SAFETY DATA SHEET

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

1.1 Product identifiers

Product name	Ammonium molybdate tetrahydrate
CAS number	12054-85-2
Synonyms	Ammonium heptamolybdate tetrahydrate

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

Identified uses	Laboratory Chemicals

1.3 Details of the supplier of the safety data sheet

Company	Lab Alley, LLC 12501 Pauls Valley Road Austin, Texas 78737 U.S.A.
Telephone	512-668-9918
Fax	512-886-4008
E-mail	customerservice@laballey.com

1.4 Emergency telephone

Emergency Phone #	US & Canada: 1-800-535-5053	INFOTRAC
	International 1-352-323-3500	INFOTRAC

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

GHS Classification in accordance with 29 CFR 1910 (OSHA HCS)

Acute Oral Toxicity	Category 4

2.2 GHS Label elements, including precautionary statements

Pictogram



Signal Word Warning

Hazard statements Harmful if swallowed.

Precautionary statements Prevention: Wash face, hands, and any exposed skin thoroughly after handling. Do not eat, drink, or smoke when using this product.
IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell. Rinse mouth.
Disposal: Dispose of contents/container to an approved waste disposal plant

2.3 Hazards not otherwise classified (HNOC) or not covered by GHS

None identified.

SECTION 3: Composition/information on ingredients

3.1 Components

Chemical name	Common name and synonyms	CAS number	Concentration
Ammonium heptamolybdate tetrahydrate	Ammonium molybdate tetrahydrate	12054-85-2	<=100%

SECTION 4: First aid measures

4.1 Description of first-aid measures

General advice

If inhaled Remove to fresh air. Get medical attention if symptoms occur. If not breathing, give artificial respiration.

In case of skin contact Wash off immediately with plenty of water for at least 15 minutes. . If skin irritation persists, call a physician.

In case of eye contact Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Get medical attention

If swallowed Clean mouth with water and drink afterwards plenty of water. Get medical attention if symptoms occur.

4.2 Most important symptoms and effects, both acute and delayed

None reasonably foreseeable.

4.3 Indication of any immediate medical attention and special treatment needed

If symptoms persist, call a physician. Treat symptomatically.

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media No information available.

Unsuitable extinguishing media No information available.

5.2 Specific hazards arising from the substance or mixture

Keep product and empty container away from heat and sources of ignition.
Hazardous Combustion Products: Nitrogen oxides (NOx).

5.3 Special protective equipment and precautions for firefighters

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

5.4 Further information

Flash Point No information available.

Autoignition Temperature No information available.

Explosion limits

Upper No information available.
Lower No information available.

Sensitivity to Mechanical Impact No information available.

Sensitivity to Static Discharge No information available.

NFPA

Health	Flammability	Instability	Physical hazards
2	1	0	N/A

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Ensure adequate ventilation. Use personal protective equipment as required. Avoid dust formation.

6.2 Environmental precautions

Should not be released into the environment.

6.3 Methods and materials for containment and cleaning up

Sweep up and shovel into suitable containers for disposal.

6.4 Reference to other sections

See Section 2 for full list of hazard and precaution statements.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Wear personal protective equipment. Ensure adequate ventilation. Avoid dust formation. Do not get in eyes, on skin, or on clothing. Avoid ingestion and inhalation.

Hygiene measures

Handle in accordance with good industrial hygiene and safety practice.

7.2 Conditions for safe storage, including any incompatibilities

Storage conditions

Keep containers tightly closed in a dry, cool, and well-ventilated place.

Incompatibilities

Strong oxidizing agents. Strong acids.

SECTION 8: Exposure controls/personal protection

8.1 Occupational exposure limits

US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)

Component	Type	Value
Ammonium heptamolybdate tetrahydrate	(Vacated) TWA	5 mg/m3

US. ACGIH Threshold Limit Values

Component	Type	Value
Ammonium heptamolybdate tetrahydrate	TWA	0.5 mg/m3

US. NIOSH: Pocket Guide to Chemical Hazards

Component	Type	Value
Ammonium heptamolybdate tetrahydrate	TWA	1000 mg/m3

Biological occupational exposure limits

No information available.

8.2 Exposure controls

Appropriate engineering controls

Ensure adequate ventilation, especially in confined areas. Ensure that eyewash stations and safety showers are close to the workstation location.

Personal protective equipment

Eye/face protection

Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166.

