

**LITHIUM SILICIDE**

Safety Data Sheet SIL6469.6

Date of issue: 03/31/2017

Version: 1.0

SECTION 1: Identification**1.1. Product identifier**

Product name : LITHIUM SILICIDE
 Product code : SIL6469.6
 Product form : Substance
 Physical state : Solid
 Formula : $\text{Li}_6\text{-7Si}_2$
 Synonyms : LITHIUM-SILICON ALLOY
 Chemical family : METAL SILICIDE

1.2. Recommended use of the chemical and restrictions on use

Recommended use : Chemical intermediate
 For research use only

1.3. Details of the supplier of the safety data sheet**GELEST, INC.**

11 East Steel Road
 Morrisville, PA 19067

USA

T 215-547-1015 - F 215-547-2484 - (M-F): 8:00 AM - 5:30 PM EST

info@gelest.com - www.gelest.com
1.4. Emergency telephone number

Emergency number : CHEMTREC: 1-800-424-9300 (USA); +1 703-527-3887 (International)

SECTION 2: Hazard(s) identification**2.1. Classification of the substance or mixture****GHS-US classification**

Substances and mixtures which in contact with water emit flammable gases Category 2 H261
 Skin corrosion/irritation Category 2 H315
 Serious eye damage/eye irritation Category 2 H319
 Specific target organ toxicity (single exposure) Category 3 H335
 Full text of H statements : see section 16

2.2. Label elements**GHS-US labeling**

Hazard pictograms (GHS-US) :



GHS02



GHS07

Signal word (GHS-US) : Danger

Hazard statements (GHS-US) : H261 - In contact with water releases flammable gases
 H315 - Causes skin irritation
 H319 - Causes serious eye irritation
 H335 - May cause respiratory irritation

Precautionary statements (GHS-US) : P280 - Wear protective gloves/protective clothing/eye protection/face protection
 P312 - Call a doctor if you feel unwell
 P223 - Do not allow contact with water
 P231+P232 - Handle under inert gas. Protect from moisture
 P261 - Avoid breathing dust
 P264 - Wash hands thoroughly after handling
 P271 - Use only outdoors or in a well-ventilated area
 P302+P352 - If on skin: Wash with plenty of soap and water
 P332+P313 - If skin irritation occurs: Get medical advice/attention
 P304+P340 - If inhaled: Remove person to fresh air and keep comfortable for breathing
 P305+P351+P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
 P337+P313 - If eye irritation persists: Get medical advice/attention
 P321 - Specific treatment (see first aid instructions on this label)
 P335+P334 - Brush off loose particles from skin. Immerse in cool water/wrap in wet bandages
 P362+P364 - Take off contaminated clothing and wash it before reuse

LITHIUM SILICIDE

Safety Data Sheet

P370+P378 - In case of fire: Use dolomite, Lith-X, dry chemical or sand to extinguish
P402+P404 - Store in a dry place. Store in a closed container
P403+P233 - Store in a well-ventilated place. Keep container tightly closed
P405 - Store locked up
P501 - Dispose of contents/container to licensed waste disposal facility.

2.3. Hazards not otherwise classified (HNOC)

No additional information available

2.4. Unknown acute toxicity (GHS US)

No data available

SECTION 3: Composition/Information on ingredients

3.1. Substances

Substance type : Mono-constituent
Name : LITHIUM SILICIDE
CAS No : 68848-64-6

Name	Product identifier	%	GHS-US classification
Lithium silicide	(CAS No) 68848-64-6	95 - 100	Water-react. 2, H261 Skin Irrit. 2, H315 Eye Irrit. 2A, H319 STOT SE 3, H335

Full text of hazard classes and H-statements : see section 16

3.2. Mixtures

Not applicable

4.1. Description of first aid measures

First-aid measures general : Remove contaminated clothing and shoes. In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible). If possible show this sheet; if not available show packaging or label.

