

SAFETY DATA SHEET

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

1.1 Product identifiers

Product name Molybdenum
CAS number 7439-98-7
Synonyms No information available.

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

Identified uses Laboratory chemicals.

1.3 Details of the supplier of the safety data sheet

Company Lab Alley, LLC
12501 Pauls Valley Road
Austin, Texas 78737
U.S.A.
Telephone 512-668-9918
Fax 512-886-4008

1.4 Emergency telephone

Emergency Phone # US & Canada: 1-800-535-5053 INFOTRAC
International 1-352-323-3500 INFOTRAC


SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

GHS Classification in accordance with 29 CFR 1910 (OSHA HCS)

Flammable solids (Category 2)
Reproductive Toxicity (Category 1B)
Specific target organ toxicity - single exposure (Category 2)

2.2 GHS Label elements, including precautionary statements

Pictogram	
Signal Word	Danger
Hazard statements	Flammable solid May damage fertility or the unborn child May cause damage to organs
Precautionary statements	Obtain special instructions before use Do not handle until all safety precautions have been read and understood Use personal protective equipment as required Do not breathe dust/fume/gas/mist/vapors/spray Wash face, hands and any exposed skin thoroughly after handling Do not eat, drink or smoke when using this product Keep away from heat/sparks/open flames/hot surfaces. - No smoking Ground/bond container and receiving equipment Use explosion-proof electrical/ventilating/lighting equipment IF exposed or concerned: Get medical attention/advice In case of fire: Use CO2, dry chemical, or foam for extinction Store locked up Dispose of contents/container to an approved waste disposal

2.3 Hazards not otherwise classified (HNOC) or not covered by GHS

None identified.

SECTION 3: Composition/information on ingredients

3.1 Components

Chemical name	Common name and synonyms	CAS number	Concentration
Molybdenum	No information available.	7439-98-7	> 98%

SECTION 4: First aid measures

4.1 Description of first-aid measures

General advice

If inhaled	Remove from exposure, lie down. Remove to fresh air.
In case of skin contact	Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes.
In case of eye contact	Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes.
If swallowed	Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Drink plenty of water. If possible drink milk afterwards.

4.2 Most important symptoms and effects, both acute and delayed

No information available.

4.3 Indication of any immediate medical attention and special treatment needed

Note to Physician: Treat symptomatically.

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media No information available.

Unsuitable extinguishing media No information available.

5.2 Specific hazards arising from the substance or mixture

Contact with water liberates toxic gas. Water reactive. Produce flammable gases on contact with water.

5.3 Special protective equipment and precautions for firefighters

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

5.4 Further information

Flash Point No information available.

Autoignition Temperature No information available.

Explosion limits

Upper No information available.

Lower No information available.

Sensitivity to Mechanical Impact No information available.

Sensitivity to Static Discharge No information available.

NFPA

Health	Flammability	Instability	Physical hazards
2	2	0	N/A

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Ensure adequate ventilation. Use personal protective equipment as required.

6.2 Environmental precautions

See section 12 for additional Ecological information.

6.3 Methods and materials for containment and cleaning up

Soak up with inert absorbent material. Sweep up and shovel into suitable containers for disposal.

6.4 Reference to other sections

See section 2 for full list of hazard and precaution statements.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Precautions on safe handling

Avoid contact with skin and eyes. Avoid contact with skin and clothing. Remove and wash contaminated clothing and gloves, including the inside, before re-use. Avoid breathing vapors or mists. Do not ingest. If swallowed then seek immediate medical assistance. Wash thoroughly after handling.

Hygiene measures

Handle in accordance with good industrial hygiene and safety practice.

7.2 Conditions for safe storage, including any incompatibilities

Storage conditions

Keep away from water or moist air.

Incompatibilities

Strong oxidizing agents. Oxidizing agent.

SECTION 8: Exposure controls/personal protection

8.1 Occupational exposure limits

US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)

Component	Type	Value
Molybdenum	TWA	10 mg/m ³

US. ACGIH Threshold Limit Values

Component	Type	Value
Molybdenum	TWA	10 mg/m ³

US. NIOSH: Pocket Guide to Chemical Hazards

Component	Type	Value
Molybdenum	IDLH	5000 mg/m ³

Biological occupational exposure limits

No information available.

8.2 Exposure controls

Appropriate engineering controls

Ensure adequate ventilation, especially in confined areas. Ventilation systems.

Personal protective equipment

Eye/face protection

Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166.

Skin protection

Wear appropriate protective gloves.

Body Protection

Wear appropriate clothing to prevent skin exposure.

Respiratory protection

Wear a NIOSH/MSHA or European Standard EN 149 approved full-facepiece airline respirator in the positive pressure mode with emergency escape provisions.

