



SAFETY DATA SHEET AMMONIUM DIMOLYBDATE (ADM) REVISION 6, DATE 10 MAR 2025

1. IDENTIFICATION

Product Name	Ammonium dimolybdate (ADM)
Other Names	Ammonium molybdenum oxide; Molybdic acid, diammonium salt
Uses	Catalysts; Metal surface treatment; Raw material. Restriction on use: For industrial use ONLY.
Chemical Family	No Data Available
Chemical Formula	(NH ₄) ₂ Mo ₂ O ₇
Chemical Name	Molybdate, diammonium
Product Description	No Data Available

Contact Details of the Supplier of this Safety Data Sheet

Organisation	Location	Telephone
Redox Ltd	2 Swettenham Road Minto NSW 2566 Australia	+61-2-97333000
Redox Ltd	11 Mayo Road Wiri Auckland 2104 New Zealand	+64-9-2506222
Redox Inc.	3960 Paramount Boulevard Suite 107 Lakewood CA 90712 USA	+1-424-675-3200
Redox Chemicals Sdn Bhd	Suite 13A.03, Menara Summit Persiaran Kewajipan USJ1 47600 UEP Subang Jaya Selangor, Malaysia	+60-3-5614-2111

Emergency Contact Details

For emergencies only; DO NOT contact these companies for general product advice.

Organisation	Location	Telephone
National Poison Centre	Malaysia	+60-4-6536-999
Chemcall	New Zealand	0800-243622 +64-4-9179888
National Poisons Centre	New Zealand	0800-764766

2. HAZARD IDENTIFICATION

Poisons Schedule (Aust) Not Scheduled

Redox Ltd
Christchurch Office
NZBN 9429038410239

 66 Carmen Road
Hei Hei
Christchurch 8042
New Zealand

 PO Box 6588
Upper Riccarton
Christchurch 8442
New Zealand

 +64 3 357 8360
 +64 3 357 8364

 www.redox.com
 christchurch@redox.com



Globally Harmonised System

Hazard Classification NOT hazardous according to the criteria of the Globally Harmonised System of Classification and Labelling of Chemicals (GHS)

Signal Word None

3. COMPOSITION/INFORMATION ON INGREDIENTS

Ingredients

Chemical Entity	Formula	CAS Number	Proportion
Ammonium dimolybdate	(NH ₄) ₂ Mo ₂ O ₇	27546-07-2	<=100 %

4. FIRST AID MEASURES

Description of necessary measures according to routes of exposure

Swallowed	IF SWALLOWED: Rinse mouth. Do NOT induce vomiting. Get immediate medical advice/attention.
Eye	IF IN EYES: Immediately flush eyes with running water for several minutes, holding eyelids open and occasionally lifting the upper and lower lids. Remove contact lenses if present and easy to do. Continue rinsing for at least 15 minutes. If eye irritation persists, get medical advice/attention. *Suitable emergency eye wash facility should be immediately available.
Skin	IF ON SKIN: Wash with plenty of soap and water. Take off contaminated clothing and wash before reuse. If skin irritation occurs, get medical advice/attention. *Suitable emergency safety shower facility should be immediately available.
Inhaled	IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing until recovered. If respiratory symptoms persist, get medical advice/attention.
Advice to Doctor	Treat symptomatically. *Most important symptoms and effects, both acute and delayed: No information available. *Indication of any immediate medical attention and special treatment needed: No information available.
Medical Conditions Aggravated by Exposure	No information available.

5. FIRE FIGHTING MEASURES

General Measures	If safe to do so, move undamaged containers from fire area. Cool containers with water spray until well after fire is out. Do not inhale explosion and combustion gases.
Flammability Conditions	Negligible fire hazard when exposed to heat or flame.
Extinguishing Media	If material is involved in a fire, extinguish using agent suitable (e.g. water, foam, alcohol resistant foam, dry extinguishing powder, ABC-powder) for the type or surrounding fire.
Fire and Explosion Hazard	Emits toxic fumes under fire conditions.
Hazardous Products of Combustion	In case of fire, hazardous fumes may be produced, including ammonia, nitrous gases & molybdenum trioxide. Burning produces heavy smoke.
Special Fire Fighting Instructions	Collect contaminated fire extinguishing water separately. This must not be discharged into drains.
Personal Protective Equipment	Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters protective clothing will provide thermal protection but provides only limited chemical protection.
Flash Point	No Data Available



