

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1 Product identifier

Product name AMMONIUM MOLYBDATE TETRAHYDRATE
CAS-No. 12054-85-2
Product code AR1013

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

Identified uses Chemical for analysis and production.

1.3 Details of the manufacturer of the safety data sheet

Manufacturer RCI LABSCAN LIMITED.
24 Rama 1 Road, Pathumwan, Bangkok 10330 Thailand
Telephone number (662) 613-7911-4
Fax number (662) 613-7915

1.4 Emergency Telephone Number

Emergency phone (662) 613-7911-4

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

This substance is not hazardous according to Regulation (EC) No. 1272/2008 and Directive 67/548/EEC.

2.2 Label elements

Labelling according Regulation (EC) No 1272/2008

This substance is not need to be labelled in according to Regulation (EC) No. 1272/2008.

2.3 Other hazards None

SECTION 3: Composition/information on ingredients

3.1 Substances

Synonyms Ammonium heptamolybdate tetrahydrate, Hexammonium heptamolybdate 4-hydrate.

CAS-No	EC-No	EC-Index-No	Formula	Molecular Weight	Weight %
12054-85-2	234-722-4	-	H ₂₄ MO ₇ N ₆ O ₂₄ .4H ₂ O	1235.86 g/mol	<=100

Hazardous ingredients according to Regulation (EC) No 1272/2008

This substance is not hazardous ingredients according to Regulation (EC) No 1272/2008

SECTION 4: First aid measures

4.1 Description of first aid measures

General advice	Show this safety data sheet to the doctor in attendance.
Inhalation	Move to fresh air in case of accidental inhalation of dust.
Skin contact	Remove contaminated clothing and wash affected skin with soap and water.
Eye contact	If the substance has got into the eyes, immediately wash out with plenty of water at least 15 minutes. Obtain medical attention.
Ingestion	Rinse mouth. After swallowing make victim drink water (two glasses at the most), call in physician.

4.2 Most important symptoms and effects, both acute and delayed

The most important known symptoms and effects are described in section 2.2 and section 11

4.3 Indication of any immediate medical attention and special treatment needed

Not Available

SECTION 5: Firefighting measures**5.1 Extinguishing media****Suitable extinguishing media**

In adaption to materials stored in the immediate neighborhood.

5.2 Special hazards arising from the substance or mixture

Non-combustible. Ambient fire may liberate hazardous vapors. The following may develop in event of fire: nitrogen oxides, molybdenum oxides.

5.3 Advice for firefighters

Do not stay in dangerous zone without self-contained breathing apparatus. Avoid contact with skin and wear suitable protective clothing.

5.4 Further information

Contain escaping vapors with water. Prevent fire-fighting water from entering surface water or ground water.

SECTION 6: Accidental release measures**6.1 Personal precautions, protective equipment and emergency procedures**

Avoid generation of dusts; do not inhale dusts. Avoid substance contact. Ensure adequate ventilation. Evacuate personnel to safe areas. For personal protective equipment see **Section 8**.

6.2 Environmental precautions

Do not allow to enter drinking water and sewerage system.

6.3 Methods and materials for containment and cleaning up

Carefully sweep up, gather and remove. Avoid generation of dusts. Keep in suitable, closed containers for disposal. Clean up affected area.

6.4 Reference to other sections

For disposal see **Section 13**.

SECTION 7: Handling and storage**7.1 Precautions for safe handling**

Provision of good ventilation in the working area. Do not leave container open. Avoid spillage. Avoid rising dust.

7.2 Conditions for safe storage, including any incompatibilities

Keep tightly closed in a dry, cool and well-ventilated place. Keep out of direct sunlight and away from heat, water, moisture and incompatible materials.

Storage class 13 (TRGS 510); Non-combustible solid.

7.3 Specific end use(s)

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

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

8.2 Exposure controls

Appropriate engineering controls

The product should only be used in ventilation hoods and fans.

Individual protection measures (Personal protective equipment, PPE)

Eye/face protection

Goggles giving complete protection to eyes.

Skin protection

Chemical resistant apron / corrosive protective clothing, heavy duty work shoes.

Handle with gloves

- Full contact wears gloves from nitrile rubber material.
- Splash contact wears gloves from nitrile rubber material.

The select protective gloves have to satisfy the specifications of EU Directive 89/686 EEC and standard EN 374 derived from it.