Control of environmental exposure

No special precautionary measures necessary.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Physical State	Solid
Appearance	Grey
Odor	Odorless
Odor Threshold	No information available.
pH	No information available.
Melting Point/Range	2622 °C / 4751.6 °F
Boiling Point/Range	4824 °C / 8717 °F
Evaporation Rate	Not applicable.
Flammability (solid)	No information available.
Flammability or explosive limit	

Upper	No information available.
Lower	No information available.
Vapor Pressure	No information available.
Vapor Density	Not applicable.
Density	10.28 g/mL at 25 °C (77 °F)
Solubility	No information available.
Partition coefficient; n-octanol/water	No information available.
Autoignition Temp	Not applicable.
Decomposition Temp	No information available.
Viscosity	Not applicable.
Molecular Formula	Mo
Molecular Weight	95.94
VOC Content(%)	No information available.
Oxidizing properties	None.

9.2 Other safety information

No information available.

SECTION 10: Stability and reactivity

10.1 Reactivity

None known, based on information available.

10.2 Chemical stability

Stable under normal conditions.

10.3 Possibility of hazardous reactions

None under normal processing.

10.4 Conditions to avoid

Incompatible products.

10.5 Incompatible materials

Strong oxidizing agents, oxidizing agent.

10.6 Hazardous decomposition products

Thermal decomposition can lead to release of irritating gases and vapors.

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Product Information, Component Information

Acute toxicity

Component	LD50 Oral	LD50 Dermal	LC50 Inhalation
Molybdenum	Not listed.	> 2000 mg/kg (rat)	> 5.84 mg/L (rat)

Skin corrosion/irritation

No information available.

Serious eye damage/eye irritation

No information available.

Respiratory or skin sensitization

No information available.

Germ cell mutagenicity

No information available.

Carcinogenicity

Component	CAS	IARC	NTP	ACGIH	OSHA	Mexico
Molybdenum	7439-98-7	Not listed	Not listed	Not listed	Not listed	Not listed

Specific target organ toxicity - single exposure

None known.

Specific target organ toxicity - repeated exposure

None known.

Reproductive toxicity

No information available.

Chronic effects

No information available.

11.2 Additional Information

The toxicological properties have not been fully investigated.

SECTION 12: Ecological information**12.1 Toxicity**

Product		Species	Test Results	
Molybdeum	LC50	Oncorhynchus mykiss	644 mg/L	96 h
	NOEC	Pimephales promelas	463 mg/L	32 d

12.2 Persistence and degradability

Insoluble in water.

12.3 Bio accumulative potential

No information available.

12.4 Mobility in soil

Is not likely mobile in the environment due its low water solubility.

12.5 Results of PBT and vPvB assessment

No information available.

12.6 Endocrine disrupting properties

No information available.

12.7 Other adverse effects

No information available.

SECTION 13: Disposal considerations

13.1 Waste Disposal Methods

Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. Chemical waste generators must also consult local, regional, and national hazardous waste regulations to ensure complete and accurate classification.

SECTION 14: Transport information

DOT (US)

UN no.	3089
Proper Shipping Name	Metal Powders, Flammable, n.o.s (Molybdenum)
Hazard Class	4.1
Packing Group	II

IMDG

UN no.	3089
Proper Shipping Name	Metal Powders, Flammable, n.o.s (Molybdenum)
Hazard Class	4.1
Packing Group	II

IATA

UN no.	3089
Proper Shipping Name	Metal Powders, Flammable, n.o.s (Molybdenum)
Hazard Class	4.1
Packing Group	II

SECTION 15: Regulatory information

US federal regulations This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

Not listed.

CERCLA Hazardous Substance List (40 CFR 302.4)

Not listed.

SARA 304 Emergency release notification

Not regulated

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1053)

Not regulated.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

SARA 302 Extremely hazardous substance

Not listed.

SARA 311/312 Hazardous

Not listed.

SARA 313 (TRI reporting)

Not listed.

Other federal regulations

Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List

Not listed.

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)

Not listed.

Safe Drinking Water Act

Not listed.

FEMA Priority Substances Respiratory Health and Safety in the Flavor Manufacturing Workplace

Not listed.

US state regulations

US. Massachusetts RTK - Substance List

Listed: Molybdenum.

US. New Jersey Worker and Community Right-to-Know Act

Listed: Molybdenum.

US. Pennsylvania Worker and Community Right-to-Know Law

Listed: Molybdenum.

California Proposition 65

Not listed.

SECTION 16: Other information

Issue date: 09/11/2024

SECTION 17: Disclaimer

The information provided on this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guide for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered as a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other material or in any process, unless specified in the text.