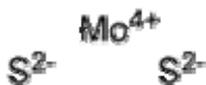


Molybdenum disulfide

Material Safety Data Sheet

- Natural molybdenite
- Molykote
- Molybdenum(IV) sulfide
- Molybdenum sulfide
- Molybdenite
- Disulfanylidenemolybdenum

Formula MoS₂

Structure 

Description Lead-gray, lustrous powder.

Uses Lubricants in greases, oil dispersions, resin bonded films, dry powders, especially at extreme pressures and high vacua.

Registry Numbers and Inventories.

CAS 1317-33-5

NIH PubChem CID 14823

EC (EINECS/ELINCS) 215-263-9

RTECS QA4697000

RTECS class Mutagen

Merck 12,6318

Beilstein/Gmelin 17196 (G)

Swiss Giftliste 1 G-4023

Canada DSL/NDSL DSL

US TSCA Listed

Australia AICS Listed

New Zealand Listed



Japan ENCS (MITI) Listed

Korea ECL Listed

Properties.

Formula	Mo2S
Formula mass	160.06
Melting point, °C	2375
Sublimation point, °C	450
Vapor density (air=1)	5.51
Density	4.8 g/cm ³
Solubility in water	insoluble
Dielectric constant	3.33 (25 C)

Hazards and Protection.

Storage	Store in a tightly closed container. Store in a cool, dry, well-ventilated area away from incompatible substances.
Handling	Wash thoroughly after handling. Remove contaminated clothing and wash before reuse. Use only in a well ventilated area. Minimize dust generation and accumulation. Avoid contact with eyes, skin, and clothing. Keep container tightly closed. Avoid ingestion and inhalation.
Protection	Eyes: 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: Wear appropriate protective gloves to prevent skin exposure. Clothing: Wear appropriate protective clothing to prevent skin exposure.
Respirators	Follow the OSHA respirator regulations found in 29CFR 1910.134 or European Standard EN 149. Always use a NIOSH or European Standard EN 149 approved respirator when necessary.
Small spills/leaks	Clean up spills immediately, using the appropriate protective equipment. Sweep up or absorb material, then place into a suitable clean, dry, closed container for disposal. Avoid generating dusty conditions. Provide ventilation.
Stability	Stable under ordinary conditions.

Incompatibilities Strong oxidizing agents, hydrogen peroxides, potassium nitrate.

Decomposition Oxides of sulfur, hydrogen sulfide, oxides of molybdenum.

Fire.

Fire fighting Wear a self-contained breathing apparatus in pressure-demand, MSHA/NIOSH (approved or equivalent), and full protective gear. During a fire, irritating and highly toxic gases may be generated by thermal decomposition or combustion. To extinguish fire use water spray, dry chemical, carbon dioxide, or appropriate foam.

Health.

Exposure limit(s) OSHA: PEL (8 h TWA): 15 mg/m³.

Poison_Class -

Exposure effects Anorexia and listlessness have been reported in animals.

Ingestion May cause gastrointestinal irritation with nausea, vomiting and diarrhea. The toxicological properties of this substance have not been fully investigated.

Inhalation Dust is irritating to the respiratory tract. The toxicological properties of this substance have not been fully investigated.

Skin May cause skin irritation. The toxicological properties of this material have not been fully investigated.

Eyes Dust may cause mechanical irritation. The toxicological properties of this material have not been fully investigated.

First aid

Ingestion If victim is conscious and alert, give 2-4 cupfuls of milk or water. Never give anything by mouth to an unconscious person. Get medical aid immediately.

Inhalation Remove from exposure to fresh air immediately. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical aid.

Skin Get medical aid. Flush skin with plenty of soap and water for at least 15 minutes while removing contaminated clothing and shoes. Wash clothing before reuse.

Eyes Flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Get medical aid immediately.