LITHIUM HEXAMETHYLDISILAZIDE

Safety Data Sheet SIL6467.0

Date of issue: 03/13/2015 Version: 1.0

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

1.1. Product identifier

Product form	:	Substance
Physical state	:	Solid
Substance name	:	LITHIUM HEXAMETHYLDISILAZIDE
Product code	:	SIL6467.0
Formula	:	C6H18LiNSi2
Synonyms	:	LITHIUM BIS(TRIMETHYLSILYL)AMIDE; 1,1,1,3,3,3-HEXAMETHYLDISILAZANE LITHIUM SALT
Chemical family	:	ORGANOSILANE

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

Use of the substance/mixture	:	Chemical intermediate For research and industrial 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: Hazards identification

2.1. Classification of the substance or mixture

Classification (GHS-US)

Flam. Sol. 2 H228
Skin Corr. 1B H314
Eye Dam. 1 H318
STOT SE 3 H335

Full text of H-phrases: see section 16

2.2. Label elements

GHS-US labeling

Hazard pictograms (GHS-US) :

GHS02 GHS05 GHS07

Signal word (GHS-US) : Danger

Hazard statements (GHS-US) :
H228 - Flammable solid
H314 - Causes severe skin burns and eye damage
H318 - Causes serious eye damage
H335 - May cause respiratory irritation

Precautionary statements (GHS-US) :
P280 - Wear protective gloves/protective clothing/eye protection/face protection
P210 - Keep away from heat, open flames, sparks. - No smoking
P240 - Ground/bond container and receiving equipment
P241 - Use explosion-proof electrical equipment
P260 - Do not breathe dust
P264 - Wash hands thoroughly after handling
P271 - Use only outdoors or in a well-ventilated area
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/shower
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
P310 - Immediately call a doctor
P363 - Wash contaminated clothing before reuse

P370+P378 - In case of fire: Use foam, carbon dioxide, dry chemical to extinguish
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. Other hazards

No additional information available

2.4. Unknown acute toxicity (GHS-US)

No data available

SECTION 3: Composition/information on ingredients

3.1. Substance

Substance type : Mono-constituent
Name : LITHIUM HEXAMETHYLDISILAZIDE
CAS No : 4039-32-1
EC no : 223-725-6

Name	Product identifier	%	Classification (GHS-US)
Lithium hexamethyldisilazide	(CAS No) 4039-32-1	> 95	Flam. Sol. 2, H228 Skin Corr. 1B, H314 Eye Dam. 1, H318 STOT SE 3, H335

3.2. Mixture

Not applicable

SECTION 4: First aid measures

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. Get medical advice/attention.
First-aid measures after skin contact : Wash with plenty of soap and water. Get immediate 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 immediate medical advice/attention.
First-aid measures after ingestion : Never give anything by mouth to an unconscious person. Give a demulscent such as milk, olive oil, or margarine in small amounts, up to two or three tablespoons. Get medical advice/attention.

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

Symptoms/injuries : Causes severe skin burns and eye damage.
Symptoms/injuries after inhalation : May cause respiratory irritation. Inhalation will cause sneezing, irritation and burns.
Symptoms/injuries after skin contact : Causes (severe) skin burns. If skin and air are dry, powder on skin may not cause irritation or burns. Worker will notice a slippery feeling on washing. However, if moisture is present, the powder can cause severe burns.
Symptoms/injuries after eye contact : Causes serious eye damage.
Symptoms/injuries after ingestion : May be harmful if swallowed.

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 : Foam. Carbon dioxide. Dry chemical.
Unsuitable extinguishing media : Avoid water spray as flammable gases will be generated.

5.2. Special hazards arising from the substance or mixture

Fire hazard : Flammable solid. Irritating fumes and caustic vapors may develop when material is exposed to elevated temperatures or open flame.

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.
Other information : Lithium bis(trimethylsilyl)amide is a flammable solid. Similar materials have been reported to ignite spontaneously if heated to > 170°C in air.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

General measures : Remove ignition sources. Use special care to avoid static electric charges.

