

Safety Data Sheet **MOLYBDIC ACID**

SDS no. FMNX1123 • Version 1.0 • Date of issue: 2023-02-26

SECTION 1: Identification

GHS Product identifier

Product name MOLYBDIC ACID

Recommended use of the chemical and restrictions on use

Analytical reagent, pigments, catalyst for dehydrogenation and desulfurisation in petroleum and coal technology, production of molybdenum metal, source of molybdate ions and laboratory reagent.

Supplier's details

Name ChemSupply Australia Pty Ltd
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Australia

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Emergency phone number

CHEMCALL 1800 127 406 (Australia) / +64-4-917-9888 (International)

SECTION 2: Hazard identification

General hazard statement

Classified as Hazardous according to the Globally Harmonised System of classification and labelling of Chemicals (GHS) including Work, Health and Safety regulations, Australia.

Not classified as dangerous goods according to the Australian Dangerous Goods Code (ADG).

Classification of the substance or mixture

GHS classification in accordance with: UN GHS revision 7

- Serious eye damage/eye irritation, Cat. 2A
- Skin corrosion/irritation, Cat. 2
- Specific target organ toxicity following repeated exposure, Cat. 2
- Specific target organ toxicity following single exposure, Cat. 3

GHS label elements, including precautionary statements

Pictograms



Signal word

Warning

Hazard statement(s)

H303	May be harmful if swallowed
H315	Causes skin irritation
H319	Causes serious eye irritation
H335	May cause respiratory irritation
H373	May cause damage to organs through prolonged or repeated exposure

Precautionary statement(s)

P260	Do not breathe dust/fume/gas/mist/vapors/spray.
P264	Wash hands thoroughly after handling.
P280	Wear protective gloves/protective clothing/eye protection/face protection.
P301+P312	IF SWALLOWED: Call a POISON CENTER/doctor/physician if you feel unwell,
P302+P352	IF ON SKIN: Wash with plenty of water/soap
P304+P340	IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P312	Call a POISON CENTER/doctor/physician if you feel unwell.
P332+P313	If skin irritation occurs: Get medical advice/attention.
P337+P313	If eye irritation persists: Get medical advice/attention.
P362+P364	Take off contaminated clothing and wash it before reuse.
P403+P233	Store in a well-ventilated place. Keep container tightly closed.
P501	Dispose of contents/container to an approved waste disposal facility

SECTION 3: Composition/information on ingredients

Mixtures

Molecular weight: 161.95

This reagent consists largely of ammonium molybdate.; Contains approximately 85% MoO3.

Components

Component	Concentration
Molybdic acid (CAS no.: 7782-91-4; EC no.: 231-970-5)	85 - 100 % (weight)
CLASSIFICATIONS: Serious eye damage/eye irritation, Cat. 2A; Specific target organ toxicity following repeated exposure, Cat. 2; Specific target organ toxicity following single exposure, Cat. 3. HAZARDS: H319 - Causes serious eye irritation; H335 - May cause respiratory irritation; H336 - May cause drowsiness or dizziness; H373 - May cause damage to organs [organs] through prolonged or repeated exposure [route].	
Ammonium Molybdate Tetrahydrate (CAS no.: 12054-85-2)	15 % (weight)
CLASSIFICATIONS: Acute toxicity, oral, Cat. 4; Serious eye damage/eye irritation, Cat. 2A; Skin corrosion/irritation, Cat. 2; Specific target organ toxicity following single exposure, Cat. 3. HAZARDS: H302 - Harmful if swallowed; H315 - Causes skin irritation; H335 - May cause respiratory irritation; H336 - May cause drowsiness or dizziness.	

SECTION 4: First-aid measures

Description of necessary first-aid measures

General advice	First Aid Facilities: Maintain eyewash fountain and drench facilities in work area.
If inhaled	If inhaled, remove affected person from contaminated area. Keep at rest until recovered. If symptoms develop and/or persist seek medical attention.