Skin protection

Wear appropriate protective gloves and clothing to prevent skin exposure.

Body Protection

Wear appropriate protective gloves and clothing to prevent skin exposure.

Respiratory protection

Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149. Use a NIOSH/MSHA or European Standard EN 149 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced.
Recommended Filter type: Particulates filter conforming to EN 143.

Control of environmental exposure

No information available.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Physical State	Solid
Appearance	White/Yellowish
Odor	Ammoniacal
Odor Threshold	No information available
pH	5.0-5.5, 5% aq. solution
Melting Point/Range	190 °C / 374 °F
Boiling Point/Range	No information available
Evaporation Rate	No information available
Flammability (solid)	No information available
Flammability or explosive limit	No information available
Upper	No information available
Lower	No information available

Vapor Pressure	No information available
Vapor Density	No information available
Density	No information available
Solubility	Soluble in water
Partition coefficient; n-octanol/water	No information available
Autoignition Temp	No information available
Decomposition Temp	> 150°C
Viscosity	Not applicable
Molecular Formula	(NH4)6Mo7O24-4H2O
Molecular Weight	1235.86 g/mol
VOC Content(%)	No information available
Oxidizing properties	No information available

9.2 Other safety information No information available

SECTION 10: Stability and reactivity

10.1 Reactivity
No information available

10.2 Chemical stability
Stable under normal conditions.

10.3 Possibility of hazardous reactions
None under normal processing.

10.4 Conditions to avoid
Incompatible products. Excess heat. Avoid dust formation.

10.5 Incompatible materials
Strong oxidizing agents, Strong acids.

10.6 Hazardous decomposition products
Nitrogen oxides (NOx).

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Product Information, Component Information

Acute toxicity

Component	LD50 Oral	LD50 Dermal	LC50 Inhalation

Ammonium heptamolybdate tetrahydrate	333 mg/kg (Rat)	-	-

Skin corrosion/irritation
Irritating to skin

Serious eye damage/eye irritation
Irritating to eyes

Respiratory or skin sensitization
Irritating to respiratory system.

Germ cell mutagenicity
No information available

Carcinogenicity

Component	CAS	IARC	NTP	ACGIH	OSHA	Mexico
Ammonium heptamolybdate tetrahydrate	12054-85-2	Not listed	Not listed	A3	Not listed	Not listed

Specific target organ toxicity - single exposure
None known.

Specific target organ toxicity - repeated exposure
None known.

Reproductive toxicity
No information available.

Chronic effects
No information available.

11.2 Additional Information
The toxicological properties have not been fully investigated.

SECTION 12: Ecological information

12.1 Toxicity
Do not empty into drains.

12.2 Persistence and degradability
Soluble in water. Persistence is unlikely based on information available.

12.3 Bio accumulative potential

No information available.

12.4 Mobility in soil

Will likely be mobile in the environment due to its water solubility.

12.5 Results of PBT and vPvB assessment

No information available.

12.6 Endocrine disrupting properties

No information available.

12.7 Other adverse effects

No information available.

SECTION 13: Disposal considerations

13.1 Waste Disposal Methods

Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. Chemical waste generators must also consult local, regional, and national hazardous waste regulations to ensure complete and accurate classification.

SECTION 14: Transport information

DOT (US) Not regulated.

IMDG Not regulated.

IATA Not regulated.

SECTION 15: Regulatory information

US federal regulations This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

Not applicable.

CERCLA Hazardous Substance List (40 CFR 302.4)

Not listed.

SARA 304 Emergency release notification

Not regulated.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1053)

Not regulated.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

SARA 302 Extremely hazardous substance

Not listed.

SARA 311/312 Hazardous

See Section 2 for more information.

SARA 313 (TRI reporting)

Listed, Ammonium heptamolybdate tetrahydrate (CAS #12054-85-2).

Other federal regulations

Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List

Not regulated.

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)

Not regulated.

Safe Drinking Water Act

Not regulated.

FEMA Priority Substances Respiratory Health and Safety in the Flavor Manufacturing Workplace

Not listed.

US state regulations

US. Massachusetts RTK - Substance List

Not listed.

US. New Jersey Worker and Community Right-to-Know Act

Not listed.

US. Pennsylvania Worker and Community Right-to-Know Law

Not listed.

California Proposition 65

Not listed.

SECTION 16: Other information

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SECTION 17: Disclaimer

The information provided on 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 a guide for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered as 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 material or in any process, unless specified in the text.