



# SAFETY DATA SHEET

**PRODUCT NAME:** SODIUM MOLYBDATE

Issue Date: May 23

## IDENTIFICATION

**Product Name:** Sodium Molybdate  
**Other Names:** Disodium Molybdate  
**Product Code:** ZSMOLY  
**Uses:** As a reagent in analytical chemistry, reagent for alkaloid testing. In metal finishing, brightening agent for zinc plating. Corrosion inhibitor. Additive as trace element for fertilizers and in animal feed supplements. Used in production of molybdate inorganic toners, pigments.  
**Supplier:** HamChem Hamilton Chemicals Ltd, 75 Ruffell Rd, Hamilton  
Phone: 079744971 Web: [www.hamchem.nz](http://www.hamchem.nz) Email: [sales@hamchem.nz](mailto:sales@hamchem.nz)

- In emergency dial 111, and then ask for Fire, Ambulance or Police as necessary.
- In case of poisoning phone National Poisons Centre – 0800 764 766

## HAZARD IDENTIFICATION

**Classified as non-hazardous according to the criteria of the NZ Hazardous Substances and New Organisms legislation and GHS 7<sup>th</sup> Edition**

Health injuries are not known or expected under normal use  
Adverse ecological effects are not known or expected

### PRECAUTIONARY STATEMENTS:

Avoid generating excessive dust. Do not breathe dust. If in contact with eyes, rinse thoroughly.

## COMPOSITION & INFORMATION ON INGREDIENTS

Chemical Entity	CAS No.	Proportion (%)
Sodium Molybdate Dihydrate	10102-40-6	>98

## FIRST AID MEASURES

**If swallowed:** Rinse mouth. Give water to drink. First aid not generally required. If unwell or in doubt, contact a POISON CENTRE (0800 764 766) or Doctor

**If on skin:** Immediately remove all contaminated clothing, including footwear. Flush skin and hair with running water (and soap if available). If irritation occurs, seek medical advice/attention.

**If inhaled:** If dust is inhaled, remove from contaminated area to fresh air. Encourage patient to blow nose to ensure clear passage of breathing. If irritation or discomfort persists, seek medical attention.

**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.

**Note to Physician:** Treat symptomatically.

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### SYMPTOMS AND EFFECTS, ACUTE AND DELAYED, FROM EXPOSURE

**Ingestion:** Considered unlikely route of entry in commercial/industrial environments. The material is highly discomforting and harmful if swallowed. Ingestion may result in nausea, abdominal irritation, pain and vomiting.

**Skin contact:** The material is moderately discomforting to the skin if exposure is prolonged. Open cuts, abraded or irritated skin should not be exposed to this material. The material may accentuate any pre-existing skin condition.

**Inhalation:** The dust may be highly discomforting to the upper respiratory tract and may be harmful if exposure is prolonged. Bronchial and alveolar exudates are apparent in animals exposed to molybdenum by inhalation. Molybdenum fume may produce bronchial irritation and moderate fatty changes in liver and kidney function.

**Eye contact:** The dust may be highly discomforting to the eyes.

**Long term effects:** Principal routes of exposure are by accidental skin and eye contact and inhalation of generated dusts. High levels of molybdenum can cause joint problems in the hands and feet with pain and lameness. Molybdenum compounds can also cause liver changes with elevated levels of enzymes and cause over activity of the thyroid gland. A generalised feeling of unwellness can occur, with tiredness, weakness, diarrhoea, loss of appetite and weight. Molybdenum has been associated with cancers of the airways, but on the other hand, a low intake of molybdenum may cause an increased risk of developing oesophageal cancer.

FIRE FIGHTING MEASURES
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**Extinguishing media:** There is no restriction on the type of extinguisher which may be used. Use extinguishing media suitable for the surrounding area.

**Specific hazards:** Decomposes on heating and produces toxic fumes of metal oxides. Avoid contamination with strong oxidising agents as ignition may result. Non combustible. Not considered a significant fire risk, however containers may burn.

**Special protective precautions & equipment:** Alert Fire Brigade and tell them location and nature of hazard. Wear breathing apparatus plus protective gloves. Prevent by any means available, spillage from entering drains or water courses. Use fire fighting procedures suitable for the surrounding area. Use water delivered as a fine spray to control fire and cool adjacent area. DO NOT approach containers suspected of being hot. If safe to do so, remove containers from the path of fire.

ACCIDENTAL RELEASE MEASURES
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**MINOR SPILLS:** Clean up all spills immediately. Wear impervious gloves and safety glasses. Avoid contact with skin and eyes. Use dry clean up procedures and avoid generating dust. Place in suitable containers for disposal.

**MAJOR SPILLS:** Clear area of personnel and move upwind. Alert Fire Brigade and tell them location and nature of hazard. Control personal contact by using protective equipment and dust respirator. Prevent spillage from entering drains, sewers or water courses. Recover product wherever possible. Sweep / shovel up. Avoid generating dust. If required, wet with water to prevent dusting. Put residues in labelled plastic bags or other containers for disposal. Wash area down with large quantity of water and prevent runoff into drains. If contamination of drains or waterways occurs, advise emergency services.