In case of skin contact	Wash off with soap and plenty of water. Get medical attention if symptoms occur.
In case of eye contact	Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.
If swallowed	Rinse mouth thoroughly with water immediately, repeat until all traces of product have been removed. DO NOT INDUCE VOMITING. Seek medical advice if effects persist.

Most important symptoms/effects, acute and delayed

The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11

Indication of immediate medical attention and special treatment needed, if necessary

For advice in an emergency, contact a Poisons Information Centre (Phone Australia 131 126) or a doctor

SECTION 5: Fire-fighting measures

Suitable extinguishing media

Small fire: Use dry chemical, CO₂, water spray or foam.

Large fire: Use water spray, fog or foam.

Specific hazards arising from the chemical

Material does not burn. Fire or heat may produce irritating, poisonous and/or corrosive gases. Containers may explode when heated.

Runoff may pollute waterways.

Special protective actions for fire-fighters

Fire fighters should wear full protective clothing and self-contained breathing apparatus (SCBA) operated in positive pressure mode. Fight fire from safe location.

SECTION 6: Accidental release measures

Personal precautions, protective equipment and emergency procedures

Wear respiratory protection. Avoid dust formation. Avoid breathing vapours, mist or gas. Ensure adequate ventilation. Evacuate personnel to safe areas. Avoid breathing dust. For personal protection see section 8.

Methods and materials for containment and cleaning up

Sweep up spillage and collect in suitable container for disposal. Avoid dust formation. Keep in suitable, closed containers for disposal.

SECTION 7: Handling and storage

Precautions for safe handling

Do not ingest. Wash thoroughly after handling.

Conditions for safe storage, including any incompatibilities

Store in a cool, dry, well-ventilated area, out of direct sunlight. Store in suitable, labelled containers. Keep containers tightly closed. Store away from incompatible materials. Ensure that storage conditions comply with applicable local and national regulations.

Keep away from Strong oxidizing agents. Alkali metals. Strong bases

SECTION 8: Exposure controls/personal protection

Appropriate engineering controls

In industrial situations maintain the concentrations values below the TWA. This may be achieved by process modification, use of local exhaust ventilation, capturing substances at the source, or other methods.

Individual protection measures, such as personal protective equipment (PPE)

Eye/face protection

The use of a face shield, chemical goggles or safety glasses with side shield protection as appropriate. Must comply with Australian Standards AS 1337 and be selected and used in accordance with AS 1336.

Skin protection

Clean impervious clothing should be worn. Clothing for protection against chemicals should comply with AS 3765 Clothing for Protection Against Hazardous Chemicals.

Hand Protection: Normally not required but if in doubt ensure hand protection should comply with AS 2161, Occupational protective gloves - Selection, use and maintenance.

Body protection

Suitable protective workwear, e.g. cotton overalls buttoned at neck and wrist is recommended. Chemical resistant apron is recommended where large quantities are handled.

Respiratory protection

Where ventilation is not adequate, respiratory protection may be required. Avoid breathing dust, vapours or mists. Respiratory protection should comply with AS 1716 - Respiratory Protective Devices and be selected in accordance with AS 1715 - Selection, Use and Maintenance of Respiratory Protective Devices. Filter capacity and respirator type depends on exposure levels. In event of emergency or planned entry into unknown concentrations a positive pressure, full-facepiece SCBA should be used. If respiratory protection is required, institute a complete respiratory protection program including selection, fit testing, training, maintenance and inspection.

