

HIMO

Safety Data Sheet

According to the Hazard Communication Standard (CFR29 1910.1200) HazCom 2024 and the Hazardous Products Regulations (HPR) WHMIS 2022

Issue date : 2025-07-31

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Version : 1,0

SECTION 1: Identification

1.1. Product identifier

Product form : Substance
Substance name : HIMO
CAS-No. : 7439-98-7
Formula : Mo
Chemical name : molybdenum

1.2. Other means of identification

No additional information available

1.3. Recommended use and restrictions on use

Recommended use : For research purpose only

1.4. Supplier

National Research Council Canada
1200 Montreal Road
Ottawa, K1A 0R6 - Canada
T 613-993-2359



National Research
Council Canada

Conseil national de
recherches Canada

1.5. Emergency telephone number

Emergency number : CANUTEC 1-613-996-6666

SECTION 2: Hazard(s) identification

2.1. Classification of the substance or mixture

GHS classification

Not classified.

2.2. GHS Label elements, including precautionary statements

GHS labelling

No labelling applicable

2.3. Hazards associated with known or reasonably anticipated uses

No additional information available

2.4. Other hazards which do not result in classification

No additional information available

2.5. Unknown acute toxicity

Not applicable

SECTION 3: Composition/information on ingredients

3.1. Substances

Name : HIMO
CAS-No. : 7439-98-7

Name	Product identifier	% by weight
Molybdenum	CAS-No.: 7439-98-7	100

3.2. Mixtures

Not applicable

SECTION 4: First-aid measures

4.1. Description of first aid measures

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|---------------------------------------|--|
| First-aid measures after inhalation | : If breathing is difficult, remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical advice/attention if you feel unwell. |
| First-aid measures after skin contact | : If skin irritation occurs: Wash skin with plenty of water. Obtain medical attention if irritation persists. |
| First-aid measures after eye contact | : IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention. |
| First-aid measures after ingestion | : Do not induce vomiting without medical advice. Never give anything by mouth to an unconscious person. Get medical advice/attention if you feel unwell. |

4.2. Most important symptoms and effects (acute and delayed)

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|-------------------------------------|---|
| Symptoms/effects after inhalation | : May cause irritation to the respiratory tract. |
| Symptoms/effects after skin contact | : May cause skin irritation. Repeated exposure may cause skin dryness or cracking. |
| Symptoms/effects after eye contact | : May cause eye irritation. Symptoms may include discomfort or pain, excess blinking and tear production, with possible redness and swelling. |
| Symptoms/effects after ingestion | : May be harmful if swallowed. May cause gastrointestinal irritation, nausea, vomiting and diarrhea. |

4.3. Immediate medical attention and special treatment, if necessary

Symptoms may be delayed. In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

SECTION 5: Fire-fighting measures

5.1. Suitable (and unsuitable) extinguishing media

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| Suitable extinguishing media | : Use agents for metal fires (such as: MET-L-X, TEC, or G-1 powder). Class D extinguisher. |
| Unsuitable extinguishing media | : Do not use water jet. |

5.2. Specific hazards arising from the chemical

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| Explosion hazard | : Under abnormal conditions, molybdenum powder or dust may present a fire hazard depending upon particle size, dispersion and exposure to an ignition source(s). Mo wrought metals does not readily burn. When Mo is heated in air above 650, MoO ₃ sublimes. |
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5.3. Special protective equipment and precautions for fire-fighters

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|--------------------------------|---|
| Firefighting instructions | : Do not enter fire area without proper protective equipment, including respiratory protection. For large fire: Self-contained breathing apparatus. |
| Protection during firefighting | : Keep upwind of fire. Wear full fire fighting turn-out gear (full Bunker gear) and respiratory protection (SCBA). |

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

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| General measures | : Use personal protection recommended in Section 8. Isolate the hazard area and deny entry to unnecessary and unprotected personnel. |
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6.1.1. For non-emergency personnel

No additional information available

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6.1.2. For emergency responders

No additional information available

Environmental precautions : Prevent entry to sewers and public waters.

6.2. Methods and material for containment and cleaning up

For containment : Absorb and/or contain spill with inert material (sand, vermiculite or other appropriate material), then place in suitable container. Do not flush into surface water or sewer system. Wear recommended personal protective equipment.

Methods for cleaning up : Sweep or shovel spills into appropriate container for disposal. Provide ventilation.

For further information refer to section 8: "Exposure controls/personal protection".

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling : Avoid contact with skin and eyes. Avoid breathing dust/fume/gas/mist/vapours/spray. Do not swallow. Handle and open container with care. When using do not eat, drink or smoke.

Hygiene measures : Wash contaminated clothing before reuse. Always wash hands after handling the product.

7.2. Conditions for safe storage, including any incompatibilities

Storage conditions : Keep out of the reach of children. Keep container tightly closed. Store in a dry, cool and well-ventilated place.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Molybdenum (7439-98-7)	
ACGIH - TLV® TWA	10 mg/m ³ (inhalable particulate matter) 3 mg/m ³ (respirable particulate matter)
OSHA	Not applicable
IDLH	5000 mg/m ³
NIOSH	Not applicable

8.2. Appropriate engineering controls

Appropriate engineering controls : Ensure good ventilation of the work station.

Environmental exposure controls : Avoid release to the environment.

8.3. Individual protection measures/Personal protective equipment

Hand protection:
Wear suitable gloves. Consult glove manufacturer's product information on material suitability and material thickness.
Eye protection:
Safety glasses or goggles are recommended when using product.

