

Material Safety Data Sheet

Phosphomolybdic acid hydrate

ACC# 18685

Section 1 - Chemical Product and Company Identification

MSDS Name: Phosphomolybdic acid hydrate

Catalog Numbers: A237-100, NC9913516

Synonyms: Molybdophosphoric acid hydrate (H3PMo12O40.xH2O); Dodecamolybdophosphoric acid hydrate; Phosphomolybdic acid hydrate.

Company Identification:

Fisher Scientific
1 Reagent Lane
Fair Lawn, NJ 07410

For information, call: 201-796-7100

Emergency Number: 201-796-7100

For CHEMTREC assistance, call: 800-424-9300

For International CHEMTREC assistance, call: 703-527-3887

Section 2 - Composition, Information on Ingredients

CAS#	Chemical Name	Percent	EINECS/ELINCS
51429-74-4	Phosphomolybdic acid hydrate	100	unlisted

Section 3 - Hazards Identification

EMERGENCY OVERVIEW

Appearance: bright yellow crystals.

Danger! Strong oxidizer in aqueous solution. Solution may ignite combustible materials. May cause severe eye and skin irritation with possible burns. May cause severe respiratory and digestive tract irritation with possible burns. Corrosive to metal. Refrigerate upon arrival below 4°C/39°F.

Target Organs: Eyes, skin, mucous membranes.

Potential Health Effects

Eye: Exposure to particulates or solution may cause conjunctivitis, ulceration, and corneal abnormalities.

Skin: Contact with skin causes irritation and possible burns, especially if the skin is wet or moist. May be harmful if absorbed through the skin.

Ingestion: May cause severe gastrointestinal tract irritation with nausea, vomiting and possible burns.

Inhalation: May cause burns to the respiratory tract. May be harmful if inhaled.

Chronic: Aerosols of water-soluble molybdenum compounds can affect the respiratory tract if inhaled. Animal data from chronic inhalation studies have shown inflammatory changes in the lungs of rats, with cellular aggregates resembling nodules, which are consistent with some of the earlier clinical reports of lung problems among exposed workers. Data from a NTP study indicate that molybdenum trioxide, a soluble compound, is a likely animal carcinogen.

Section 4 - First Aid Measures

Eyes: In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Get medical aid immediately.

Skin: In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Get medical aid immediately. Wash clothing before reuse.

Ingestion: If swallowed, do NOT induce vomiting. Get medical aid immediately. If victim is fully conscious, give a cupful of water. Never give anything by mouth to an unconscious person.

Inhalation: If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical aid.

Notes to Physician: Treat symptomatically and supportively.

Section 5 - Fire Fighting Measures

General Information: As in any fire, wear a self-contained breathing apparatus in pressure-demand, MSHA/NIOSH (approved or equivalent), and full protective gear. Material will not burn. Strong oxidizer in aqueous solution. Solution may ignite combustible materials.

Extinguishing Media: Dry chemical; carbon dioxide.

Flash Point: Not applicable.

Autoignition Temperature: Not applicable.

Explosion Limits, Lower: Not available.

Upper: Not available.

NFPA Rating: (estimated) Health: 3; Flammability: 0; Instability: 1; Special Hazard: OX

Section 6 - Accidental Release Measures

General Information: Use proper personal protective equipment as indicated in Section 8.

Spills/Leaks: Vacuum or sweep up material and place into a suitable disposal container. Avoid generating dusty conditions. Provide ventilation. Keep combustibles (wood, paper, oil, etc.,) away from spilled material. Do not use metal tools.

Section 7 - Handling and Storage

Handling: Wash thoroughly after handling. Wash hands before eating. Remove contaminated clothing and wash before reuse. Minimize dust generation and accumulation. Do not get in eyes, on skin, or on clothing. Do not ingest or inhale. Keep from contact with clothing and other combustible materials. Discard contaminated shoes. Use only with adequate ventilation. Do not use with metal spatula or other metal items.

Storage: Store in a cool, dry place. Do not store in metal containers. Keep containers tightly closed. Refrigerate upon arrival below 4°C/39°F.

Section 8 - Exposure Controls, Personal Protection

Engineering Controls: Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower. Use adequate general or local exhaust ventilation to keep airborne concentrations below the permissible exposure limits.

