

Sodium Molybdate Dihydrate

Section 1: SUBSTANCE IDENTIFICATION AND SUPPLIER

Product Name:	Sodium Molybdate Dihydrate
Other names:	Molybdic acid, disodium salt; Disodium molybdate dihydrate; Disodium molybdate; Molybdate (MoO4 ²⁻), disodium, dihydrate, (T-4)-.
Product Code:	
Recommended Use:	Additive as trace element for fertilizers and in animal feed supplements.
Restrictions of Use:	Refer to Section 15
Company Identification:	Ravensdown Limited
Address:	292 Main South Road, Hornby, Christchurch, 8042 PO Box 1049, Christchurch 8011
Customer Centre:	0800 100 123
National Poisons Information Centre:	0800 POISON (0800 764 766)
Emergency Phone Number:	0800 CHEMCALL (0800 243 622) (24hr) (Emergencies Only)
Transport Emergency Phone Number:	111 - tell operator what service is needed: Fire, Ambulance or Police
Date of SDS Preparation	30 April 2021

Section 2: HAZARD IDENTIFICATION

This substance is NOT hazardous according to the EPA Hazardous Substances (Classification) Notice 2020

Section 3: COMPOSITION INFORMATION

INGREDIENT	CAS No.	CONTENT
Sodium Molybdate Dihydrate	10102-40-6	>98%

Section 4: FIRST AID MEASURES

Routes of Exposure:	
If in eyes:	Flush with plenty of water for 15 minutes holding eyelids open if necessary. Seek medical assistance if needed.
If on skin:	If skin or hair contact occurs flush skin and hair with running water (and soap if available). Seek medical attention in the event of irritation.
If ingested:	Rinse mouth. Give a glass of water. First aid is not generally required. If unwell or in doubt, contact the Poison Centre (0800 764 766) or a doctor.
If inhaled:	Remove to fresh air. Encourage patient to blow nose to ensure clear passage of breathing. Other measures are usually unnecessary. If symptoms persist, call a doctor.
Most important symptoms and effects, both acute and delayed	
Symptoms:	
Eyes:	Not applicable.
Skin:	Not applicable.
Ingested:	Not applicable.
Inhaled:	Not applicable.

Section 5: FIRE FIGHTING MEASURES

Hazard Type	Non Flammable. Non-combustible. Not considered a significant fire risk, however containers may burn.
Hazards from products	Decomposes on heating and produces toxic fumes of metal oxides.
Suitable Extinguishing media	Use extinguishing media suitable for surrounding area; water spray, dry chemical, foam or carbon dioxide. Avoid water jet as it may spread the fire.
Precautions for firefighters and special protective clothing	Firefighters should wear a positive-pressure self-contained breathing apparatus (SCBA) and protective firefighting clothing (includes firefighting helmet, coat, trousers, boots and gloves). Stay upwind. Eliminate ignition sources. Wear breathing apparatus plus protective gloves. Prevent spillage from entering drains or water courses. Use firefighting procedures suitable for surrounding area. DO NOT approach containers suspected to be hot. Cool fire exposed containers with water spray from a protected Location. If safe to do so, remove containers from path of fire. Equipment should be thoroughly decontaminated after use.
HAZCHEM CODE	None allocated

Section 6: ACCIDENTIAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures:
Wear appropriate protective clothing as detailed in Section 8. Exclude non-essential people from the area. Avoid generating dust. Increase ventilation. Move upwind. Eliminate all sources of ignition.
Environmental precautions:
Avoid from entering drains, waterways or sewers.
Methods and material for containment and cleaning up:
Stop leak if safe to do. Sweep up or vacuum up (consider explosion proof machines designed to be grounded during use. Collect in a labelled chemical waste container and seal for disposal. Wash spill area with plenty of water after removal of contaminant. Dispose of according to Section 13.

