



Safety Data Sheet

Date of Issue: 27.11.2024

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1: IDENTIFICATION OF THE MATERIAL AND SUPPLIER

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| | |
|---------------------|---------------------------|
| Product Name | Ammonium Molybdate |
| Product Code | 13201 |
| CAS No. | 12054-85-2 |

Recommended use : Laboratory Investigations

2: Hazard's identification

2.1 GHS Classification

Not a hazardous substance or mixture.

2.2 GHS Label elements, including precautionary statements

No hazard pictogram, no signal word, no hazard statement(s), no precautionary statement(s) required.

2.3 Other hazards - none

3: Composition/information on ingredients

3.1 Substances

Synonyms : Ammonium heptamolybdate tetrahydrate
Formula : $(\text{NH}_4)_6\text{Mo}_7\text{O}_{24} \cdot 4\text{H}_2\text{O}$
Molecular weight : 1,235.86 g/mol
CAS-No. : 12054-85-2
EC-No. : 234-772-7

4: First aid measures

4.1 Description of first-aid measures

If inhaled

After inhalation: fresh air.

In case of skin contact

In case of skin contact: Take off immediately all contaminated clothing. Rinse skin with water/ shower.

In case of eye contact

After eye contact: rinse out with plenty of water. Remove contact lenses.

If swallowed

After swallowing: make victim drink water (two glasses at most). Consult doctor if feeling unwell.

4.2 Most important symptoms and effects, both acute and delayed

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

4.3 Indication of any immediate medical attention and special treatment needed

No data available

5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media

Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Unsuitable extinguishing media

For this substance/mixture no limitations of extinguishing agents are given.

5.2 Special hazards arising from the substance or mixture

Nitrogen oxides (NO_x)

Molybdenum oxides

Not combustible.

Fire may cause evolution of:

nitrogen oxides

Ambient fire may liberate hazardous vapours.

5.3 Advice for firefighters

In the event of fire, wear self-contained breathing apparatus.

5.4 Further information

Suppress (knock down) gases/vapors/mists with a water spray jet. Prevent fire extinguishing water from contaminating surface water or the ground water system.

6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Advice for non-emergency personnel: Avoid inhalation of dusts. Ensure adequate ventilation. Evacuate the danger area, observe emergency procedures, consult an expert. For personal protection see section 8.

6.2 Environmental precautions

Do not let product enter drains.

6.3 Methods and materials for containment and cleaning up

Cover drains. Collect, bind, and pump off spills. Observe possible material restrictions (see sections 7 and 10). Take up dry. Dispose of properly. Clean up affected area. Avoid generation of dusts.

6.4 Reference to other sections

For disposal see section 13.

7: Handling and storage

7.1 Precautions for safe handling

For precautions see section 2.2.

7.2 Conditions for safe storage, including any incompatibilities

Storage conditions

Tightly closed. Dry.

Storage class

Storage class (TRGS 510): 13: Non Combustible Solids

7.3 Specific end use(s)

Apart from the uses mentioned in section 1.2 no other specific uses are stipulated

8: Exposure controls/personal protection

8.1 Control parameters

Occupational Exposure Limits Table

| Component | CAS No. | Value | Control parameters | Basis |
|--------------------------------------|------------|---------|---------------------|--|
| Ammonium heptamolybdate tetrahydrate | 12054-85-2 | WES-TWA | 5 mg/m ³ | New Zealand. Workplace Exposure Standards for Atmospheric Contaminants |

8.2 Exposure controls

Appropriate engineering controls

Change contaminated clothing. Wash hands after working with substance.

Personal protective equipment

Eye/face protection

Face shield and safety glasses.

Skin protection

Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product.

Body Protection

Complete suit protecting against chemicals. The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

Respiratory protection

Where risk assessment shows air-purifying respirators are appropriate use a full-face particle respirator type or respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator.

9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

(a) Appearance

Physical state : solid

Colour : cream

(b) Odour : no data available

(c) Odour threshold : no data available

Safety relevant basic data

(d) pH : 5.3 (50 g/l; H₂O; 20 °C)

(e) Melting point/freezing point : no data available

(f) Initial boiling point and boiling range : no data available

(g) Flash point : no data available

(h) Evaporation rate : no data available

(i) Flammability (solid, gas) : not applicable

(j) Flammability or explosive limits

Lower explosion limit : no data available

Upper explosion limit : no data available

| | | |
|--|---|--|
| (k) Vapour pressure | : | no data available |
| (l) Vapour density | : | no data available |
| (m) Density | : | 2.498 g/cm ³ (20 °C) |
| (n) Solubility(ies) | | |
| Water solubility | : | 400 g/l (20 °C) |
| (o) Partition coefficient: n-octanol/water | : | no data available |
| (p) Auto-ignition temperature | : | no data available |
| (q) Decomposition temperature | : | 150 °C (1013 hPa) |
| (r) Viscosity | | |
| Kinematic viscosity | : | no data available |
| Dynamic viscosity | : | no data available |
| (s) Explosive properties | : | not applicable |
| (t) Oxidising properties | : | not applicable |
| (u) Particle characteristics | : | not applicable - no nanoform/not combustible |

10: Stability and reactivity

10.1 Reactivity

no data available

10.2 Chemical stability

The product is chemically stable under standard ambient conditions (room temperature).

