

Material Safety Data Sheet

1 Identification of substance:

- **Product details:**
- **Chemical name:** Lithium sulfide, Lithium sulphide

Manufacturer:

Lorad Chemical Corporation
1200 19th. St. North
St. Petersburg, FL 33713
Tel:727-826-5511
Web Site: www.loradchemical.com

- **Information department:** Health, Safety and Environmental Department
- **Emergency information:**
During normal hours the Health, Safety and Environmental Department. After normal hours call ChemTel: 800.255.3924
- **International Shipping:** +01.813.248.0585

2 Composition/Data on components:

- **Chemical characterization:**
Description: (CAS#)
Lithium sulfide (CAS# 12136-58-2); 100%
- **Identification number(s):**
- **EINECS Number:** 235-228-1

3 Hazards identification

- **Hazard description:**
Xi Irritant
F Highly flammable
- **Information pertaining to particular dangers for man and environment**
R 11 Highly flammable.
R 14 Reacts with water.
R 31 Contact with acids liberates toxic gas.
R 36/37/38 Irritating to eyes, respiratory system and skin.

4 First aid measures

- **After inhalation**
Supply fresh air. If required, provide artificial respiration. Keep patient warm.
Seek immediate medical advice.
- **After skin contact** with Lithium sulfide
Immediately wash with water and soap and rinse thoroughly.
Seek immediate medical advice.

- **After eye contact**
Rinse opened eye for several minutes under running water. Then consult a doctor.
- **After swallowing** Seek immediate medical advice.

5 Fire fighting measures for Lithium sulfide

- **Suitable extinguishing agents**
Extinguishing powder. Do not use water.
Sand. Do not use water.
- **For safety reasons unsuitable extinguishing agents** Water
- **Protective equipment:**
Wear self-contained respirator.
Wear fully protective impervious suit.

6 Accidental release measures for Lithium sulfide

- **Person-related safety precautions:**
Mount respiratory protective device.
Wear protective equipment. Keep unprotected persons away.
Ensure adequate ventilation
Keep away from ignition sources
- **Measures for environmental protection:**
Do not allow material to be released to the environment without proper governmental permits.
- **Measures for cleaning/collecting:**
Ensure adequate ventilation.
Do not flush with water or aqueous cleansing agents
Keep away from ignition sources.
- **Additional information:**
See Section 7 for information on safe handling
See Section 8 for information on personal protection equipment.
See Section 13 for disposal information.

7 Handling and storage of Lithium sulfide

- **Handling**
- **Information for safe handling:**
Handle lithium sulfide under dry protective gas.
Keep container tightly sealed.
Store lithium sulfide in a cool, dry place in tightly closed containers.
Ensure good ventilation at the workplace.
- **Information about protection against explosions and fires:**
Protect from humidity and water.
Keep ignition sources away.
Protect against electrostatic charges.
Fumes can combine with air to form an explosive mixture.
- **Storage**
- **Requirements to be met by storerooms and receptacles:**

Store lithium sulfide in a cool location.

- **Information about storage in one common storage facility:**

Store lithium sulfide away from water/moisture.

Do not store lithium sulfide together with acids.

- **Further information about storage conditions:**

Store lithium sulfide under dry inert gas.

Protect lithium sulfide from humidity and water.

Keep container tightly sealed.

Store lithium sulfide in cool, dry conditions in well sealed containers.

8 Exposure controls and personal protection for Lithium sulfide

- **Additional information about design of technical systems:**

Properly operating chemical fume hood designed for hazardous chemicals and having an average face velocity of at least 100 feet per minute.

Components with limit values that require monitoring at the workplace:

Not required.

- **Additional information:** No data

- **Personal protective equipment**

- **General protective and hygienic measures**

The usual precautionary measures for handling chemicals should be followed.

Keep away from foodstuffs, beverages and feed.

Remove all soiled and contaminated clothing immediately.

Wash hands before breaks and at the end of work.

Avoid contact with the eyes and skin.

- **Breathing equipment:**

Use suitable respirator when high concentrations are present.

- **Protection of hands:** Impervious gloves

- **Eye protection:**

Safety glasses

Full face protection

- **Body protection:** Protective work clothing.

9 Physical and chemical properties of Lithium sulfide

- **Form:** Powder

- **Color:** Lithium sulfide is an off-white to beige color.