Section 7: HANDLING AND STORAGE

Handling:	Operators should be trained in procedures for safe use of this material. Use good occupational work practice. Avoid generating and breathing dust. Avoid contact with skin and eyes. Avoid contact with incompatible materials. Avoid all ignition sources. Avoid sources of heat. Handle and open container with care. Use in a well-ventilated area. Always wash hands with soap and water after handling or if accidental exposure occurs. Work clothes should be Laundered separately. Ensure an eye bath and safety shower are available and ready for use. Observe good personal hygiene practices. Take precautionary measures against static discharges by bonding and grounding equipment. Atmosphere should be regularly checked against established exposure standards to ensure safe working conditions are maintained.
Storage:	Avoid storage with oxidisers, alkali metals e.g. sodium, potassium, Lithium and common metals and their alloys. Keep containers securely sealed. Store in a cool, dry, well-ventilated area. Store in original packaging. Store away from incompatible materials. Protect containers against physical damage and check regularly for Leaks. Store away from incompatible materials and foodstuff containers.

Section 8: EXPOSURE CONTROL/PERSONAL PROTECTION

WORKPLACE EXPOSURE STANDARDS (provided for guidance only)

Substance**TWA**
ppm mg/m³**STEL**
ppm mg/m³

No exposure limits have been assigned for this product.

Workplace Exposure Standard – Time Weighted Average (WES-TWA). The time-weighted average exposure standard designed to protect the worker from the effects of long-term exposure. Workplace Exposure Standard – Short-Term Exposure Limit (WESSTEL). The 15-minute average exposure standard. Applies to any 15- Minute period in the working day and is designed to protect the worker against adverse effects of irritation, chronic or irreversible tissue change, or narcosis that may increase the likelihood of accidents. The WES-STEL is not an alternative to the WES-TWA; both the short-term and time-weighted average exposures apply. Workplace Exposure Standards and Biological Exposure Indices NOV 2019 11TH EDITION.

Engineering Controls:	A system of Local and/or general exhaust is recommended to keep employee exposures as Low as possible. Local exhaust ventilation is generally preferred because it can control the emissions of the contaminant at its source, preventing dispersion of it into the general work area. Refer to the 'Local exhaust ventilation' guide found on the WorkSafe New Zealand website
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Personal Protection Equipment:	
Eyes:	Use chemical safety glasses with side shields to prevent eye contact. Maintain eye wash fountain and quick-drench facilities in work area.
Skin/Hands:	Wear impervious protective clothing, including covered shoes, nitrile rubber gloves, Lab coat, apron or coveralls, as appropriate, to prevent skin contact.
Respiratory:	An approved dust mask e.g. a P1 respirator is recommended when using this product in dusty conditions. See New Zealand Standard, AS/NZS 1715:2009 and AS/NZS 1716:2012.

Section 9: PHYSICAL AND CHEMICAL PROPERTIES

Appearance	Powder or Flakes
Colour	White crystalline
Odour	Odourless
Odour Threshold	Not available
Molecular Weight	241.95
pH (5% solution, 20°C)	9-10
Boiling Point	Not available
Melting Point	687°C
Freezing Point	Not available
Flash Point	Not available
Flammability	Not available
Upper and Lower Explosive Limits	Not available
Vapour Pressure	Not available
Relative Vapour Density (air=1)	Not available
Relative Density	3.28 g/cm ³ @ 18°C
Water Solubility	840 g/L @ 20°C
Partition Coefficient:	Not available
Auto-ignition Temperature	Not available
Decomposition Temperature	Not available
Kinematic Viscosity	Not available
Particle Characteristics	Not available

Section 10: STABILITY AND REACTIVITY

Stability of Substance	Stable under normal conditions of use, storage and temperature.
Possibility of hazardous reactions	No data available.
Conditions to Avoid	Avoid dust formation, sources of ignition, direct sunlight, moisture, and temperature extremes. Keep containers dry and tightly closed to avoid moisture absorption and

	contamination.
Incompatible Materials	Incompatible with oxidizing agents, alkali metals and their alloys.
Hazardous Decomposition Products	Sodium Oxide

