

1. Identification of the Substance/Mixture and of the Company/Undertaking:

- 1.1 **Product Identifier:** Lithium Molybdate In Aqueous Solution
 1.1.1 **Substances** Not applicable
 1.1.2 **Mixture name:** Lithium Molybdate In Aqueous Solution
 1.2 **Relevant Identified Uses of the Substance or Mixture and Uses Advised Against:**
 Formulation and chemical synthesis in industrial manufacturing operations.
 Additive for preparations and articles for industrial and consumer use.
 Do not use for private purposes (household).

1.3 **Details of the Supplier of the Safety Data Sheet**

North America
 FMC Corporation
 2801 Yorkmont Road, Suite 300
 Charlotte, NC 28208
 Phone: +1.704.426.5300
 Fax: +1.704.426.5370
 1.888.lithium

Europe
 FMC Chemicals
 Commercial Road
 Bromborough, Merseyside
 CH62 3NL, England
 Phone: +44.151. 334.8085
 Fax: +44.151.482.7361

Asia Pacific
 FMC Asia Innovation Center
 No 3 Building No. 4560
 Jinke Road
 Shanghai, China 201203
 T: +86.21.2067.5888

Email: lithium.info@fmc.com
 Web: www.fmclithium.com

1.4 **Emergency Telephone Number:**

North America
 CHEMTREC: +1.800.424.9300
 +1.703.527.3887
 Plant: +1.704.629.5361
 Medical: +1.303.595.9048

Europe
 24 hr Specialist advice number:
 CHEMTREC: +44 870 8200418

Asia Pacific
 Phone: +86.21.2067.5888

2. Hazards Identification

- 2.1 **Classification of the Substance or mixture:**
2.1.1 GHS Classification [EC Regulation No 1272/2008 and US OSHA regulations]

Acute Toxicity Category 4

- 2.2.2 EC: Classification according to 67/548/EEC or 1999/45/EC [DSD/DPD]**

Xn, R22

2.2 **Label Elements:**

2.2.3 Hazard Pictograms(s):



2.2.4 Signal Word: Warning

Hazard Statement(s): Harmful if swallowed.

H302

Precautionary Statement(s):

Wash hands thoroughly after handling.

P264

IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell.

P301 + P312

Rinse mouth.

P330

Do not eat, drink or smoke when using this product.

P270

Dispose of contents/ container to an approved waste disposal plant.

P501

2.3 **Other Hazards**

None.

3. Composition / Information on Ingredients

3.1 **Substances** Not applicable.

3.2 **Mixtures**

3.2.1 GHS Classification [EC: Regulation No 1272/2008; US: OSHA regulations]

Chemical Name	CAS #	EC No	EC Index No	REACH Reg No	Wt. %	Classification, Hazard Statement Codes
Lithium molybdate	13568-40-6	236-977-7	not avail.	not available	30-40	Acute Tox. 4 H302
Water	7732-18-5	None	None	None	60-70	None

3.2.2 EC: Classification according to 67/548/EEC or 1999/45/EC [DSD/DPD]

Chemical Name	CAS #	EC No	EC Index No	REACH Reg No	Wt. %	Classification, Hazard Phrases
Lithium molybdate	13568-40-6	236-977-7	None	not available	30-40	Xn R22
Water	7732-18-5	None	None	None	60-70	None

(see Section 16 for abbreviations and R-phrases text)

4. First Aid Measures

4.1 **Description of First Aid Measures**

EYES: Flush with water for at least 15 minutes. If irritation occurs and persists, contact a medical doctor.

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

INGESTION: Quickly wipe material from the mouth and rinse mouth with water. Do not induce vomiting unless under medical supervision. Obtain medical attention if signs of irritation or ill-health.

INHALATION: Remove to fresh air. If breathing discomfort occurs and persists, see a medical doctor.

4.2 **Most Important Symptoms and effects, both acute and delayed**

Symptoms of over-exposure will typically be a result of the irritant nature of the substance with discomfort to skin and if swallowed, local effects with discomfort to the mouth and GI tract.

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

Notes to medical doctor:

This product is anticipated to have low oral toxicity and may be irritating to eyes, skin and mucous membranes. Treatment is symptomatic and supportive.

5. Fire-Fighting Measures

5.1 **Extinguishing media** Dry chemical, CO2, water spray or regular foam.

5.2 **Special hazards arising from the substance or mixture**

Hazardous combustion products None. Not combustible.

General Hazard No known physical hazard, non-combustible.