SECTION 9: Physical and chemical properties

Basic physical and chemical properties

Physical state	Solid
Appearance	White or faintly yellow crystalline powder.
Color	White to faintly yellow
Odor	Odourless.
Odor threshold	No data available.
Melting point/freezing point	300 °C (decomposition).
Boiling point or initial boiling point and boiling range	No data available.
Flammability	No data available.
Lower and upper explosion limit/flammability limit	No data available.
Flash point	No data available.
Explosive properties	No data available.
Auto-ignition temperature	No data available.
Decomposition temperature	No data available.
Oxidizing properties	No data available.
pH	No data available.
Kinematic viscosity	No data available.
Solubility	Solubility in Water: 70 g/L @ 20 °C Insoluble in alcohol.
Partition coefficient n-octanol/water (log value)	No data available.
Vapor pressure	No data available.
Evaporation rate	No data available.
Density and/or relative density	Specific Gravity: 2.27
Relative vapor density	6.2 g/l

Particle characteristics

No data available.

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Supplemental information regarding physical hazard classes

No data available.

Further safety characteristics (supplemental)

No data available.

SECTION 10: Stability and reactivity

Reactivity

None under normal use conditions.

Chemical stability

Stable under normal conditions of use and storage.

Possibility of hazardous reactions

Risk of explosion with alkalines, halogen-halogen compounds, alkali metals, magnesium.

Will not occur.

Conditions to avoid

Avoid storing in direct sunlight and avoid extremes of temperature. Incompatible products. Avoid dust formation

Incompatible materials

Alkali metals, strong bases and strong oxidisers.

Hazardous decomposition products

Thermal decomposition can lead to release of irritating gases and fumes e.g. ammonia, nitrogen oxides and metal fumes.

SECTION 11: Toxicological information

Information on toxicological effects

Acute toxicity

Ingestion: Harmful if swallowed. May cause sore throat, abdominal pain, nausea, vomiting, diarrhea, headache, gout, anemia, weight loss, joint pain, liver damage and kidney damage.

Inhalation: May cause irritation to respiratory tract and pulmonary disorders. Symptoms include mucosal irritations, cough, shortness of breath.

// ----- From the Suggestion report (28/03/2023, 10:19 AM) ----- //

The ATE (oral) of the mixture is: 3333.33 mg/kg bw

Skin corrosion/irritation

May cause irritation, redness, itching and pain.

Serious eye damage/irritation

May cause irritation, redness and pain.

Respiratory or skin sensitization

No data available.

Germ cell mutagenicity

No data available.

Carcinogenicity

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Animal carcinogen according to ACGIH

Reproductive toxicity

No data available.

Specific target organ toxicity (STOT) - single exposure

May cause respiratory irritation.

Specific target organ toxicity (STOT) - repeated exposure

May cause damage to organs through prolonged or repeated exposure - Kidney and Blood

Aspiration hazard

No data available.

Additional information

[2K] Chronic Effects: Repeated or prolonged exposure may cause symptoms similar to Acute-Swallowed.

Ammonium Molybdate Tetrahydrate: From Sigma:

EU ADDITIONAL CLASSIFICATION

Symbol of Danger: Xi

Indication of Danger: Irritant.

R: 36/37/38

Risk Statements: Irritating to eyes, respiratory system and skin.

S: 26-36/37

Safety Statements: In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. Wear

SECTION 12: Ecological information

Toxicity

No data available.

Persistence and degradability

No data available.

Bioaccumulative potential

No data available.

Mobility in soil

No data available.

Results of PBT and vPvB assessment

No data available.

Endocrine disrupting properties

No data available.

Other adverse effects

No data available.

SECTION 13: Disposal considerations

Disposal methods

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Product disposal

Waste material must be disposed of in accordance with the national and local regulations. Leave chemicals in original containers.

Other disposal recommendations

Do not discharge this material into waterways, drains and sewers.

SECTION 14: Transport information

ADG (Road and Rail)

Not dangerous goods

IMDG

Not dangerous goods

IATA

Not dangerous goods

SECTION 15: Regulatory information

Safety, health and environmental regulations specific for the product in question

Australia SUSMP

Poison Schedule: NS

Canadian Domestic Substances List (DSL)

Chemical name: Molybdate (MoO_4^{2-}), dihydrogen, (β -4)-

CAS: 7782-91-4

SECTION 16: Other information

Further information/disclaimer

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