Respiratory protection

In case of insufficient ventilation, wear suitable respiratory equipment. Required when dusts are generated filter P1 (EN 143) or use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

Environmental exposure controls

Prevent liquid entering sewers, basements and workpits.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Physical State	Solid
Color	White
Odour	Of ammonia
Odour Threshold	Not Available
pH	~5.3 at 50 g/l H ₂ O at 20°C
Melting point/range	90°C (release of crystalline water)
Boiling point/range	Not Available
Flash point	Not Available
Evaporation rate	Not Available
Flammability (solid, gas)	Not Available
Explosion limits: lower	Not Available
upper	Not Available
Vapor Pressure	Not Available
Relative Vapor Density	Not Available
Density	2.498 g/cm ³ at 20°C
Bulk density:	~800 kg/m ³
Water solubility	400 g/l at 20°C
Partition coefficient (n-octanol/water)	Not Available
Auto-Ignition temperature	Not Available
Decomposition Temperature	Not Available
Viscosity	Not Available
Explosive properties	Not Explosive
Oxidizing properties	The substance or mixture is not classified as oxidizing.

SECTION 10: Stability and reactivity

10.1 Reactivity

Not Available

10.2 Chemical stability

Stable under recommended storage conditions.

10.3 Possibility of hazardous reactions

Not Available

10.4 Conditions to avoid

Heating

10.5 Incompatible materials

Not Available

10.6 Hazardous decomposition products

Molybdenum oxides, nitrogen oxides (Hazardous decomposition products from under fire condition).

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Acute toxicity

Not Available

Skin corrosion/irritation

Not Available

Serious eye damage/eye irritation

Not Available

Respiratory or skin sensitization

Not Available

Germ cell mutagenicity

Not Available

Carcinogenicity

Not Available

Reproductive toxicity

Not Available

Specific target organ toxicity (STOT) - single exposure

May cause respiratory irritation.

Specific target organ toxicity (STOT) - repeated exposure

Not Available

Aspiration hazard

Not Available

Further information

The following applies to ammonium salts in general: after swallowing: local irritation symptoms, nausea, vomiting, diarrhea.

Systemic effect: after the uptake of very large quantities: drop in blood pressure, collapse, CNS disorders, spasms, narcotic conditions, respiratory paralysis, haemolysis.

The product should be handled with the care usual when dealing with chemicals.

SECTION 12: Ecological information

12.1 Toxicity

Toxicity to fish	LC ₀ <i>Oncorhynchus mykiss</i> (rainbow trout): 320 mg/l/ 96 h. LC ₅₀ <i>Oncorhynchus mykiss</i> (rainbow trout): 420 mg/l/ 96 h.
Toxicity to daphnia and other aquatic invertebrates	EC ₅₀ <i>Daphnia magna</i> : 140 mg/l/48 h.
Toxicity to algae	EC ₅₀ <i>Desmodesmus subspicatus</i> : 41 mg/l/ 72 h.

12.2 Persistence and degradability

Biodegradability	Method for the determination of biodegradability is not applicable to inorganic substance.
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12.3 Bioaccumulative potential

Partition coefficient (n-octanol/water)	Not Available
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12.4 Mobility in soil

Not Available

12.5 Results of PBT and vPvB assessment

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

12.6 Other adverse effects

Do not allow to enter waters, waste water or soil.

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Product

There are no uniform EC Regulations for the disposal of chemicals or residues. Chemical residues generally count as special waste. The disposal of the latter is regulated in the EC member countries through corresponding law and regulations. We recommend that you contact either the authorities in charge or approved waste disposal companies which will advise you on how to dispose of special waste or burn in a chemical incinerator equipped with an afterburner and scrubber but exert extra care in igniting as this material is highly flammable. Observe all federal, state, and local environmental regulations.

Contaminated packaging

Disposal in compliance with official regulations. Handle contaminated packaging as hazardous waste in the same way of the substance itself. If not officially specified differently, non-contaminated packaging may be treated like household waste or recycled.

SECTION 14: Transport information

Not subject to transport regulations.

SECTION 15: Regulatory information

This safety datasheet complies with the requirements of Globally Harmonized System of Classification and Labelling of Chemicals (GHS)

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

Not Available

15.2 Chemical Safety Assessment

For this product a chemical safety assessment was not carried out.

SECTION 16: Other information

Recommended restrictions

Take notice of labels and safety data sheets for the working. Chemicals Take necessary action to avoid static electricity discharge.

Reference

Globally Harmonized System of Classification and Labelling of Chemicals (GHS).

Labelling according to EC Directives 67/548 EEC and Regulation (EC) No 1272/2008.

Transportation information according to Recommendations on the Transport of Dangerous Goods, Model Regulations. Twelfth revised edition. United Nations.

Institute for Occupational Safety and Health of the German Social Accident Insurance in Sankt Augustin/Germany,
Source: IFA for Databases on hazardous substances (GESTIS).

Further information

Contact to RCI Labscan Limited.

Revision Date

01/08/2025

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process unless specified in the text.