



# SAFETY DATA SHEETS

According to the UN GHS revision 9

Version: 1.0  
Creation Date: July 15, 2019  
Revision Date: July 15, 2019

## SECTION 1: Identification

### 1.1 GHS Product identifier

Product name 603-454-3

### 1.2 Other means of identification

Product number -  
Other names Lithine hydrate

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

Identified uses Industrial and scientific research use.  
Uses advised against no data available

### 1.4 Supplier's details

Company Shanghai Yien Chemical Technology Co., Ltd  
Address Building 6, 28 Yingong Road, Fengxian District, Shanghai  
Chemical Industry Zone, Shanghai, 201400, China  
Telephone +86-400-133-2688

### 1.5 Emergency phone number

Emergency phone number +86-400-133-2688  
Service hours Monday to Friday, 9am-5pm (Standard time zone: UTC/GMT +8 hours).

## SECTION 2: Hazard identification

### 2.1 Classification of the substance or mixture

Acute toxicity - Category 4, Oral  
Skin corrosion, Sub-category 1A

### 2.2 GHS label elements, including precautionary statements

Pictogram(s)



Signal word Danger  
Hazard statement(s) H302 Harmful if swallowed  
H314 Causes severe skin burns and eye damage

Precautionary statement(s)  
Prevention P264 Wash ... thoroughly after handling.  
P270 Do not eat, drink or smoke when using this product.

<b>Response</b>	<p>P260 Do not breathe dust/fume/gas/mist/vapours/spray.</p> <p>P280 Wear protective gloves/protective clothing/eye protection/face protection/hearing protection/...</p> <p>P301+P317 IF SWALLOWED: Get medical help.</p> <p>P330 Rinse mouth.</p> <p>P301+P330+P331 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.</p> <p>P363 Wash contaminated clothing before reuse.</p> <p>P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.</p> <p>P316 Get emergency medical help immediately.</p> <p>P321 Specific treatment (see ... on this label).</p> <p>P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.</p>
<b>Storage</b>	P405 Store locked up.
<b>Disposal</b>	P501 Dispose of contents/container to an appropriate treatment and disposal facility in accordance with applicable laws and regulations, and product characteristics at time of disposal.

### 2.3 Other hazards which do not result in classification

no data available

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## SECTION 3: Composition/information on ingredients

### 3.1 Substances

Chemical name	Common names and synonyms	CAS number	EC number	Concentration
603-454-3	603-454-3	1310-66-3	603-454-3	100%

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## SECTION 4: First-aid measures

### 4.1 Description of necessary first-aid measures

#### If inhaled

Fresh air, rest. Half-upright position. Artificial respiration may be needed. Refer immediately for medical attention.

#### Following skin contact

Remove contaminated clothes. Rinse skin with plenty of water or shower for at least 15 minutes. Refer immediately for medical attention.

#### Following eye contact

Rinse with plenty of water (remove contact lenses if easily possible). Refer immediately for medical attention.

#### Following ingestion

Rinse mouth. Do NOT induce vomiting. Give one or two glasses of water to drink. Refer immediately for medical attention.

### 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

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## SECTION 5: Fire-fighting measures

### 5.1 Suitable extinguishing media

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

## **5.2 Specific hazards arising from the chemical**

Not combustible.

## **5.3 Special protective actions for fire-fighters**

In case of fire in the surroundings, use appropriate extinguishing media.

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# **SECTION 6: Accidental release measures**

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

Personal protection: chemical protection suit including self-contained breathing apparatus. Do NOT let this chemical enter the environment. Sweep spilled substance into covered plastic containers. Carefully collect remainder. Then store and dispose of according to local regulations.

## **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.

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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**

Separated from food and feedstuffs, strong oxidants and strong acids. Store only in original container. Dry. Well closed. Store in an area without drain or sewer access.

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# **SECTION 8: Exposure controls/personal protection**

## **8.1 Control parameters**

### **Occupational Exposure limit values**

MAK: (inhalable fraction): 0.2 mg/m<sup>3</sup>; peak limitation category: I(1); pregnancy risk group: C

### **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 face shield or eye protection in combination with breathing protection.

### **Skin protection**

Protective gloves. Protective clothing.

### **Respiratory protection**

Use local exhaust or breathing protection.