Lower Explosion Limit	No Data Available
Upper Explosion Limit	No Data Available
Auto Ignition Temperature	No Data Available
Hazchem Code	No Data Available

6. ACCIDENTAL RELEASE MEASURES

General Response Procedure	Ensure adequate ventilation. ELIMINATE all ignition sources (if dust clouds can occur). Do not touch or walk through spilled material. Avoid generating dust. Avoid breathing dust and contact with eyes, skin and clothing.
Clean Up Procedures	Collect material and place it into loosely covered plastic containers for reclamation or later disposal (see SECTION 13).
Containment	Stop leak if safe to do so – Prevent entry into waterways, drains or confined areas. Prevent dust cloud.
Decontamination	Clean contaminated areas thoroughly. Wash with plenty of water. Retain contaminated washing water and dispose it.
Environmental Precautionary Measures	Do not allow to enter into soil/subsoil. Do not allow to enter into surface water or drains. Retain contaminated washing water and dispose it.
Evacuation Criteria	Spill or leak area should be isolated immediately. Keep unauthorised personnel away.
Personal Precautionary Measures	Wear personal protection equipment (see SECTION 8).

7. HANDLING AND STORAGE

Handling	Safety showers and eyewash facilities should be provided within the immediate work area for emergency use. Ensure adequate ventilation. Handle in accordance with good industrial hygiene and safety practice. Avoid generating dust. Avoid breathing dust or mist and contact with eyes, skin and clothing. Do not ingest. Use personal protective equipment as required (see SECTION 8).
Storage	Store in a dry and well-ventilated place, out of direct sunlight. Keep container tightly closed. Always close container tightly after removal of product. Keep away from heat and sources of ignition - No smoking. Keep away from food, drink and feedstuffs. Keep away from incompatible materials (see SECTION 10).
Container	Keep in the original container.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

General	No specific exposure standards are available for this product. For Oil mist, refined mineral: - Safe Work Australia Exposure Standard: TWA = 5 mg/m ³ . - New Zealand Workplace Exposure Standard: TWA = 5 mg/m ³ ; STEL = 10 mg/m ³ (sampled by a method that does not collect vapour). - ACGIH: TLV-TWA = 5 mg/m ³ (Inhalable particulate matter).
Exposure Limits	No Data Available
Biological Limits	No information available.
Engineering Measures	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.
Personal Protection Equipment	- Respiratory protection: In case of dust or aerosol formation, use respirator with an approved filter. Recommended: Particle filter device (refer to AS/NZS 1715 & 1716). - Eye/face protection: Wear appropriate eye protection to avoid eye contact. Recommended: Safety glasses. - Hand protection: Handle with gloves. Recommended: Butyl rubber, Natural rubber, Natural latex, Nitrile rubber. - Skin/body protection: Wear appropriate personal protective clothing to avoid skin contact. No special precautions for normal use.
Special Hazards Precautions	No information available.



Work Hygienic Practices

Do not eat, drink or smoke when using this product. Wash thoroughly after handling. Take off contaminated clothing and wash it before reuse. Routine housekeeping should be instituted to ensure that dusts do not accumulate on surfaces.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical State	Solid
Appearance	Crystalline
Odour	Odourless
Colour	Whitish
pH	6.25
Vapour Pressure	No Data Available
Relative Vapour Density	No Data Available
Boiling Point	No Data Available
Melting Point	No Data Available
Freezing Point	No Data Available
Solubility	320 g/l in water 20°C
Specific Gravity	1.200 kg/m ³
Flash Point	No Data Available
Auto Ignition Temp	No Data Available
Evaporation Rate	No Data Available
Bulk Density	No Data Available
Corrosion Rate	No Data Available
Decomposition Temperature	>120 °C
Density	No Data Available
Specific Heat	No Data Available
Molecular Weight	No Data Available
Net Propellant Weight	No Data Available
Octanol Water Coefficient	No Data Available
Particle Size	No Data Available
Partition Coefficient	No Data Available
Saturated Vapour Concentration	No Data Available
Vapour Temperature	No Data Available
Viscosity	No Data Available
Volatile Percent	No Data Available
VOC Volume	No Data Available
Additional Characteristics	No information available.
Potential for Dust Explosion	No information available.
Fast or Intensely Burning Characteristics	No information available.
Flame Propagation or Burning Rate of Solid Materials	No information available.
Non-Flammables That Could Contribute Unusual Hazards to a Fire	No information available.
Properties That May Initiate or Contribute to Fire Intensity	Negligible fire hazard when exposed to heat or flame.
Reactions That Release Gases or Vapours	In case of fire, hazardous fumes may be produced, including ammonia, nitrous gases & molybdenum trioxide. Burning produces heavy smoke.



