

SAFETY DATA SHEET

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

1.1 Product identifiers

Product name Molybdenum Disulfide
CAS number 1317-33-5
Synonyms Molybdenum(IV) Sulfide

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)

Acute inhalation toxicity - dusts and mists (Category 4)

2.2 GHS Label elements, including precautionary statements

Pictogram



Signal Word	Warning.
Hazard statements	Harmful if inhaled
Precautionary statements	Avoid breathing dust/fume/gas/mist/vapors/spray Use only outdoors or in a well-ventilated area IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing Call a POISON CENTER or doctor/physician if you feel unwell

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(IV) Sulfide	Molybdenum Disulfide	1317-33-5	> 98%

SECTION 4: First aid measures

4.1 Description of first-aid measures

General advice

If inhaled	Remove to fresh air. If not breathing, give artificial respiration. Get medical attention immediately if symptoms occur.
In case of skin contact	Wash off immediately with plenty of water for at least 15 minutes. Get medical attention immediately if symptoms occur.
In case of eye contact	Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Get medical attention.
If swallowed	Clean mouth with water and drink afterwards plenty of water. Get medical attention if symptoms occur.

4.2 Most important symptoms and effects, both acute and delayed

None reasonably foreseeable.

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 Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Unsuitable extinguishing media No information available.

5.2 Specific hazards arising from the substance or mixture

Keep product and empty container away from heat and sources of ignition.

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	0	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. Should not be released into the environment. Do not allow material to contaminate ground water system. Do not flush into surface water or sanitary sewer system.

6.3 Methods and materials for containment and cleaning up

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 in a dry, cool and well-ventilated place. Keep container tightly closed.

Incompatibilities

Strong oxidizing agents. Peroxides. Fluorine.

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(IV) Sulfide	TWA	10 mg/m ³

US. ACGIH Threshold Limit Values

Component	Type	Value
Molybdenum(IV) Sulfide	TWA	10 mg/m ³

US. NIOSH: Pocket Guide to Chemical Hazards

Component	Type	Value
Molybdenum(IV) Sulfide	IDLH	5000 mg/m ³

Biological occupational exposure limits

No information available.

8.2 Exposure controls

Appropriate engineering controls

None under normal use conditions.

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

No protective equipment is needed under normal use conditions.

Control of environmental exposure

Do not allow the product enter drains.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Physical State	Solid
Appearance	Dark grey
Odor	Odorless
Odor Threshold	No information available.
pH	No information available.
Melting Point/Range	No information available.
Boiling Point/Range	No information available.
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	No information available.
Solubility	Insoluble.
Partition coefficient; n-octanol/water	No information available.
Autoignition Temp	No information available.
Decomposition Temp	No information available.
Viscosity	Not applicable.
Molecular Formula	MoS2
Molecular Weight	160.07
VOC Content(%)	No information available.

Oxidizing properties

No information available.

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. Peroxides. Fluorine.

10.6 Hazardous decomposition products

Sulfur oxides, Sulfides, Heavy metal oxides.

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Product Information, Component Information

Acute toxicity

Component	LD50 Oral	LD50 Dermal	LC50 Inhalation
Molybdenum(IV) Sulfide	Not listed	Not listed	> 2820 mg/m ³ (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(IV) Sulfide	1317-33-5	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

Do not empty into drains. May cause long-term adverse effects in the environment. Do not allow material to contaminate ground water system.

12.2 Persistence and degradability

Insoluble in water. May persist.

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)

Not regulated.

IMDG

Not regulated.

IATA

Not regulated.

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 regulated.

Other federal regulations

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

Not regulated.

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

Not regulated.

Safe Drinking Water Act

Not regulated.

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

Not listed.

US state regulations

US. Massachusetts RTK - Substance List

Listed.

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

Not listed.

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

Not listed.

California Proposition 65

Not listed.

SECTION 16: Other information

Issue date: 9/27/24

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.