

MOLYBDONUM – NH₄OH

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SECTION 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY
1.1 Product Identifier

Product form	Liquid
Chemical Name	MOLYBDONUM – NH ₄ OH
Index No.	Mixture
EC No.	Mixture
CAS No.	Mixture

1.2 Relevant identified uses of the substance or mixture and uses advised against

1.2.1 Relevant identified uses	Laboratory Chemical
1.2.2 Uses advised against	No additional information available.

1.3 Details of the supplier of the safety data sheet

De Bruyn Spectroscopic Solutions
 70/145 Chattan Road
 Glenfernness
 Midrand, 2191 Gauteng
 South Africa

1.4 Emergency telephone number

(RSA): 086 100 0366
 Namibia: 080 010 0366
 Other: Local Emergency Services.

SECTION 2: HAZARDS IDENTIFICATION
2.1 Classification of the substance or mixture

Classification Regulation (EC) No 1272/2008 (CLP):
 Product does not meet classification criteria.

Adverse physicochemical, human health and environmental effects:

None

Label Elements

Labelling (Regulation (EC) No 1272/2008
 None required

2.3 Other hazards
Other hazards not contributing to the classification:

This substance/mixture contains no components considered to be either persistent, bio accumulative and toxic (PBT), or very persistent and very bio accumulative (vPvB) at levels of 0.1% or higher.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS
3.1 Substance

Not applicable.

3.2 Mixture

Name	Product Identifier	%	Classification according to Regulation (EC) No. 1272/2008 CLP]
Ammonium molybdate (NH ₄) ₂ MoO ₄	(CAS-No.) 13106-76-8 (EC-No.) 236-031-3	0.01 10 000 µg/mL as Mo	Ac tox 4 302
Ammonium hydroxide	(CAS No.) 16919-19-0 (EC No.) 240-968-3	<0.5%	*Sk cor 1B, 314; STOT SE 3 335; Ac aq 1 400.

*Concentration limits: >= 5 %: STOT SE 3, H335; M-Factor - Aquatic Acute: 10

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SECTION 4: FIRST AID MEASURES

4.1 Description of First Aid Measures

First aid measures general	Rinse with water.
First aid measures after inhalation	Remove person to fresh air and keep comfortable for breathing.
First aid measures after skin contact	Rinse skin with water.
First aid measures after eye contact	Rinse with water for several minutes.
First aid measures after ingestion	Rinse mouth.

4.2 Most important symptoms and effects, both acute and delayed

Symptoms/effects after skin contact	May cause mild skin irritation.
Symptoms/effects after eye contact	May cause mild skin irritation.
Symptoms/effects after ingestion/inhalation	Unlikely to cause effect.

4.3 Indication of any immediate medical attention and special treatment needed:

Treat symptomatically.

SECTION 5: FIRE FIGHTING MEASURES

5.1 Extinguishing media

Suitable extinguishing media	Water spray. Dry powder. Foam. Carbon dioxide.
Unsuitable	Do not use water jet.

5.2 Special hazards arising from the substance or mixture

Fire hazard	Product not combustible.
Hazardous decomposition products in case of fire	Toxic fumes may be released.

5.3 Advice for firefighters

Protection during firefighting	In case of fire and/or explosion do not breathe fumes. Fight fire with normal precautions from a reasonable distance. Wear self-contained breathing apparatus. Wear full chemical protective clothing.
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5.4 Further Information

No further information.

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment, and emergency procedures

6.1.1 For non-emergency personnel	Emergency procedures	Use personal protective equipment as required.
6.1.2 For emergency responders	Protective equipment	Do not attempt to act without suitable protective equipment. For further information refer to section 8: "Exposure controls/personal protection".

6.2 Environmental precautions

Avoid release to the environment.

6.3 Methods and materials for containment and cleaning up

Methods for cleaning up	Take up liquid spill into non-combustible absorbent material.
Other Information	Dispose of materials or solid residues at an authorized site.

6.4 Reference to other sections

For further information refer to section 5, 8, 13.

SECTION 7: HANDLING AND STORAGE

7.1 Precautions for safe handling

Precautions for safe handling	Wear recommended personal protective equipment. See section 8. Avoid contact with eyes and skin.
Hygiene measures	Handle in accordance with good industrial hygiene and safety practice. Immediately change contaminated clothing. Wash hands before breaks and at the end of workday. Do not eat, drink, or smoke while working.

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7.2	<u>Conditions for safe storage, including any incompatibilities</u>	
	Storage conditions	Store in a well-ventilated place. Keep container tightly closed. Keep only in original container. May cause decomposition by long-term light influence. Protect from UV radiation/sunlight, contact with air/oxygen. Recommended storage temperature: 20 ± 5°C.
	Incompatible materials	Strong acids.
	Packaging	Original container.
7.3	<u>Specific end users</u>	No additional information.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1	<u>Exposure Limits</u>	No limits established
8.2	<u>Exposure controls</u>	
	Appropriate engineering controls	Ensure adequate ventilation. Provide eyewash/shower facility.
	Personal protective equipment	
	Hand protection	Protective gloves PVC, rubber
	Eye protection	Safety glasses
	Skin and body protection	Suitable protective clothing,
	Respiratory protection	Not normally required.
		