HANDLING & STORAGE
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**Handling advice:** Avoid all personal contact, including inhalation. Wear protective clothing when risk of exposure occurs. Use in a well ventilated area. Prevent concentration in hollows and sumps. DO NOT enter

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confined spaces until atmosphere has been checked. DO NOT allow material to contact humans, exposed food or food utensils. Avoid contact with incompatible materials. When handling, do not eat, drink or smoke. Always wash hands with soap and water after handling. Work clothes should be laundered separately. Launder contaminated clothing before re-use. Use good occupational work practice. Observe manufacturer's storing and handling recommendations. Atmosphere should be regularly checked against established exposure standards to ensure safe working conditions are maintained.

**Storage advice:** Store in original containers. Keep containers securely sealed when not in use. Store in a cool, dry, well ventilated area. Store away from incompatible materials and foodstuff containers. Multi ply paper bag with sealed plastic liner or heavy gauge plastic bag. NOTE: Bags should be stacked, blocked, interlocked, and limited in height so that they are stable and secure against sliding or collapse. Check that all containers are clearly labeled and free from leaks. Avoid physical damage to containers. Packing as recommended by manufacturer.

<b>EXPOSURE CONTROLS &amp; PERSONAL PROTECTION</b>
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**Exposure standards:** No exposure standard set by Worksafe NZ for this product. Exposure standard for dust not otherwise specified is 10mg/m<sup>3</sup> (for inspirable dust) and 3mg/m<sup>3</sup> (for respirable dust).

**Engineering controls:** Ventilation system: a system of local and/or general exhaust is recommended to keep employee exposures as low as possible.

**Personal protective equipment:** Personal respirators, Skin protection, Eye protection.

<b>PHYSICAL &amp; CHEMICAL PROPERTIES</b>
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<b>Appearance:</b>	Small white scales or flakes.
<b>Odour:</b>	Odourless.
<b>Density:</b>	3.28 @ 18°C
<b>Solubility in water:</b>	840g/L @ 100°C in water
<b>Flash point:</b>	Non combustible.
<b>Flammability limits:</b>	N/A
<b>Boiling point:</b>	N/A
<b>Melting point:</b>	687°C
<b>pH:</b>	9-10 (1% solution)

<b>STABILITY &amp; REACTIVITY</b>
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**Stability:** Product is considered stable.

**Hazardous decomposition products:** Decomposes on heating and produces toxic fumes of metal oxides.

**Hazardous polymerization:** Will not occur.

**Incompatibles:** Oxidizer's and alkali metals e.g. sodium, lithium and common metals and their alloys.

<b>TOXICOLOGICAL INFORMATION</b>
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**Toxicity data:** Oral (rat) LD50: 4000mg/kg

### **ACUTE HEALTH EFFECTS**

**SWALLOWED:** Considered an unlikely route of entry in commercial/industrial environments. The material is highly discomforting and harmful if swallowed. Ingestion may result in nausea, abdominal irritation, pain and vomiting.

**EYE:** The dust may be highly discomforting to the eyes.

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**SKIN:** The material is moderately discomforting to the skin. if exposure is prolonged. Open cuts, abraded or irritated skin should not be exposed to this material. The material may accentuate any pre-existing skin condition.

**INHALED:** The dust may be highly discomforting to the upper respiratory tract if inhaled and may be harmful if exposure is prolonged. Bronchial and alveolar exudates are apparent in animals exposed to molybdenum by inhalation. Molybdenum fume may produce bronchial irritation and moderate fatty changes in liver and kidney.

**CHRONIC HEALTH EFFECTS:** Principal routes of exposure are by accidental skin and eye contact and inhalation of generated dusts. High levels of molybdenum can cause joint problems in the hands and feet with pain and lameness. Molybdenum compounds can also cause liver changes with elevated levels of enzymes and cause over-activity of the thyroid gland. A generalised feeling of unwellness can occur, with tiredness, weakness, diarrhoea, loss of appetite and weight. Molybdenum has been associated with cancers of the airways, but on the other hand, a low intake of molybdenum may cause an increased risk of developing oesophageal cancer.

<b>ECOLOGICAL INFORMATION</b>
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**Ecotoxicity (Aquatic & Terrestrial):** Fish (striped bass) *Morone saxatilis* LC50: >79.8mg/L, 96 hours; Algae (*Euglena gracilis*) 960mg/L, 8064 hours.

<b>DISPOSAL CONSIDERATIONS</b>
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Recycle wherever possible. Bury residue in an authorised landfill. Recycle containers if possible, or dispose of in an authorised landfill. Containers may still present a chemical hazard/danger when empty. If a container cannot be cleaned sufficiently well to ensure that residuals do not remain or if the container cannot be used to store the same product, and then puncture containers, to prevent re-use, and bury at an authorised landfill. Contact appropriate Waste Management Company for guidance and disposal options in your area. Where possible retain label warnings and MSDS and observe all notices pertaining to the product.

<b>TRANSPORT INFORMATION</b>
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Not classified as Dangerous Goods for Transport purposes.

<b>REGULATORY INFORMATION</b>
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<b>OTHER INFORMATION</b>
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**End of SDS.**