Release of Invisible Flammable Vapours and Gases No information available.

10. STABILITY AND REACTIVITY

General Information	No decomposition if stored and applied as directed.
Chemical Stability	Stable under normal conditions.
Conditions to Avoid	Avoid generating dust. Keep away from heat and sources of ignition.
Materials to Avoid	Ammonium salts are incompatible with Nitrite salts (violent explosions if melted) and Potassium chlorate (violent reaction).
Hazardous Decomposition Products	In case of fire, hazardous fumes may be produced, including ammonia, nitrous gases & molybdenum trioxide. Burning produces heavy smoke.
Hazardous Polymerisation	No information available.

11. TOXICOLOGICAL INFORMATION

General Information	Information on toxicological effects: - Acute toxicity: The substance does not require hazard classification for acute toxicity. - Skin corrosion/irritation: Neg (Rabbit, 4 h). No adverse effect observed (not irritating). - Eye damage/irritation: No adverse effect observed (not irritating). - Respiratory/skin sensitisation: The substance is not considered to have sensitising properties. - Germ cell mutagenicity: Hazard classification for genotoxicity is not required. - Carcinogenicity: No evidence of systemic carcinogenicity. - Reproductive toxicity: The information available regarding effects of molybdenum on fertility, and for developmental toxicity, does not warrant hazard classification of this molybdenum substance for reproductive toxicity. - STOT (single exposure): Respiratory irritation: No adverse effect observed (not irritating). - STOT (repeated exposure): The available toxicity data on molybdenum substances does not justify classification for specific target organ toxicity - repeated exposure. - Aspiration toxicity: No information available. Information on likely routes of exposure: - Ingestion: May cause gastrointestinal discomfort if consumed in large amounts. - Eye contact: Dust contact with the eyes can lead to mechanical irritation. - Skin contact: Contact with dust can cause mechanical irritation or drying of the skin. - Inhalation: May cause irritation of respiratory tract. Chronic effects: No information available.
Acute	
Ingestion	Acute toxicity (Oral): - LD50, Rat: 4,233 mg/kg [ECHA].
Inhalation	Acute toxicity (Inhalation): - LC50, Rat (dust and mist): >5.1 mg/l (4 h) [ECHA].
Other	Acute toxicity (Dermal): - LD50, Rat: >2,000 mg/kg [ECHA].
Carcinogen Category	None

12. ECOLOGICAL INFORMATION

Ecotoxicity	Aquatic toxicity: - LC50, Fish: 420 mg/l (96 h) [Supplier's SDS]. - EC50, Daphnia: 140 mg/l (48 h) [Supplier's SDS].
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Persistence/Degradability	No information available.
Mobility	No information available.
Environmental Fate	Do not allow to enter into soil/subsoil. Do not allow to enter into surface water or drains.
Bioaccumulation Potential	No information available.
Environmental Impact	No Data Available

13. DISPOSAL CONSIDERATIONS

General Information	Recover, if possible, or dispose of in accordance with the local and national regulations.
Special Precautions for Land Fill	No information available.

14. TRANSPORT INFORMATION

Land Transport (New Zealand)

NZS5433

Proper Shipping Name	Ammonium dimolybdate
Class	No Data Available
Subsidiary Risk(s)	No Data Available
	No Data Available
UN Number	No Data Available
Hazchem	No Data Available
Pack Group	No Data Available
Special Provision	No Data Available
Comments	NON-DANGEROUS GOODS: Not regulated for LAND transport.