Properties contributing to Not flammable

Flammability

Flashpoint Not applicable

Flammable limits in air Not applicable

Auto ignition temperature Not applicable.

Sensitivity to static discharge Not applicable

Sensitivity to static impact Not applicable

5.3 **Advice for fire-fighters**

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.

6. Accidental Release Measures

- 6.1 Personal precautions, protective equipment and emergency procedures**
 Before cleanup measures begin, review the entire SDS with particular attention to Section 2, Hazards Identification; and Section 8, Exposure Controls/Personal Protection
- 6.2 Environmental precautions**
 Contain spill. Do not wash into drains. Dispose of at qualified waste disposal facility.
- 6.3 Methods and material for containment and cleaning up**
 Contain spill with absorbant. Sweep up and place in approved transport container. Dispose of waste according to local and Federal laws and regulations.
- 6.4 Reference to other sections**
 Before cleanup measures begin, review the entire SDS with particular attention to Section 2, Hazards Identification; and Section 8, Exposure Controls/Personal Protection.
- 6.5 Additional information**
 Not specified.

7. Handling and Storage

- 7.1 Precautions for safe handling**
 Avoid contact with eyes, skin or clothing. Avoid breathing mist. Use with adequate ventilation. Wear safety glasses or goggles and rubber gloves. Wash thoroughly after handling.
- 7.2 Conditions for safe storage, including any incompatibilities**
 Keep away from strong acids. Keep container closed.
- 7.3 Specific end use(s)**
 Not available. Chemical safety assessment has not been completed for this product.

8. Exposure Controls / Personal Protection

8.1 Control parameters

DNEL

Long-term exposure, systemic, inhalation Not available
 Long-term exposure, systemic, dermal Not available

PNEC

PNEC aqua (freshwater) Not available
 PNEC STP Not available

EXPOSURE LIMITS

Chemical Name	EU		EH40 (UK WEL)		USA (ACGIH)		USA (OSHA)	
	TWA	STEL	TWA	STEL	TWA	STEL/Ceiling	PEL	STEL/Ceiling
Lithium molybdate	none*		none*		none*		none*	
Molybdenum, soluble compounds [as Mo]	none*		none*		5 mg/m ³ (respirable)		5 mg/m ³	

8.2 Exposure controls

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 respirator approved for protection against inorganic dusts.
 US: NIOSH or MSHA approved
 Europe: CEN Class P type

Protective Clothing:

Gloves: Nitrile/Neoprene/PVC/Natural Rubber (permeation breakthrough not detected during 6 hr test)
 These glove recommendations should not be used as the absolute basis for glove selection. Actual in-use conditions may vary glove performance from the controlled conditions of laboratory tests. Factors such as concentration and temperature, glove thickness and glove reuse, may affect performance. Other glove requirements, such as length, dexterity, cut, abrasion, puncture and snag resistance, or glove grip need to be considered in making your final selection.

Other: Not specified.

Work Hygienic Practices:

Quick-drench eyewash and safety shower.

9. Physical and Chemical Properties

9.1 Information on basic physical and chemical properties

<u>Appearance:</u>	Clear liquid
<u>Odor:</u>	Odorless
<u>Odor threshold:</u>	Not applicable
<u>pH:</u>	7 to 7.5
<u>Melting point:</u>	Not applicable
<u>Boiling point:</u>	A 30% aqueous solution boils at 102°C
<u>Flash point:</u>	Not applicable
<u>Evaporation rate(butyl acetate = 1):</u>	Not applicable
<u>Flammability:</u>	Not flammable
<u>Flammable limits:</u>	Not applicable
<u>Vapor pressure:</u>	Not applicable
<u>Vapor density (air = 1):</u>	Not applicable
<u>Specific gravity:</u>	Not available
<u>Solubility in water:</u>	Miscible in any proportion
<u>Partition coefficient n-octanol/ water:</u>	Not applicable.
<u>Autoignition temperature:</u>	Not applicable
<u>Decomposition temperature:</u>	Not available
<u>Viscosity:</u>	Not available
<u>Explosive properties:</u>	Not explosive
<u>Oxidizing properties:</u>	Not an oxidizer

9.2 Other information

<u>Self-reactive properties</u>	Does not meet classification criteria.
<u>Pyrophoric properties</u>	Does not meet classification criteria.
<u>Self-heating properties</u>	Does not meet classification criteria.
<u>Water reactive properties</u>	Does not meet classification criteria.
<u>Corrosive to metals</u>	Does not meet classification criteria.
<u>Molecular weight:</u>	173.82 (Lithium molybdate)