6.1.1. For non-emergency personnel

Emergency procedures : Evacuate unnecessary personnel.

6.1.2. For emergency responders

Protective equipment : Equip cleanup crew with proper 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 : Ventilate area. Eliminate ignition sources. Sweep or shovel spills into appropriate container for disposal. Use only non-sparking tools.

6.4. Reference to other sections

See Heading 8. Exposure controls and personal protection.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling : Avoid contact with skin and eyes. Do not breathe dust. Provide local exhaust or general room ventilation to minimize exposure to dust. Use only non-sparking tools.

Hygiene measures : Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work. Wash contaminated clothing before reuse.

7.2. Conditions for safe storage, including any incompatibilities

Technical measures : Ground/bond container and receiving equipment.

Storage conditions : Keep container tightly closed. Store under dry nitrogen or argon in sealed containers below 25°C.

Incompatible materials : Acids. Alcohols. Carbon dioxide. Esters. Halogens. Ketones. Moist air. Oxidizing agent.

Storage area : Store in a well-ventilated place. Store away from heat.

7.3. Specific end use(s)

No additional information available

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Lithium hexamethyldisilazide (4039-32-1)		
USA OSHA	OSHA PEL (TWA) (mg/m³)	15 mg/m³ nuisance dust

8.2. Exposure controls

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

Personal protective equipment : Avoid all unnecessary exposure. Emergency eye wash fountains and safety showers should be available in the immediate vicinity of any potential exposure.

Hand protection : Neoprene or nitrile rubber gloves.

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

Skin and body protection : Wear suitable protective clothing. Long-sleeved fire-resistant lab uniform or coverall is recommended.

Respiratory protection : 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 : Solid.

Molecular mass : 167.33 g/mol

Color : White.

Odor : Slight.

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 : 71 - 72 °C

Freezing point	:	No data available
Boiling point	:	114 - 116 °C @ 1 mm Hg
Flash point	:	> 25 °C
Auto-ignition temperature	:	No data available
Decomposition temperature	:	No data available
Flammability (solid, gas)	:	Flammable solid
Vapor pressure	:	No data available
Relative vapor density at 20 °C	:	No data available
Relative density	:	< 1
Solubility	:	Insoluble in water. Reacts rapidly with water.
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
Explosive 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 under nitrogen or argon in sealed containers.

10.3. Possibility of hazardous reactions

Material decomposes slowly in contact with moist air and rapidly in contact with water, possibly igniting.

10.4. Conditions to avoid

Heat. Open flame. Sparks.

10.5. Incompatible materials

Acids. Alcohols. Carbon dioxide. Esters. Halogens. Ketones. Moist air. Oxidizing agent.

10.6. Hazardous decomposition products

Ammonia. Caustic organic vapors. Hexamethyldisiloxane. Lithium hydroxide.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity	:	Not classified
Skin corrosion/irritation	:	Causes severe skin burns and eye damage.
Serious eye damage/irritation	:	Causes serious eye damage.
Respiratory or skin sensitization	:	Not classified
Germ cell mutagenicity	:	Not classified
Carcinogenicity	:	Not classified
Reproductive toxicity	:	Not classified
Specific target organ toxicity (single exposure)	:	May cause respiratory irritation.
Specific target organ toxicity (repeated exposure)	:	Not classified
Aspiration hazard	:	Not classified
Symptoms/injuries after inhalation	:	May cause respiratory irritation. Inhalation will cause sneezing, irritation and burns.
Symptoms/injuries after skin contact	:	Causes (severe) skin burns. If skin and air are dry, powder on skin may not cause irritation or burns. Worker will notice a slippery feeling on washing. However, if moisture is present, the powder can cause severe burns.
Symptoms/injuries after eye contact	:	Causes serious eye damage.
Symptoms/injuries after ingestion	:	May be harmful if swallowed.
Reason for classification	:	Expert judgment

SECTION 12: Ecological information

12.1. Toxicity

No additional information available

12.2. Persistence and degradability

No additional information available

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 ecological damage caused by this product.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Waste treatment methods : Treat quantities of 1000 grams or less by careful addition of dry isopropanol under controlled conditions in an exhausted area. Solution will be caustic. The solution can be incinerated.

