



MATERIAL SAFETY DATA SHEET

1. CHEMICAL IDENTIFICATION AND COMPANY INFORMATION

PRODUCT NAME: Ammonium Molybdate(VI), Tetrahydrate, ACS Reagent
SYNONYMS: Molybdic Acid, Ammonium Salt
PRODUCT NUMBER: A112
CAS NO: 12054-85-2
NIOSH/RTECS NO: QA5076000

COMPANY INFO: *PhytoTechnology Laboratories®*
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2. COMPOSITION/INFORMATION ON INGREDIENTS

Ingredient	CAS Number	Percent	Hazardous
Ammonium Molybdate, Tetrahydrate	12054-85-2	100%	OSHA PEL: 5 mg/m ³ ; ACGIH TLV: 5 mg/m ³

3. PHYSICAL & CHEMICAL PROPERTIES

Product Description: Ammonium Molybdate(VI), Tetrahydrate, ACS Reagent
Formula: $(\text{NH}_4)_6\text{Mo}_7\text{O}_{24} \cdot 4\text{H}_2\text{O}$
Molecular Weight: 1235.9 g/mol
Storage Temperature: RT
pH (0.10 g/L): Under Development (3.25 – 4.25 suspected range)
Vapor Density: N/A
Melting Point: 190 °C
Specific Gravity: 2.49 g/cm³
Solubility: Soluble in water
Appearance: White to yellow-green powder
Odor: Odorless

4. HAZARDS IDENTIFICATION

Label Hazard Warnings: Harmful if swallowed. Irritating to eyes, respiratory system, and skin.
Label Precautionary Statements: Do not breathe dust. Wear suitable protective clothing, gloves, and eye/face protection.
Laboratory Protective Equipment: Safety glasses, lab coat, protective gloves, and appropriate respirator.

HMIS Rating:	Health	Flammability	Reactivity	Personal Protection Equipment
	N/A	N/A	N/A	N/A
NFPA Rating:	Health	Flammability	Reactivity	Special Hazards
	1	0	0	-

Storage and Handling Precautions: Keep in a tightly closed container, stored in a cool, dry, ventilated area. Avoid incompatible substances. Wash thoroughly after use.

5. POTENTIAL HEALTH HAZARDS/ TOXICOLOGICAL INFORMATION

Toxicity:	LD ₅₀ (Oral-Rat)(mg/Kg):	333
	LD ₅₀ (IP-Mouse)(mg/Kg):	N/A
	LD ₅₀ (IV-Mous)(mg/Kg):	N/A
Carcinogenicity:	NTP:	No
	IARC:	No
	Z List:	No
	OSHA Reg:	No
Effects of Overexposure:		Irritation, itching, severe gastrointestinal upset, vomiting, anemia
Target Organs:		None identified
Medical Conditions Aggravated By Exposure:		None identified
Routes of Entry:		Ingestion

The toxicological properties of this product have not been thoroughly investigated

6. EMERGENCY AND FIRST AID

Route of Entry	Symptoms	First Aid Procedures
Ingestion	May cause irritation if swallowed	If swallowed, wash out mouth with water. Never give anything by mouth to an unconscious person. Get medical attention.
Inhalation	May cause irritation to respiratory tract	Safely remove victim to fresh air. If not breathing, institute cardiopulmonary resuscitation (CPR). If breathing is difficult, ensure clear airway and give oxygen. Get medical attention.
Eye Contact	Direct contact may cause irritation. May cause redness, tearing, or blurred vision.	Flush immediately with large amounts of water for at least 15 minutes. Eyelids should be held away from the eyeball to ensure thorough rinsing. Get medical attention if irritation persists.
Skin Contact	Irritating. May cause reddening, itching or inflammation.	Wash area thoroughly with soap and water. Remove and wash contaminated clothing. Get medical attention if irritation persists.

7. FIRE HAZARDS & FIRE FIGHTING MEASURES

Flash Point (Closed Cup):	N/A
Flammable Limits:	Upper – N/A % Lower – N/A %
Fire Extinguishing Media:	Water spray, carbon dioxide, dry chemical powder, or appropriate foam. Use extinguishing media suitable for surrounding fire.
Special Fire-Fighting Procedures:	In the event of a fire, wear full protective clothing and NIOSH approved self-contained breathing apparatus. Evacuate the area and fight fire from a safe distance.
Unusual Fire & Explosion Hazards:	May emit toxic fumes under fire conditions.
Toxic Gases Produced:	Ammonia, nitrogen oxides

8. REACTIVITY & CONDITIONS TO AVOID

Stability:	Stable under normal conditions of use
Hazardous Polymerization:	Will not occur
Conditions to Avoid:	Heat, incompatibles
Incompatibles:	Alkali metals, reducing agents
Hazardous Decomposition Products:	Ammonia, nitrogen oxides

9. SPECIAL PRECAUTIONS/PROTECTIVE EQUIPMENT

Ventilation:	Ventilation hood recommended
Respiratory Protection:	A NIOSH/MSHA approved air purifying respirator is recommended where airborne concentrations are expected to exceed exposure limits. Protection provided by purifying respirators is limited.
Eye/Skin Protection:	Have eye-washing facilities readily available where eye contact can occur. Wear chemical safety goggles. Use appropriate chemical protective gloves when handling. Showering and changing into street clothes after work is recommended.

10. SPILLS & LEAKS

Spill or Discharge:	Contain spilled material. Sweep up and place in secure, closed containers. Avoid generating dust. Treat or dispose of waste material in accordance with all local, state/provincial, and national requirements.
Disposal Procedure:	Dispose in accordance with all applicable federal, state, and local environmental regulations.
EPA Hazardous Waste Number:	N/A

11. TRANSPORTATION DATA

Domestic (D.O.T.):	Proper Shipping Name:	CHEMICALS, N.O.S. (NON-REGULATED)
	Hazard Class:	N/A
	UN/NA:	N/A
	Labels:	N/A

International:

IMDG:	Proper Shipping Name:	CHEMICALS, N.O.S. (NON-REGULATED)
	Hazard Class:	N/A
	UN/NA:	N/A
	Labels:	N/A

IATA:	Proper Shipping Name:	CHEMICALS, N.O.S. (NON-REGULATED)
	Hazard Class:	N/A
	UN/NA:	N/A
	Labels:	N/A

12. REGULATORY INFORMATION

U.S. Federal Regulatory Information

TSCA:	Yes (Listed as Anhydrous form 12027-67-7)
Chemical Test Rules	No (Neither Anhydrous or Tetrahydrate form)

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Section 12b No
TSCA Significant New Use Rule No
CERCLA
Hazardous Substances and corresponding RQs No

SARA TITLE III:

Section 302 (EHS) Ingredients: No
Section 313 Ingredients: No
Section 304 (EHS/CERCLA) Ingredients: No

SARA TITLE III NOTIFICATION INFORMATION

Acute Health Hazard: No
Chronic Health Hazard: No
Fire Hazard: No
Sudden Release of Pressure Hazard: No

International Regulatory Information

Risk Phrases: 22 – Harmful if swallowed
36/37/38 – Irritating to eyes, respiratory system, and skin
Safety Phrases: 22 – Do not breathe dust
36/37/39 – Wear suitable protective clothing, gloves, and eye/face protection

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