Skin and body protection:

Wear suitable protective clothing

Respiratory protection:

In case of insufficient ventilation, wear suitable respiratory equipment. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator. SDSs cannot provide detailed and complete respiratory protection guidelines. Selection of respiratory protection must be done by a qualified person who has assessed the work environment.

Other information:

Handle in accordance with good industrial hygiene and safety procedures. Do not eat, drink or smoke when using this product.

SECTION 9: Physical and chemical properties**9.1. Information on basic physical and chemical properties**

Physical state	: Solid (wire)
Colour	: Grey
Odour	: No data available
Odour threshold	: No data available
pH	: No data available
Melting point	: 2622 °C / 4751.6 °F
Freezing point	: No data available
Boiling point	: 4825 °C / 8717 °F
Flash point	: No data available
Relative evaporation rate (butyl acetate=1)	: No data available
Flammability	: Not Flammable
Vapour pressure	: 1 mm Hg at 3102 °C / 5615.6 °F
Relative vapour density at 20°C / 68 °F	: No data available
Relative density	: No data available
Density	: 10.2 gm/cc
Solubility	: Water: Insoluble
Partition coefficient n-octanol/water	: No data available
Auto-ignition temperature	: No data available
Decomposition temperature	: No data available
Viscosity, kinematic	: No data available
Viscosity, dynamic	: No data available
Explosive limits	: No data available
Explosive properties	: No data available
Oxidising properties	: No data available

9.2. Other information

No additional information available

SECTION 10: Stability and reactivity**10.1. Reactivity**

No dangerous reactions known under normal conditions of use.

10.2. Chemical stability

Stable under normal conditions.

10.3. Possibility of hazardous reactions

No dangerous reactions known under normal conditions of use.

10.4. Conditions to avoid

Heat. Incompatible materials.

10.5. Incompatible materials

Strong oxidizers; BrF₃, ClF₃, F₂, PbO₂

10.6. Hazardous decomposition products

None

SECTION 11: Toxicological information**11.1. Information on toxicological effects**

Acute toxicity (oral) : Not classified

Acute toxicity (dermal) : Not classified

Acute toxicity (inhalation) : Not classified

Molybdenum (7439-98-7)

LD50 dermal rat	> 2000 mg/kg bodyweight Animal: rat, Guideline: OECD Guideline 402 (Acute Dermal Toxicity)
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LC50 inhalation rat	> 5.84 mg/L/4h
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Skin corrosion/irritation : Based on available data, the classification criteria are not met.

Serious eye damage/irritation : Based on available data, the classification criteria are not met.

Respiratory or skin sensitisation : Based on available data, the classification criteria are not met.

Germ cell mutagenicity : Based on available data, the classification criteria are not met.

Carcinogenicity : Based on available data, the classification criteria are not met.

Reproductive toxicity : Based on available data, the classification criteria are not met.

STOT-single exposure : Based on available data, the classification criteria are not met.

STOT-repeated exposure : Based on available data, the classification criteria are not met.

Aspiration hazard : Based on available data, the classification criteria are not met.

Symptoms/effects after inhalation : May cause irritation to the respiratory tract.

Symptoms/effects after skin contact : May cause skin irritation. Repeated exposure may cause skin dryness or cracking.

Symptoms/effects after eye contact : May cause eye irritation. Symptoms may include discomfort or pain, excess blinking and tear production, with possible redness and swelling.

Symptoms/effects after ingestion : May be harmful if swallowed. May cause gastrointestinal irritation, nausea, vomiting and diarrhea.

Other information : Likely routes of exposure: ingestion, inhalation, skin and eye.

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SECTION 12: Ecological information

12.1. Ecotoxicity

Ecology - general : May cause long-term adverse effects in the aquatic environment.

12.2. Persistence and degradability

HIMO (7439-98-7)	
Persistence and degradability	Not established

12.3. Bioaccumulative potential

HIMO (7439-98-7)	
Bioaccumulative potential	Not established

12.4. Mobility in soil

No additional information available

12.5. Other adverse effects

No additional information available

SECTION 13: Disposal considerations

13.1. Disposal methods

Product/Packaging disposal recommendations : Dispose of contents/container to hazardous or special waste collection point, in accordance with local, regional, national and/or international regulation.

SECTION 14: Transport information

14.1. UN number

Not regulated for transport

14.2. UN proper shipping name

Proper Shipping Name (DOT) : Not applicable

Proper Shipping Name (TDG) : Not applicable

14.3. Transport hazard class(es)

DOT

Transport hazard class(es) (DOT) : Not applicable

TDG

Transport hazard class(es) (TDG) : Not applicable

14.4. Packing group

Packing group (DOT) : Not applicable

Packing group (TDG) : Not applicable

14.5. Environmental hazards

Other information : No supplementary information available.

14.6. Transport in bulk

Not applicable

14.7. Special precautions for user

Special transport precautions : Do not handle until all safety precautions have been read and understood.

SECTION 15: Regulatory information

15.1 Federal regulations

All components of this product are listed, or excluded from listing, on the United States Environmental Protection Agency Toxic Substances Control Act (TSCA) inventory.

All components of this product are listed, or excluded from listing, on the Canadian DSL (Domestic Substances List) and NDSL (Non-Domestic Substances List) inventories.

15.2. International regulations

No additional information available

15.3. US State regulations

No additional information available

SECTION 16: Other information

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Other information	: None
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Prepared by	: Nexreg Compliance Inc.

www.Nexreg.com



Disclaimer:

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