

Lithium Sulfate Monohydrate

Material Safety Data Sheet

1. PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME: Lithium Sulfate, Monohydrate CHEMICAL FAMILY: Alkali Sulfates
MOLECULAR FORMULA: $\text{Li}_2\text{SO}_4 \cdot \text{H}_2\text{O}$
SYNONYM(s): Sulfuric Acid, Dilithium Salt, Monohydrate GENERAL USE: Chemical Manufacturing

SUPPLIER

BassTech International, 400 Kirby St, Fort Lee, NJ 07024

Phone: 201-569-8686 Fax: 201-569-7511

Emergency Telephone Numbers:

CHEMTREC (U.S.): (800) 424- 9300
Emergency Phone (704) 629-5361 (Plant) Call Collect 24 Hr/Day Emergency Phone (303) 595-9048 (Medical) Call Collect

2. COMPOSITION / INFORMATION ON INGREDIENTS

Chemical Name	CAS#	Wt.%
Lithium sulfate, monohydrate	10102-25-7	100

3. HAZARDS IDENTIFICATION EMERGENCY OVERVIEW

IMMEDIATE CONCERNS: White crystals, odorless

POTENTIAL HEALTH EFFECTS: This product may be irritating to the eyes.

COMMENTS:
(See Section 11, Toxicological Information)

4. FIRST AID MEASURES

EYES: Flush with water for at least 15 minutes. If irritation occurs and persists, obtain medical attention.

SKIN: Wash with plenty of soap and water. Get medical attention if irritation occurs and

persists.

INGESTION: Drink 1 or 2 glasses of water and induce vomiting by touching the back of the throat with a finger or by giving syrup of ipecac. Never induce vomiting or give anything by mouth to an unconscious person. Contact a medical doctor.

INHALATION: Remove to fresh air. If breathing difficulty or discomfort occurs and persists, obtain medical attention.

NOTES TO MEDICAL DOCTOR: Effects of overexposure to lithium ion are well documented in the medical literature. Low toxicity is anticipated. In such cases, standard protocols for over-dosage are suggested. Treatment is otherwise symptomatic and supportive.

5. FIRE FIGHTING MEASURES

FLAMMABLE LIMITS: Not applicable

GENERAL HAZARD: No known physical hazard, non-combustible.

EXTINGUISHING MEDIA: Dry chemical, CO₂, water spray or regular foam.

HAZARDOUS COMBUSTION PRODUCTS: None

FIRE FIGHTING PROCEDURES: Wear full protective clothing and self-contained breathing apparatus (SCBA) approved for fire fighting. This is necessary to protect against the hazards of heat, products of combustion and oxygen deficiency. Do not breathe smoke, gases or vapors generated.

AUTOIGNITION TEMPERATURE: Not applicable

PROPERTIES CONTRIBUTING TO FLAMMABILITY: None

FLASH POINT: Not applicable

SENSITIVITY TO STATIC DISCHARGE: Not applicable

SENSITIVITY TO IMPACT: Not applicable

6. ACCIDENTAL RELEASE MEASURES

RELEASE NOTES: Sweep up and place in suitable container.

Dispose of waste according to local and Federal laws and regulations.

Before cleanup measures begin, review the entire MSDS with particular attention to Section 3, Emergency Overview and Potential Health Effects; and Section 8, Recommended Personal Protective Equipment.

7. HANDLING AND STORAGE

HANDLING: Avoid contact with eyes, skin or clothing. Use with adequate ventilation. Wear safety glasses or goggles and rubber gloves. Wash thoroughly after handling.

STORAGE: Keep away from strong acids. Keep container closed.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

ENGINEERING CONTROLS: Use local exhaust ventilation to keep airborne concentrations below exposure limits.

PERSONAL PROTECTIVE EQUIPMENT

EYES AND FACE: Safety glasses or goggles

RESPIRATORY: When engineering controls are not adequate, wear a NIOSH/MSHA respirator approved for protection against inorganic dusts. **PROTECTIVE CLOTHING:** Rubber gloves

WORK HYGIENIC PRACTICES: Quick-drench eyewash and safety shower.

COMMENTS: EXPOSURE LIMITS: Particulates Not Otherwise Classified (PNOC): ACGIH/TWA 10 mg/m³ (inhalable particulate); 3 mg/m³ (respirable particulate).