First-aid measures after inhalation : Remove victim to fresh air and keep at rest in a position comfortable for breathing. If you feel unwell, seek medical advice.

First-aid measures after skin contact : Wash with plenty of soap and water. Get medical advice/attention.

First-aid measures after eye contact : Immediately flush eyes thoroughly with water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical advice/attention.

First-aid measures after ingestion : Never give anything by mouth to an unconscious person. Get medical advice/attention.

4.2. Most important symptoms and effects, both acute and delayed

Symptoms/injuries after inhalation : May cause respiratory irritation.

Symptoms/injuries after skin contact : Causes skin irritation.

Symptoms/injuries after eye contact : Causes serious eye irritation.

Symptoms/injuries after ingestion : No information available.

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

No additional information available

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media : Dolomite, Lith-X, dry chemical or sand.

Unsuitable extinguishing media : Water.

5.2. Special hazards arising from the substance or mixture

Fire hazard : In contact with water releases flammable gases. Reacts vigorously with water, possibly igniting. May reignite after fire is extinguished.

5.3. Advice for firefighters

Firefighting instructions : Exercise caution when fighting any chemical fire.

Protection during firefighting : Do not enter fire area without proper protective equipment, including respiratory protection. Avoid contact with skin and eyes. Do not breathe dust.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

General measures : Avoid contact with water. Eliminate every possible source of ignition. Fire resistant clothing and gloves must be worn.

6.1.1. For non-emergency personnel

Protective equipment : Wear protective equipment as described in Section 8.

Emergency procedures : Evacuate unnecessary personnel.

LITHIUM SILICIDE

Safety Data Sheet

6.1.2. For emergency responders

Protective equipment : Do not attempt to take action without suitable protective equipment. Equip cleanup crew with proper protection. For further information refer to section 8: "Exposure controls/personal protection".

6.2. Environmental precautions

Prevent entry to sewers and public waters. Notify authorities if product enters sewers or public waters.

6.3. Methods and material for containment and cleaning up

Methods for cleaning up : Cover spills with dry dolomite, Lith-X, sand or graphite. Sweep or shovel spills into appropriate container for disposal. Until disposed, remove all combustible materials from area.

6.4. Reference to other sections

No additional information available

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Additional hazards when processed : Keep away from any possible contact with water, because of violent reaction and possible flash fire.

Precautions for safe handling : Avoid contact with skin and eyes. Do not breathe dust. Do not allow contact with water. Avoid dust formation. Handle under inert gas. Protect from moisture. Handle under dry inert atmosphere. Use only outdoors or in a well-ventilated area.

7.2. Conditions for safe storage, including any incompatibilities

Storage conditions : Keep container tightly closed. Avoid contact with water. Store in a dry place. Store in a closed container. Store locked up. If storing large amounts, advise Fire Departments of water-reactivity (NFPA 704 placard).

Incompatible materials : Water.

Storage area : Keep container tightly closed. Store in a well-ventilated place.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Lithium silicide (68848-64-6)		
ACGIH	ACGIH TWA (mg/m ³)	0.025 mg/m ³ LiH

8.2. Exposure controls

Appropriate engineering controls : Provide local exhaust or general room ventilation.

Personal protective equipment : Avoid all unnecessary exposure.

Materials for protective clothing : Emergency eye wash fountains and safety showers should be available in the immediate vicinity of any potential exposure. An eyewash and emergency shower should be available, but must be located to avoid water-spray or flow that will contact lithium SILICIDE.

Hand protection : Rubbers. Neoprene or nitrile rubber gloves.

Eye protection : Chemical goggles. Contact lenses should not be worn.

Skin and body protection : Wear suitable protective clothing.