Sea Transport

IMDG Code

Proper Shipping Name	Ammonium dimolybdate
Class	No Data Available
Subsidiary Risk(s)	No Data Available
UN Number	No Data Available
Hazchem	No Data Available
Pack Group	No Data Available
Special Provision	No Data Available
EMS	No Data Available
Marine Pollutant	No
Comments	NON-DANGEROUS GOODS: Not regulated for SEA transport.

Air Transport

IATA DGR

Proper Shipping Name	Ammonium dimolybdate
Class	No Data Available



Subsidiary Risk(s)	No Data Available
UN Number	No Data Available
Hazchem	No Data Available
Pack Group	No Data Available
Special Provision	No Data Available
Comments	NON-DANGEROUS GOODS: Not regulated for AIR transport.

15. REGULATORY INFORMATION

General Information	No Data Available
Poisons Schedule (Aust)	Not Scheduled

Environmental Protection Authority (New Zealand)

Hazardous Substances and New Organisms Amendment Act 2015

Approval Code	Not Hazardous
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National/Regional Inventories

Australia (AIC)	Listed
Canada (DSL)	Not Determined
Canada (NDSL)	Not Determined
China (IECSC)	Not Determined
Europe (EINECS)	248-517-2
Europe (REACH)	01-2119486945-19
Japan (ENCS/METI)	Not Determined
Korea (KECI)	Not Determined
Malaysia (List of Classified Substances)	Not Determined
New Zealand (NZIoC)	Listed
Philippines (PICCS)	Not Determined
Taiwan (TCSI)	Not Determined
USA (TSCA)	Not Determined
Mexico (INSQ)	Not Determined

16. OTHER INFORMATION

Related Product Codes	AMDIMO1000, AMDIMO1001, AMDIMO2000, AMDIMO2500, AMDIMO3000
Revision	6



Revision Date

10 Mar 2025

Key/Legend

< Less Than

> Greater Than

AICS Australian Inventory of Chemical Substances**atm** Atmosphere**CAS** Chemical Abstracts Service (Registry Number)**cm²** Square Centimetres**CO₂** Carbon Dioxide**COD** Chemical Oxygen Demand**deg C (°C)** Degrees Celcius**EPA (New Zealand)** Environmental Protection Authority of New Zealand**deg F (°F)** Degrees Farenheit**g** Grams**g/cm³** Grams per Cubic Centimetre**g/l** Grams per Litre**HSNO** Hazardous Substance and New Organism**IDLH** Immediately Dangerous to Life and Health**immiscible** Liquids are insoluable in each other.**inHg** Inch of Mercury**inH₂O** Inch of Water**K** Kelvin**kg** Kilogram**kg/m³** Kilograms per Cubic Metre**lb** Pound**LC₅₀** LC stands for lethal concentration. LC₅₀ is the concentration of a material in air which causes the death of 50% (one half) of a group of test animals. The material is inhaled over a set period of time, usually 1 or 4 hours.**LD₅₀** LD stands for Lethal Dose. LD₅₀ is the amount of a material, given all at once, which causes the death of 50% (one half) of a group of test animals.**ltr or L** Litre**m³** Cubic Metre**mbar** Millibar**mg** Milligram**mg/24H** Milligrams per 24 Hours**mg/kg** Milligrams per Kilogram**mg/m³** Milligrams per Cubic Metre**Misc or Miscible** Liquids form one homogeneous liquid phase regardless of the amount of either component present.**mm** Millimetre**mmH₂O** Millimetres of Water**mPa.s** Millipascals per Second**N/A** Not Applicable**NIOSH** National Institute for Occupational Safety and Health**NOHSC** National Occupational Heath and Safety Commission**OECD** Organisation for Economic Co-operation and Development**Oz** Ounce**PEL** Permissible Exposure Limit**Pa** Pascal**ppb** Parts per Billion**ppm** Parts per Million**ppm/2h** Parts per Million per 2 Hours**ppm/6h** Parts per Million per 6 Hours**psi** Pounds per Square Inch**R** Rankine**RCP** Reciprocal Calculation Procedure**STEL** Short Term Exposure Limit**TLV** Threshold Limit Value**tne** Tonne**TWA** Time Weighted Average**ug/24H** Micrograms per 24 Hours**UN** United Nations**wt** Weight