible. Has a fire-promoting effect due to release of oxygen. Ambient fire may liberate hazardous vapours.

### 5.3 Advice for firefighters

Wear self-contained breathing apparatus for firefighting if necessary.

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## 5.4 Further information

Use water spray to cool unopened containers.

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## SECTION 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

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.

### 6.4 Reference to other sections

For disposal see section 13.

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## SECTION 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

Tightly closed. Separately or together with other oxidising substances only and away from sources of ignition and heat. Because of their oxidation potential these products can raise the burning rate of combustible substances substantially or ignite combustible substances on contact with them. Hygroscopic.

### 7.3 Specific end use(s)

no data available

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## SECTION 8: Exposure controls/personal protection

### 8.1 Control parameters

### 8.2 Exposure controls

Appropriate engineering controls

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Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

#### Personal protective equipment

##### Eye/face protection

Face shield and safety glasses Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

##### Skin protection

Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands. The selected protective gloves have to satisfy the specifications of Regulation (EU)2016/425 and the standard EN 374 derived from it.

##### Body Protection

Complete suit protecting against chemicals, Flame retardant antistatic protective clothing., The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

##### Respiratory protection

Where risk assessment shows air-purifying respirators are appropriate use a fullface particle respirator type N100 (US) or type P3 (EN 143) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection,use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN(EU).

##### Control of environmental exposure

Do not let product enter drains.

## SECTION 9: Physical and chemical properties

### 9.1 Information on basic physical and chemical properties

|   |   |
|---|---|
| a) Appearance                                   | form: Powder, Crystals and/or Chunks color: White |
| b) Odour  | no data available                                 |
| c) Odour Threshold                              | no data available                                 |
| d) pH   | no data available                                 |
| e) Melting point/freezing point                 | 236°C   |
| f) Initial boiling point and boiling range      | no data available                                 |
| g) Flash point                                  | no data available                                 |
| h) Evaporation rate                             | no data available                                 |
| i) Flammability (solid, gas)                    | no data available                                 |
| j) Upper/lower flammability or explosive limits | no data available                                 |
| k) Vapour pressure                              | no data available                                 |
| l) Vapour density                               | no data available                                 |
| m) Relative density                             | 2.42  |
| n) Water solubility                             | no data available                                 |

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- o) Partition coefficient: n-octanol/water no data available
- p) Auto-ignition temperature no data available
- q) Decomposition temperature no data available
- r) Viscosity no data available
- s) Explosive properties N no data available
- t) Oxidizing properties N no data available

## 9.2 Other safety information

no data available

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## SECTION 10: Stability and reactivity

### 10.1 Reactivity

no data available

### 10.2 Chemical stability

Stable under recommended storage conditions.

### 10.3 Possibility of hazardous reactions

Risk of explosion with: combustible substances

### 10.4 Conditions to avoid

Avoid moisture.

### 10.5 Incompatible materials

no data available

### 10.6 Hazardous decomposition products

no data available

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## SECTION 11: Toxicological information

### 11.1 Information on toxicological effects

Acute toxicity

LD50 Oral - Rat - female - > 300 - < 2,000 mg/kg (OECD Test Guideline 423) Symptoms: Irritation symptoms in the respiratory tract.

Skin corrosion/irritation

Skin - In vitro study Result: Causes burns. - 60 min (OECD Test Guideline 431)

Serious eye damage/eye irritation

no data available

Respiratory or skin sensitisation

no data available

Germ cell mutagenicity

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Test Type: Ames test Test system: S. typhimurium Metabolic activation: with and without metabolic activation  
Method: OECD Test Guideline 471 Result: negative

Carcinogenicity

no data available

Reproductive toxicity

no data available

Specific target organ toxicity - single exposure

Inhalation - May cause respiratory irritation.

Specific target organ toxicity - repeated exposure

no data available

Aspiration hazard

no data available

Additional Information

Large doses of lithium ion have caused dizziness and prostration, and can cause kidney damage if sodium intake is limited. Dehydration, weight loss, dermatological effects, and thyroid disturbances have been reported. Central nervous system effects that include slurred speech, blurred vision, sensory loss, ataxia, and convulsions may occur. Diarrhea, vomiting, and neuromuscular effects such as tremor, clonus, and hyperactive reflexes may occur as a result of repeated exposure to lithium ion., To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated. The following applies to lithium compounds in general: when handled or used inappropriately, the absorption of large quantities is followed by CNS disorders, agitation, spasms, ataxia (impaired locomotor coordination) due to disturbed electrolyte balance.

Other dangerous properties can not be excluded.

Handle in accordance with good industrial hygiene and safety practice.

## SECTION 12: Ecological information

### 12.1 Toxicity

Toxicity to daphnia and other aquatic invertebrates static test EC50 - Daphnia magna (Water flea) - > 100 mg/l - 48 h (OECD Test Guideline 202)

Toxicity to algae static test EC50 - Pseudokirchneriella subcapitata (green algae) - > 120 mg/l - 72 h (OECD Test Guideline 201)

### 12.2 Persistence and degradability

no data available

### 12.3 Bioaccumulative potential

no data available

### 12.4 Mobility in soil

no data available

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## 12.5 Results of PBT and vPvB assessment

no data available

## 12.6 Other adverse effects

Further information on ecology An environmental hazard cannot be excluded in the event of unprofessional handling or disposal. Discharge into the environment must be avoided.

## SECTION 13:

### 13.1 Disposal considerations

Product

Recycle to process, if possible. Consult your local regional authorities and an expert of disposal. You may be able to dissolve or mix material with a combustible solvent and little by little burn in a chemical incinerator equipped with an afterburner and scrubber system. If a large amount of the substance is burned at a time, an explosion may occur.

Observe all federal, state and local regulations when disposing of the substance.

Contaminated packaging

Dispose of as unused product.

## SECTION 14: Transport information

DOT (US)

|  |   |  |
|--|---|--|
| UN number: 1481  | Packing group: II                             | Class: 5.1                                     |
| Proper shipping name:<br>PERCHLORATES, INORGANIC, N.O.S. | Reportable Quantity(RQ): no data<br>available | Poison Inhalation Hazard: no data<br>available |
| Environmental Hazards: no                                |   |  |

IMDG

|   |                   |                           |
|---|-------------------|---------------------------|
| UN number: 1481                                       | Packing group: II | EMS-No: no data available |
| Proper shipping name: PERCHLORATES, INORGANIC, N.O.S. |                   |                           |

IATA

|   |                   |            |
|---|-------------------|------------|
| UN number: 1481                                       | Packing group: II | Class: 5.1 |
| Proper shipping name: PERCHLORATES, INORGANIC, N.O.S. |                   |            |

## SECTION 15: Regulatory information

This safety datasheet complies with the requirements of Regulation (EC) No. 1907/2006.

## SECTION 16: Other information

Further information

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