	Environmental exposure controls	Avoid release to the environment.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1	<u>Information on basic physical and chemical properties</u>	
	Product form	Liquid
	Appearance	Colorless
	Odour	No data available
	Odour threshold	No data available
	pH	9.3 - 9.4 @ 20°C
	Relative evaporation rate (butylacetate = 1)	No data available
	Melting point/Freezing Point	No data available
	Initial Boiling point	~100°C
	Flash point	Not applicable
	Auto-ignition temperature	Not applicable
	Flammability (solid, gas)	Not applicable
	Vapour pressure	No data available
	Vapour density	No data available
	Relative vapour density @ 20°C	No data available
	Density	~1.01 g/cm ³ @ 20°C
	Solubility (water)	Miscible
	Log Pow	No data available
	Viscosity, kinematic	No data available
	Viscosity, dynamic	No data available
	Explosive properties	Not classified as explosive

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Explosive limits	Not applicable
Oxidising properties	None

9.2 Additional information

No additional data available.

SECTION 10: STABILITY AND REACTIVITY

10.1 Reactivity

The product is non-reactive under recommended conditions of use, storage and transport.

10.2 Chemical stability

Stable under recommended storage conditions.

10.3 Possibility of hazardous reactions

No data available.

10.4 Conditions to avoid

UV radiation/sunlight. Keep away from heat.

10.5 Incompatible materials

Metals, alkali metals, strong bases, glass.

10.6 Hazardous decomposition products

No hazardous decomposition if stored and handled correctly. Thermal decomposition releases hydrogen fluoride gas, fatal if inhaled.

SECTION 11: TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects

Acute toxicity (oral)	Product does not meet classification criteria.
Acute toxicity (Dermal)	Product does not meet classification criteria.
Acute toxicity (Respiratory)	Product does not meet classification criteria.

Ammonium molybdate (CAS 13106-76-8)

LD50 (oral)	300-2000 mg/kg
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Skin corrosion/irritation:	Not classified
Eye corr/irritation	Not classified.
Respiratory or skin sensitisation	Not classified
Germ cell mutagenicity	Not classified
Carcinogenicity	Not classified
Reproductive toxicity	Not classified
STOT-SE	Not classified
STOT RE	Not classified
Aspiration hazard	Not classified

11.2 Additional Information

Endocrine disrupting properties

This substance/mixture does not contain components considered to have endocrine disrupting properties affecting human health, according to REACH Article 57(f), Commission Regulation (EU) 2018/605 or Commission Delegated Regulation (EU) 2017/2100.

SECTION 12: ECOLOGICAL INFORMATION

12.1 Toxicity

Ecology - general	Mixture/product does not meet classification criteria.
Acute aquatic toxicity	Mixture/product does not meet classification criteria.
Chronic aquatic toxicity	Mixture/product does not meet classification criteria.

12.2 Persistence and degradability

Not applicable for inorganic compounds.

12.3 Bioaccumulative potential

Not applicable for inorganic compounds.

12.4 Mobility

No data available.

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12.5 Results of PBT and vPvB assessment

This substance/mixture contains no components considered to be either persistent, bio accumulative or toxic (PBT), or very persistent and very bio accumulative (vPvB) at levels of 0.1% or higher.

12.6 Endocrine disrupting properties

Assessment This substance/mixture does not contain components considered to have endocrine disrupting properties for environment , according to REACH Article 57(f), Commission Regulation (EU) 2018/605 or Commission Delegated Regulation (EU) 2017/2100.

12.7 Other adverse effects

No additional information.

SECTION 13: DISPOSAL CONSIDERATIONS

Waste treatment methods: Product and packaging

The generation of waste should be avoided or minimised wherever possible. This material and packaging must be disposed of in a safe way in consultation with licensed waste disposal company in accordance with local legal requirements.

SECTION 14: TRANSPORT INFORMATION

In accordance with ADR / IMDG / IATA

	ADR	IMDG	IATA	Class Diamond
UN Number	NOT REGULATED	NOT REGULATED	NOT REGULATED	
Proper Shipping Name	-	-	-	
Hazard Class	-	-	-	
Subsidiary hazard class	-	-	-	
Packing Group	-	-	-	
Marine pollutant	-	-	-	

SECTION 15: REGULATORY INFORMATION

15.1 Safety, health, and environmental regulations/legislation specific for the substance or mixture

This material safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006.

Authorisations and/or restrictions on use:

This product does not contain a substance listed on Annex XIV of the REACH Regulation (EC) Nr. 1907/2006. Regulation (EU) 2019/1148 on the marketing and use of explosives precursors.

REACH - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles (Annex XVII) : No restrictions.

National Regulations:

Occupational Health and Safety Act 85 of 1993.

Hazardous Chemical Agents Regulations.

SANS 10228, 10229, 10232-4.

15.2 Chemical Safety Assessment

No chemical safety assessment has been carried out.

SECTION 16: OTHER INFORMATION

Full text of hazard classes and statements:

Sk cor. Cat 1A, H314	Skin corrosion, Category 1A, Causes seveverskin burns and eye damage.
Eye Dam Cat 1, H318	Eye Damage Category 1, Causes serious eye damage
Ac tox 4, H302	Acute toxicity, Category 4, Harmful if swallowed.
STOT SE 3 335	Specific target organ toxicity, Single Exposure, May causes respiratory irritation.
Ac Aq tox 1, 400	Acute aquatic toxicity, Category 1, Very toxic to aquatic life.

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Revision history	Changes	Date
Revision 2.0	Document updated to GHS Standard	31-10-2024