

MOLYBDONUM – NH<sub>4</sub>OH

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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 <sub>4</sub> 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  
Glenferness  
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 <sub>4</sub> ) <sub>2</sub> MoO <sub>4</sub>	(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

## 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.

### 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 Conditions for safe storage, including any incompatibilities

#### 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 Specific end users

No additional information.

## SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

### 8.1 Exposure Limits

No limits established

### 8.2 Exposure controls

#### 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 Information on basic physical and chemical properties

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 <sup>3</sup> @ 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

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.

**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 severe skin 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 cause 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
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