Respiratory protection : Where exposure through inhalation may occur from use, respiratory protection equipment is recommended. NIOSH-certified dust and mist (orange cartridge) respirator.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	: Solid
Appearance	: Powder.
Molecular mass	: 97.8 - 104.7 g/mol
Color	: Gray.
Odor	: No data available
Odor threshold	: No data available
Refractive index	: No data available
pH	: No data available
Relative evaporation rate (butyl acetate=1)	: No data available
Melting point	: 700 - 720 °C decomposes
Freezing point	: No data available
Boiling point	: No data available
Flash point	: No data available

LITHIUM SILICIDE

Safety Data Sheet

Auto-ignition temperature	: No data available
Decomposition temperature	: No data available
Flammability (solid, gas)	: In contact with water releases flammable gases
Vapor pressure	: < 0.01 mm Hg @ 20°C
Relative vapor density at 20 °C	: No data available
Relative density	: < 1
Solubility	: Reacts violently - may ignite.
Log Pow	: No data available
Log Kow	: No data available
Viscosity, kinematic	: No data available
Viscosity, dynamic	: No data available
Explosive properties	: No data available
Oxidizing properties	: No data available
Explosion limits	: No data available

9.2. Other information

No additional information available

SECTION 10: Stability and reactivity

10.1. Reactivity

No additional information available

10.2. Chemical stability

Stable.

10.3. Possibility of hazardous reactions

Material decomposes in contact with air by reaction with water.

10.4. Conditions to avoid

No additional information available

10.5. Incompatible materials

Water.

10.6. Hazardous decomposition products

Hydrogen. Lithium hydroxide. Silicon oxides.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity	: Not classified
Skin corrosion/irritation	: Causes skin irritation.
Serious eye damage/irritation	: Causes serious eye irritation.
Respiratory or skin sensitization	: Not classified
Germ cell mutagenicity	: Not classified
Carcinogenicity	: Not classified
	None of the components in this product at concentrations >0.1% are listed by IARC, NTP, OSHA or ACGIH as a carcinogen.
Reproductive toxicity	: Not classified
STOT-single exposure	: May cause respiratory irritation.
STOT-repeated exposure	: Not classified
Aspiration hazard	: Not classified
Symptoms/injuries after inhalation	: May cause respiratory irritation.
Symptoms/injuries after skin contact	: Causes skin irritation.
Symptoms/injuries after eye contact	: Causes serious eye irritation.
Symptoms/injuries after ingestion	: No information available.

SECTION 12: Ecological information

12.1. Toxicity

No additional information available

12.2. Persistence and degradability

No additional information available

LITHIUM SILICIDE

Safety Data Sheet

12.3. Bioaccumulative potential

No additional information available

12.4. Mobility in soil

No additional information available

12.5. Other adverse effects

Other adverse effects	: This substance may be hazardous to the environment.
Effect on ozone layer	: No additional information available
Effect on the global warming	: No known effects from this product.
GWPmix comment	: No known effects from this product.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Sewage disposal recommendations	: Do not dispose of waste into sewer.
Product/Packaging disposal recommendations	: Dispose in a safe manner in accordance with local/national regulations. Dispose of contents/container to licensed waste disposal facility.
Ecology - waste materials	: Avoid release to the environment.

SECTION 14: Transport information

14.1. UN number

UN-No.(DOT)	: 1417
DOT NA no.	UN1417

14.2. UN proper shipping name

Transport document description	: UN1417 Lithium silicon, 4.3, II
Proper Shipping Name (DOT)	: Lithium silicon
Class (DOT)	: 4.3 - Class 4.3 - Dangerous when wet material 49 CFR 173.124
Packing group (DOT)	: II - Medium Danger
Hazard labels (DOT)	: 4.3 - Dangerous when wet



DOT Packaging Non Bulk (49 CFR 173.xxx)	: 212
DOT Packaging Bulk (49 CFR 173.xxx)	: 241
DOT Packaging Exceptions (49 CFR 173.xxx)	: 151

14.3. Additional information

Emergency Response Guide (ERG) Number	: 138
Other information	: No supplementary information available.