10. Stability and Reactivity

10.1 <u>Reactivity</u>	Stable.
10.2 <u>Chemical stability</u>	Stable.
10.3 <u>Possibility of hazardous reaction</u>	Hazardous polymerization will not occur.
10.4 <u>Conditions to avoid</u>	Contact with acids
10.5 <u>Incompatible materials</u>	None
10.6 <u>Hazardous decomposition products</u>	None

11. Toxicological Information

11.1 Information on toxicological effects

(a) acute toxicity	Read across data indicates acute oral category 4 classification.
(b) skin corrosion/irritation	Classified as not irritating to skin on the basis of lithium molybdate
(c) serious eye damage/irritation	Classified as not irritating to eyes on the basis of lithium molybdate
(d) respiratory/skin sensitisation	Classed as not sensitizing to skin on the basis of lithium molybdate
(e) germ cell mutagenicity	Classified as not mutagenic based on lithium molybdate.
(f) carcinogenicity	Classified as not carcinogenic based on lithium molybdate.
(g) reproductive toxicity	Classified as not a reproductive toxin based on lithium molybdate.
(h) STOT-single exposure	Classified as not causing organ damage based on lithium molybdate
(i) STOT-repeated exposure	Classified as not causing organ damage on repeat exposure based on lithium molybdate.
(j) aspiration hazard	Lithium molybdate solution, an aqueous solution, does not present an aspiration hazard.

Acute Effects From Overexposure:

No data available for the formulation.

Chronic Effects From Overexposure:

No data available for product.

Carcinogenicity Listings

EH40: Not listed.

IARC: Not listed.

NTP: Not listed.

OSHA: Not considered a carcinogen under OSHA.

ACGIH: Not listed.

12. Ecological Information

- 12.1 **Toxicity:** No classification
No data available for the product. Based on the available data, the classification criteria are not met.
- 12.2 **Persistence and degradability**
Inorganic salt.
- 12.3 **Bioaccumulative potential**
Inorganic. Lithium salts are not bioaccumulative
- 12.4 **Mobility in soil**
No data available for the product.
- 12.5 **Results of PBT and vPvB assessment**
No data available for the product.
- 12.6 **Other adverse effects**
None

13. Disposal Considerations

- 13.1 **Waste treatment methods**
Use a qualified industrial waste disposal facility. Dispose of waste according to local and Federal laws and regulations.

14. Transport Information

- 14.1 **UN Number** Not classified
- 14.2 **UN proper shipping name (IMDG, ICAO, ADR, DOT)** None
- 14.3 **Transport hazard class(es) (IMDG, ICAO, ADR, DOT)** None
- 14.4 **Packing group (IMDG, ICAO, ADR, DOT)** None
- 14.5 **Environmental hazards** None
- 14.6 **Special precautions for user** None
- 14.7 **Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code** None

15. Regulatory Information

- 15.1 **Safety, health and environmental regulations/legislation specific for the substance or mixture**

EUROPEAN UNION:

German Wassergefährdungsklasse (water hazard class)

Lithium molybdate

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UNITED STATES:

Section 311 Hazard Category (40 CFR 370):

Section 313 Reportable Ingredients (40 CFR 372):

Immediate (acute) health hazard,

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.

Section 302 Extremely Hazardous Substances Not listed

(40 CFR 355):

CERCLA Hazardous Substance (40 CFR Not listed

302.4):

TSCA Sec 12b Export Notification:

This product is not subject to TSCA 12 (b) Export Notification Requirements.

NFPA Rating:

Health: 1 Flammability: 0 Reactivity: 0 Special: None

INTERNATIONAL INVENTORY STATUS:

<u>Inventory/Country</u>	<u>Product Status</u>
EINECS (EU)	Listed
TSCA (US)	Listed
ECL (Korea)	Listed
DSL (Canada)	Listed

15.2 Chemical Safety Assessment

The Chemical Safety Assessment has not been completed for this product.

16. Other Information

European Union:

R Phrases:

Harmful if swallowed

R22

Irritating to eyes

R36

List of Abbreviations used in this SDS:

PBT	Persistent, Bioaccumulative and Toxic
vPvB	very Persistent, very Bioaccumulative
PEC	Predicted environmental concentration
PNEC	Predicted no effect concentration
DNEL	Derived no effect level

Specific uses identified for Exposure Scenarios

Not available

REVISION SUMMARY: Revision # 0. New SDS.

This SDS has been prepared to meet European Regulation (EC) No 1907/2006 [and No 1272/2008], and U. S. OSHA Hazard Communication Standard requirements.

type 1a

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