9. PHYSICAL AND CHEMICAL PROPERTIES

ODOR: Odorless

APPEARANCE: White crystals

pH: (1% Slurry) @ 25oC: 7

PERCENT VOLATILE: Not applicable

VAPOR PRESSURE: Not applicable

VAPOR DENSITY: Not applicable

BOILING POINT: Not applicable

MELTING POINT: Loses water @ 72oC-160oC (162oF-320oF)

SOLUBILITY IN WATER: % by wt. @ 25oC (77oF): 30

EVAPORATION RATE: Not applicable

SPECIFIC GRAVITY: 2.1 g/cc

MOLECULAR WEIGHT: 127
COEFF. OIL/WATER: Not applicable

ODOR THRESHOLD: Not applicable

10. STABILITY AND REACTIVITY

CONDITIONS TO AVOID: None

STABILITY: Stable

POLYMERIZATION: Does not polymerize

HAZARDOUS DECOMPOSITION PRODUCTS: Sulfur dioxide

TLV Hazard Data

Sulfur dioxide: TWA (ACGIH/OSHA) = 2 ppm (5.2 mg/m³)

STEL (ACGIH/OSHA) = 5 ppm (13 mg/m³)

INCOMPATIBLE MATERIALS: None

11. TOXICOLOGICAL INFORMATION

EYE EFFECTS: No data available for the product.

SKIN EFFECTS: No data available for the product.

DERMAL LD50: No data available for the product.

ORAL LD50: 1190 mg/kg (mouse) [RTECS 1996] [Russ Pharm Tox. (3), Pg. 226, 1970]

614 mg/kg (rat) [Environ. Health Persp. 106 Suppl. 2, Pg. 497, 1998] 1066 mg/kg
(human) [Environ. Health Persp. 106 Suppl. 2, Pg. 497, 1998]

INHALATION LC50: No data available for the product.

ACUTE EFFECTS FROM OVEREXPOSURE: This product is expected to have low toxicity and may be minimally irritating to the eyes (based on a similar product, Sodium sulfate).

CHRONIC EFFECTS FROM OVEREXPOSURE: No data available for the product.

Exposure to lithium in industrial settings is not considered to pose a risk to human health. NIOSH studied 25 workers exposed to lithium-containing dust at air concentrations exceeding 10 mg/m³ (nuisance dust limit) and found that typical industrial exposure to lithium will not result in blood levels sufficiently high to produce toxicity in either adults or their offspring (Health Hazard Evaluation Report HHE80-036-922).

CARCINOGENICITY:

IARC: Not listed

NTP: Not listed

OSHA: Not listed

OTHER: ACGIH: Not listed

12. ECOLOGICAL INFORMATION

ECOTOXICOLOGICAL INFORMATION: EC50 = 170 mmol/L (photobacterium phosphoreum)

[Arch. Environ. Contam. Toxicol. 26:69-78, 1994]

LC50 = 39.3 mmol/L (artemia salina)

[Arch. Environ. Contam. Toxicol. 26:69-78, 1994]

LC50 = 1.02 mmol/L (streptocephalus probaoscideus)

[Arch. Environ. Contam. Toxicol. 26:69-78, 1994]

LC50 = 6.48 mmol/L (brachionus calyciflorus)

[Arch. Environ. Contam. Toxicol. 26:69-78, 1994]

EC50 = 0.3 - 1.79 mmol/L (daphnia magna)

[Arch. Environ. Contam. Toxicol. 26:69-78, 1994]; [Aquatic Toxicology 30:47-60, 1994]

CHEMICAL FATE INFORMATION: No data available for the product.

13. DISPOSAL CONSIDERATIONS

DISPOSAL METHOD: Consult the owner of the waste for proper waste disposal procedure. Dispose of waste according to local and Federal laws and regulations.

14. TRANSPORT INFORMATION

U.S. DOT, INTERNATIONAL MARITIME, AND INTERNATIONAL AIR Proper

Shipping Name: None

Classification: None

Labels: None

UN Number: None Packing Group: None

15. REGULATORY INFORMATION UNITED STATES

SARA TITLE III (SUPERFUND AMENDMENTS AND REAUTHORIZATION ACT)

SARA TITLE III SECTION 302 EXTREMELY HAZARDOUS SUBSTANCES (40 CFR 355): Not listed SECTION 311 HAZARD CATEGORY (40 CFR 370): None SECTION 313 REPORTABLE INGREDIENTS (40 CFR 372): This product does not contain a toxic chemical subject to the reporting requirements of Section 313 of Emergency Planning and Community Right-To-Know Act of 1986.

CERCLA (COMPREHENSIVE ENVIRONMENTAL RESPONSE COMPENSATION AND LIABILITY ACT)

CERCLA REGULATORY (40 CFR 302.4): Not listed TSCA (TOXIC SUBSTANCE CONTROL ACT)

TSCA INVENTORY (40 CFR 710, SUBPART B): This product is not subject to TSCA 12 (b) Export Notification Requirements.

TSCA STATUS (40 CFR 710): Listed

Hazard Classification: None Ingredient Disclosure List: Not listed