Transport by sea

DOT Vessel Stowage Location	: A - The material may be stowed "on deck" or "under deck" on a cargo vessel and on a passenger vessel.
DOT Vessel Stowage Other	: 13 - Keep as dry as reasonably practicable, 85 - Under deck stowage must be in mechanically ventilated space, 103 - Only to be loaded under dry weather conditions

Air transport

DOT Quantity Limitations Passenger aircraft/rail (49 CFR 173.27)	: 15 kg
DOT Quantity Limitations Cargo aircraft only (49 CFR 175.75)	: 50 kg

LITHIUM SILICIDE

Safety Data Sheet

SECTION 15: Regulatory information

15.1. US Federal regulations

LITHIUM SILICIDE (68848-64-6)

TSCA Exemption/Exclusion

CAUTION: This material is supplied for research and development purposes subject to the R&D exemption under TSCA, 40 CFR 720.36, and must meet the requirements of the exemption, including supervision by a "technically qualified individual" as defined by 40 CFR 720.3(ee). The use of this material for "commercial purposes" as defined by 40 CFR 720.3(r) is not permitted in the United States.

Lithium silicide (68848-64-6)

Not listed on the United States TSCA (Toxic Substances Control Act) inventory

15.2. International regulations

CANADA

No additional information available

EU-Regulations

No additional information available

National regulations

Lithium silicide (68848-64-6)

Listed on PICCS (Philippines Inventory of Chemicals and Chemical Substances)

15.3. US State regulations

No additional information available

SECTION 16: Other information

Full text of H-phrases::

H261	In contact with water releases flammable gases
H315	Causes skin irritation
H319	Causes serious eye irritation
H335	May cause respiratory irritation

Abbreviations and acronyms

: Abbreviations: ND: Not Determined, No Data; NA: Not Applicable; LD: Lethal Dose; LC: Lethal Concentration; ATE: Acute Toxicity Estimates; H: hour; °: °C unless otherwise stated; mm: millimeters Hg, torr; PEL: permissible exposure level; TWA: time weighted average; TLV: threshold limit value; TG: Test Guideline; NIOSH: National Institute for Occupational Safety and Health; IARC: International Agency for Research on Cancer; NTP: National Toxicology Program; HMIS: Hazardous Material Information System; CAS No.: Chemical Abstract Service Registration Number; EC No.: European Commission Registration Number; EC Index No.: European Commission Index Number; OECD: The Organisation for Economic Co-operation and Development; GHS: The Globally Harmonized System of Classification and Labelling.

HMIS III Rating

Health	: 3 Serious Hazard - Major injury likely unless prompt action is taken and medical treatment is given
Flammability	: 3 Serious Hazard - Materials capable of ignition under almost all normal temperature conditions. Includes flammable liquids with flash points below 73 F and boiling points above 100 F, as well as liquids with flash points between 73 F and 100 F. (Classes IB & IC)
Physical	: 2 Moderate Hazard - Materials that are unstable and may undergo violent chemical changes at normal temperature and pressure with low risk for explosion. Materials may react violently with water or form peroxides upon exposure to air.

Prepared by safety and environmental affairs.

Date of issue: 03/31/2017 Version: 1.0

SDS US (GHS HazCom 2012) - Custom

According to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

The information contained in this document has been gathered from reference materials and/or Gelest, Inc. test data and is to the best knowledge and belief of Gelest, Inc. accurate and reliable. Such information is offered solely for your consideration, investigation and verification. It is not suggested or guaranteed that the hazard precautions or procedures described are the only ones which exist. Gelest, Inc. makes no warranties, express or implied, with respect to the use of such information and assumes no responsibility therefore. Information on this safety data sheet is not intended to constitute a basis for product specifications.

LITHIUM SILICIDE

Safety Data Sheet

© 2017 Gelest Inc. Morrisville, PA 19067