#### **Thermal hazards**

no data available

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## **SECTION 9: Physical and chemical properties and safety characteristics**

<b>Physical state</b>	Solid. Crystalline.
<b>Colour</b>	White.
<b>Odour</b>	no data available
<b>Melting point/freezing point</b>	423.93 °C. Atm. press.:1 013.25 hPa.
<b>Boiling point or initial boiling point and boiling range</b>	920°C
<b>Flammability</b>	no data available
<b>Lower and upper explosion limit/flammability limit</b>	no data available
<b>Flash point</b>	no data available
<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>	In water: 110 g/L. Temperature:20 °C. pH:11. Remarks:Mean value of 6 samples.
<b>Partition coefficient n-octanol/water</b>	no data available
<b>Vapour pressure</b>	no data available
<b>Density and/or relative density</b>	1.5 g/cm <sup>3</sup> .
<b>Relative vapour density</b>	no data available
<b>Particle characteristics</b>	no data available

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## **SECTION 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. Decomposes on heating above 924°C . This produces toxic fumes. The solution in water is a strong base. It reacts violently with acid and is corrosive to aluminium, tin and zinc. This produces flammable/explosive gas (hydrogen - see ICSC 0001). Reacts with strong oxidants.

### **10.4 Conditions to avoid**

no data available

### **10.5 Incompatible materials**

no data available

### **10.6 Hazardous decomposition products**

no data available

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## SECTION 11: Toxicological information

### Acute toxicity

- Oral: LD50 - 526 mg/kg bw. Remarks: Rat; Acta Pharm 1980.
- Inhalation: LC50 - rat (male/female) - > 6.15 mg/L air (analytical).
- Dermal: LD50 - rat (male/female) - > 2 000 mg/kg bw.

### 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

no data available

### Reproductive toxicity

no data available

### STOT-single exposure

The substance is corrosive to the eyes, skin and respiratory tract. Corrosive on ingestion. Inhalation may cause lung oedema, but only after initial corrosive effects on eyes and/or airways have become manifest.

### STOT-repeated exposure

no data available

### Aspiration hazard

Evaporation at 20°C is negligible; a harmful concentration of airborne particles can, however, be reached quickly when dispersed.

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## SECTION 12: Ecological information

### 12.1 Toxicity

- Toxicity to fish: LC50 - Danio rerio (previous name: Brachydanio rerio) - 109 mg/L - 96 h. Remarks: LiOH monohydrate.
- Toxicity to daphnia and other aquatic invertebrates: EC50 - Daphnia magna - 19.1 mg/L - 48 h. Remarks: LiOH anhydrous.
- Toxicity to algae: EC50 - Pseudokirchneriella subcapitata (previous names: Raphidocelis subcapitata, Selenastrum capricornutum) - 41.62 mg/L - 72 h.
- Toxicity to microorganisms: EC50 - activated sludge, domestic - 180.8 mg/L - 3 h. Remarks: LiOH anhydrous.

### 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

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## SECTION 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.

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## SECTION 14: Transport information

### 14.1 UN Number

ADR/RID: UN2680 (For reference only, please check.)

IMDG: UN2680 (For reference only, please check.)

IATA: UN2680 (For reference only, please check.)

### 14.2 UN Proper Shipping Name

ADR/RID: LITHIUM HYDROXIDE (For reference only, please check.)

IMDG: LITHIUM HYDROXIDE (For reference only, please check.)

IATA: LITHIUM HYDROXIDE (For reference only, please check.)

### 14.3 Transport hazard class(es)

ADR/RID: 8 (For reference only, please check.)

IMDG: 8 (For reference only, please check.)

IATA: 8 (For reference only, please check.)

### 14.4 Packing group, if applicable

ADR/RID: II (For reference only, please check.)

IMDG: II (For reference only, please check.)

IATA: II (For reference only, please check.)

### 14.5 Environmental hazards

ADR/RID: No

IMDG: No

IATA: No

### 14.6 Special precautions for user

no data available

### 14.7 Transport in bulk according to IMO instruments

no data available

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## SECTION 15: Regulatory information

### 15.1 Safety, health and environmental regulations specific for the product in question

Chemical name	Common names and synonyms	CAS number	EC number
603-454-3	603-454-3	1310-66-3	603-454-3
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.

<b>Philippines Inventory of Chemicals and Chemical Substances (PICCS)</b>	Listed.
<b>Vietnam National Chemical Inventory</b>	Listed.
<b>Chinese Chemical Inventory of Existing Chemical Substances (China IECSC)</b>	Listed.
<b>Korea Existing Chemicals List (KECL)</b>	Not Listed.

## SECTION 16: Other information

### Information on revision

**Creation Date** July 15, 2019  
**Revision Date** July 15, 2019

### 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/>

**Any questions regarding this SDS, Please send your inquiry to [sds@xixisys.com](mailto:sds@xixisys.com)**

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