Section 11: TOXICOLOGICAL INFORMATION

Acute Effects:

Swallowed	Not triggered = Acute Oral Toxicity, Rat, LD50: 4233 mg/kg (anhydrous) . Repeated dose oral toxicity, Rat, NOAEL: 17mg Mo/kg The material can be discomforting if swallowed. Ingestion may result in nausea, abdominal irritation, pain and vomiting.
Dermal	Not applicable. Acute Dermal Toxicity, Rat, LD50: >2000 mg/kg (anhydrous)
Inhalation	Not triggered = Acute Inhalation Toxicity, LC50: >2080 mg/m ³ (anhydrous) Repeated dose inhalation toxicity, Rat, NOAEC: 66.7mg Mo/m ³ Dust may be highly discomforting to the upper respiratory tract if inhaled and may be harmful if exposure is prolonged.
Eye	The dust may be irritating to the eyes.
Skin	Not applicable.

Chronic Effects:

Carcinogenicity	Not applicable.
Reproductive Toxicity	Not applicable.
Germ Cell Mutagenicity	Not applicable.
Aspiration	Not applicable.
STOT/SE	Not applicable.
STOT/RE	Not applicable.
Chronic	Molybdenum fume may produce bronchial irritation and moderate fatty changes in Liver and kidney. 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 general feeling of unwellness can occur, with tiredness, weakness, diarrhoea, Loss of appetite and weight.

Section 12: ECOLOGICAL INFORMATION

Not considered an ecotoxic substance.

Product:	ECOTOXICITY DATA Fish, (<i>Pimephales promelas</i>), 96h LC50: 609.1 mg Mo/L
Persistence and degradability	No data available.
Bioaccumulation	Not expected to bioaccumulate.
Mobility in Soil	Very soluble in water.
Other adverse effects	No data available.

Section 13: DISPOSAL INFORMATION

Disposal Method:	Dispose of product only by using according to label or at an approved landfill. Recycle where possible. Do not contaminate bodies of water with chemical or empty container.
Container Disposal:	Burn container in an appropriate incinerator if circumstance, such as wind direction permit. Otherwise bury in an approved landfill. Do not use container for any other purpose.
Precautions or methods to avoid:	None known.

Section 14: TRANSPORT INFORMATION

This product is NOT classified as a Dangerous Good for transport in NZ ; NZS 5433:2012

Section 15: REGULATORY INFORMATION

This substance is NOT classified hazardous according to the EPA Hazardous Substances (Classification) Notice 2017

HSW (HS) Regulations 2017	Trigger Quantity
Signage Trigger Quantities (Schedule 3)	Not required
Emergency Response Plan (Schedule 5)	Not required
Secondary Containment (Schedule 5)	Not required
Tracking (Schedule 26)	Not required
Certified Handlers	Not required
Restrictions of use	None known.

Section 16: OTHER INFORMATION

Glossary

Cat	Category
EC ₅₀	Median effective concentration.
EEL	Environmental Exposure Limit.
EPA	Environmental Protection Authority
HSNO	Hazardous Substances and New Organisms.
HSW	Health and Safety at Work.
LC ₅₀	Lethal concentration that will kill 50% of the test organisms inhaling or ingesting it.
LD ₅₀	Lethal dose to kill 50% of test animals/organisms.
LEL	Lower explosive level.
OSHA	American Occupational Safety and Health Administration.
TEL	Tolerable Exposure Limit.
TLV	Threshold Limit Value-an exposure limit set by responsible authority.
UEL	Upper Explosive Level
WES	Workplace Exposure Limit

References:

1. EPA Hazardous Substances (Safety Data Sheets) Notice 2017
2. Workplace Exposure Standards and Biological Exposure Indices Nov 2017 edition.
3. Assigning a hazardous substance to a HSNO Approval (Aug 2013).
4. Transport of Dangerous goods on land NZS 5433:2012
5. HSW (Hazardous Substances) Regulations 2017

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Please contact Ravensdown, if further information is required.

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