10.3 Possibility of hazardous reactions

no data available

10.4 Conditions to avoid

no data available

10.5 Incompatible materials

no data available

10.6 Hazardous decomposition products

no data available

10.7 Additional information

no data available

11: Toxicological information

11.1 Information on toxicological effects

Acute effects

Acute oral toxicity:

LD50: > 3883 mg/kg - Rat - (CHP)

Acute dermal toxicity:

no data available

Acute inhalation toxicity:

LC50: > 2.08 mg/l (4 h) - Rat - (CHP)

Irritant and corrosive effects

Primary irritation to the skin:

not applicable

Irritation to eyes:

not applicable

Irritation to respiratory tract:
not applicable

Respiratory or skin sensitisation

In case of skin contact: not sensitising

After inhalation: not sensitising

STOT-single exposure

not applicable

STOT-repeated exposure

not applicable

CMR effects (carcinogenicity, mutagenicity and toxicity for reproduction)

Carcinogenicity

No indication of human carcinogenicity.

Germ cell mutagenicity

No indications of human germ cell mutagenicity exist.

Reproductive toxicity

No indications of human reproductive toxicity exist.

Aspiration hazard

not applicable

Other adverse effects

no data available

Additional information

no data available

12: Ecological information

12.1 Toxicity

Toxicity to fish

semi-static test LC50 - *Oncorhynchus mykiss* (rainbow trout) – 420 mg/l - 96 h
(OECD Test Guideline 203)

Remarks: The value is given in analogy to the following substances:

Ammonium heptamolybdate

Toxicity to daphnia and other aquatic invertebrates

static test EC50 - *Daphnia magna* (Water flea) - 79 mg/l - 48 h
(OECD Test Guideline 202)

Remarks: The value is given in analogy to the following substances:

Ammonium heptamolybdate

Toxicity to bacteria

static test EC50 - activated sludge - 820 mg/l - 3 h
(OECD Test Guideline 209)

Remarks:

12.2 Persistence and degradability

The methods for determining biodegradability are not applicable to inorganic substances.

12.3 Bioaccumulative potential

No data available

12.4 Mobility in soil

No data available

12.5 Results of PBT and vPvB assessment

PBT/vPvB assessment not available as chemical safety assessment not required/not conducted

12.6 Endocrine disrupting properties

No data available

12.7 Other adverse effects

No data available

13: Disposal considerations

13.1 Waste treatment methods

Product

Waste material must be disposed of in accordance with the national and local regulations. Leave chemicals in original containers. No mixing with other waste. Handle uncleaned containers like the product itself.

14: Transport Information Table

| | | ADR/RID – European packaging certification | IMDG International Maritime Dangerous Goods Code | IATA – DGR International Air Travel Association – Dangerous Goods Regulations |
|------|------------------------------------|---|--|--|
| 14.1 | UN Number | - | - | - |
| 14.2 | UN Proper Shipping name | Not dangerous goods | Not dangerous goods | Not dangerous goods |
| 14.3 | Transport Hazard Class | - | - | - |
| 14.4 | Packaging group | - | - | - |
| 14.5 | Environmental Hazards | No | No | No |
| 14.6 | Special precautions for user | - | | |

15: Regulatory information

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

National regulatory information

HSNO Approval Code:

HSNO Group Standard Approval: HSR002596 - Laboratory Chemicals and Reagent Kits Group Standard 2006

Tracking Required: not required, not required

Approved Handler Cert.: not required

16: Disclaimer

The information above is believed to be accurate and represents the best information currently available to us. However, the information is not a guarantee expressed or implied, with respect to such information, and we assume no liability resulting from its use. Anyone using the chemical described here should ensure that he or she has the appropriate training and has the expertise and any equipment required for safe handling. If clarification or further information is required, please contact ECP Ltd or refer to the official handler of dangerous goods within your own company. The user should also make their own investigations to determine the suitability of the product for their particular purposes. In no event shall the company be liable for any claims, losses, or damages of any third party or for lost profits or any special, indirect, incidental, consequential, or exemplary damages howsoever arising, even if the company has been advised of the possibility of such damages.

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