- **Odor:** Like rotten eggs if exposed to water or dilute acids

- **Value/Range Unit Method**

- **Change in condition**

- **Melting point/Melting range:** 900-975 ° C

- **Boiling point/Boiling range:** Not determined

- **Sublimation temperature / start:** Not determined

- **Flash point:** Not applicable

- **Flammability (solid, gaseous)** Highly flammable.
- **Ignition temperature:** Not determined
- **Decomposition temperature:** Not determined
- **Explosion limits:**
- **Lower:** Not determined
- **Upper:** Not determined
- **Vapor pressure:** Not determined
- **Density:** at 20 ° C 1.66 g/cm³
- **Solubility in / Miscibility with**
- **Water:** Lithium sulfide reacts with water/
Not determined

10 Stability and reactivity of Lithium sulfide

- **Thermal decomposition / conditions to be avoided:**
Decomposition will not occur if used and stored according to specifications.
- **Materials to be avoided:**
Water/moisture
Acids
Oxidizing agents
- **Dangerous reactions**
Reacts with water
Contact with acids releases flammable gases
- **Dangerous products of decomposition:** Hydrogen sulfide

11 Toxicological information for Lithium sulfide

- **Acute toxicity:**
- **Primary irritant effect:**
- **on the skin:** Irritant to skin and mucous membranes.
- **on the eye:** Irritating effect.
- **Sensitization:** No sensitizing effects known.
- **Subacute to chronic toxicity:**
Large amounts of lithium compounds may cause vomiting, diarrhea, ataxia, intestinal irritation, kidney injury, central nervous system depression and a drop in blood pressure. Central nervous system effects may include slurred speech, blurred vision, dizziness, sensory loss, convulsions and stupor. Chronic intake may cause neuromuscular effects such as tremor, ataxia, weakness, clonus and hyperactive reflexes. Lithium can cause kidney damage, gastrointestinal disturbances, fatigue, dehydration, weight loss, dermatological effects and thyroid damage. Lithium ion has shown teratogenic effects in rats and mice.

- **Additional toxicological information:**
To the best of our knowledge the acute and chronic toxicity of this substance is not fully known.
No classification data on carcinogenic properties of this material is available from the EPA, IARC, NTP, OSHA or ACGIH.

12 Ecological information for Lithium sulfide

- **General notes:**
Do not allow material to be released to the environment without proper governmental permits.

13 Disposal considerations for Lithium sulfide

- **Product:**
- **Recommendation**
Consult state, local or national regulations for proper disposal.
- **Uncleaned packagings:**
- **Recommendation:**
Disposal must be made according to official regulations.

14 Transport information for Lithium sulfide

- **DOT regulations:**
- **Hazard class:** 4.3
- **Identification number:** UN2813
- **Packing group:** II
- **Proper shipping name (technical name):**
Water-reactive solid, n.o.s., lithium sulfide
- **Land transport ADR/RID (cross-border)**
- **ADR/RID class:** 4.3 Substances which, in contact with water, emit flammable gases
- **Item:** 20b
- **Danger code (Kemler):** 423
- **UN-Number:** 2813
- **Description of goods:** Water-reactive solid, n.o.s., lithium sulfide
- **Maritime transport IMDG:**
- **IMDG Class:** 4.3
- **UN Number:** 2813
- **Packaging group:** II
- **Proper shipping name:** Water-reactive solid, n.o.s., lithium sulfide
- **Air transport ICAO-TI and IATA-DGR:**

- **ICAO/IATA Class:** 4.3
- **UN/ID Number:** 2813
- **Packaging group:** II
- **Proper shipping name:** Water-reactive solid, n.o.s., lithium sulfide

15 Regulations for Lithium sulfide

- **Product related hazard informations:**
- **Hazard symbols:**
Xi Irritant F Highly flammable
- **Risk phrases:**
11 Highly flammable.
14 Reacts with water.
31 Contact with acids liberates toxic hydrogen sulfide gas.
36/37/38 Irritating to eyes, respiratory system and skin.
- **Safety phrases:**
8 Keep container dry.
26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
30 Never add water to this product.
- **National regulations**
All components of this product are listed in the U.S. Environmental Protection Agency Toxic Substances Control Act Chemical Substance Inventory.
- **Information about limitation of use:**
For use only by technically qualified individuals.

16 Other information

Employers should use this information only as a supplement to other information gathered by them, and should make independent judgement of suitability of this information to ensure proper use and protect the health and safety of employees. This information is furnished without warranty, and any use of the product not in conformance with this Material Safety Data Sheet, or in combination with any other product or process, is the responsibility of the user.