Waste 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) : 2925

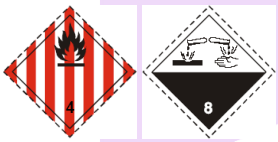
DOT NA no. UN2925

14.2. UN proper shipping name

Proper Shipping Name (DOT) : Flammable solids, corrosive, organic, n.o.s.
(LITHIUM HEXAMETHYLDISILAZIDE)

Hazard Classes (DOT) : 4.1 - Class 4.1 - Flammable Solid 49 CFR 173.124

Hazard labels (DOT) : 4.1 - Flammable solid
8 - Corrosive



DOT Symbols : G - Identifies PSN requiring a technical name

Packing group (DOT) : III - Minor Danger

DOT Packaging Exceptions (49 CFR 173.xxx) : 151

DOT Packaging Non Bulk (49 CFR 173.xxx) : 213

DOT Packaging Bulk (49 CFR 173.xxx) : 242

14.3. Additional information

Other information : No supplementary information available.

Transport by sea

DOT Vessel Stowage Location : D - The material must be stowed ‘‘on deck only’’ on a cargo vessel and on a passenger vessel carrying a number of passengers limited to not more than the larger of 25 passengers or one passenger per each 3 m of overall vessel length, but the material is prohibited on passenger vessels in which the limiting number of passengers is exceeded.

DOT Vessel Stowage Other : 40 - Stow ‘‘clear of living quarters’’

Air transport

DOT Quantity Limitations Passenger aircraft/rail (49 CFR 173.27) : 25 kg

DOT Quantity Limitations Cargo aircraft only (49 CFR 175.75) : 100 kg

SECTION 15: Regulatory information

15.1. US Federal regulations

Lithium hexamethyldisilazide (4039-32-1)
Listed on the United States TSCA (Toxic Substances Control Act) inventory

15.2. International regulations

Lithium hexamethyldisilazide (4039-32-1)
Listed on the Canadian NDSL (Non-Domestic Substances List) Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances) Listed on the Japanese ISHL (Industrial Safety and Health Law) Listed on NZIoC (New Zealand Inventory of Chemicals) Listed on PICCS (Philippines Inventory of Chemicals and Chemical Substances)

15.3. US State regulations

LITHIUM HEXAMETHYLDISILAZIDE(4039-32-1)	
U.S. - California - Proposition 65 - Carcinogens List	No
U.S. - California - Proposition 65 - Developmental Toxicity	No
U.S. - California - Proposition 65 - Reproductive Toxicity - Female	No
U.S. - California - Proposition 65 - Reproductive Toxicity - Male	No

Lithium hexamethyldisilazide (4039-32-1)				
U.S. - California - Proposition 65 - Carcinogens List	U.S. - California - Proposition 65 - Developmental Toxicity	U.S. - California - Proposition 65 - Reproductive Toxicity - Female	U.S. - California - Proposition 65 - Reproductive Toxicity - Male	No significance risk level (NSRL)
No	No	No	No	

SECTION 16: Other information

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.: Chemcial 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.

Full text of H-phrases::

Eye Dam. 1	Serious eye damage/eye irritation Category 1
Flam. Sol. 2	Flammable solids Category 2
Skin Corr. 1B	Skin corrosion/irritation Category 1B
STOT SE 3	Specific target organ toxicity (single exposure) Category 3
H228	Flammable solid
H314	Causes severe skin burns and eye damage
H318	Causes serious eye damage
H335	May cause respiratory irritation

HMIS III Rating

Health : 3 Serious Hazard - Major injury likely unless prompt action is taken and medical treatment is given

Flammability : 3 Serious Hazard

Physical : 1 Slight Hazard

Prepared by safety and environmental affairs.

Date of issue: 03/13/2015 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.