Exposure Limits

Chemical Name	ACGIH	NIOSH	OSHA - Final PELs
Phosphomolybdic acid hydrate	0.5 mg/m3 TWA (respirable fraction, as Mo) (listed under Molybdenum soluble compounds).	1000 mg/m3 IDLH (as Mo) (listed under Molybdenum soluble compounds).	5 mg/m3 TWA (as Mo) (listed under Molybdenum soluble compounds).
Phosphomolybdic acid, anhydrous	0.5 mg/m3 TWA (respirable fraction, as Mo) (listed under Molybdenum soluble compounds).	1000 mg/m3 IDLH (as Mo) (listed under Molybdenum soluble compounds).	5 mg/m3 TWA (as Mo) (listed under Molybdenum soluble compounds).

OSHA Vacated PELs: Phosphomolybdic acid hydrate: No OSHA Vacated PELs are listed for this chemical. Phosphomolybdic acid, anhydrous: No OSHA Vacated PELs are listed for this chemical.

Personal Protective Equipment

Eyes: 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: Wear appropriate protective gloves to prevent skin exposure.

Clothing: Wear appropriate protective clothing to prevent skin exposure.

Respirators: A respiratory protection program that meets OSHA's 29 CFR 1910.134 and ANSI Z88.2 requirements or European Standard EN 149 must be followed whenever workplace conditions warrant respirator use.

Section 9 - Physical and Chemical Properties

Physical State: Crystals

Appearance: bright yellow

Odor: none reported

pH: Not available.

Vapor Pressure: Not available.

Vapor Density: Not available.

Evaporation Rate: Not available.

Viscosity: Not available.

Boiling Point: Not available.

Freezing/Melting Point: 78-90 deg C

Decomposition Temperature: 500 deg C

Solubility: Soluble.

Specific Gravity/Density: 3.15 g/cc

Molecular Formula: H3Mo12O40P

Molecular Weight: 1825.25

Section 10 - Stability and Reactivity

Chemical Stability: Stable.

Conditions to Avoid: Dust generation, moisture, excess heat.

Incompatibilities with Other Materials: Metals, strong reducing agents, strong bases, finely powdered metals, organic materials.

Hazardous Decomposition Products: Oxides of phosphorus, oxides of molybdenum.

Hazardous Polymerization: Will not occur.

Section 11 - Toxicological Information

RTECS#:

CAS# 51429-74-4 unlisted.

CAS# 12026-57-2 unlisted.

LD50/LC50:

Not available.

Not available.

Carcinogenicity:
CAS# 51429-74-4:

- **ACGIH:** A3 - Confirmed animal carcinogen with unknown relevance to humans (listed as 'Molybdenum soluble compounds').
- **California:** Not listed.
- **NTP:** Not listed.
- **IARC:** Not listed.

CAS# 12026-57-2:

- **ACGIH:** A3 - Confirmed animal carcinogen with unknown relevance to humans (listed as 'Molybdenum soluble compounds').
- **California:** Not listed.
- **NTP:** Not listed.
- **IARC:** Not listed.

Epidemiology: No data available.
Teratogenicity: No data available.
Reproductive Effects: No data available.
Mutagenicity: No data available.
Neurotoxicity: No data available.
Other Studies:

Section 12 - Ecological Information

No information available.

Section 13 - Disposal Considerations

Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. US EPA guidelines for the classification determination are listed in 40 CFR Parts 261.3. Additionally, waste generators must consult state and local hazardous waste regulations to ensure complete and accurate classification.

RCRA P-Series: None listed.
RCRA U-Series: None listed.

Section 14 - Transport Information

	US DOT	Canada TDG
Shipping Name:	OXIDIZING SOLID, CORROSIVE, N.O.S.	No information available.
Hazard Class:	5.1	
UN Number:	UN3085	
Packing Group:	III	

Section 15 - Regulatory Information

US FEDERAL

TSCA
CAS# 51429-74-4 is not on the TSCA Inventory because it is a hydrate. It is considered to be listed if the CAS number for the anhydrous form is on the inventory (40CFR720.3(u)(2)).
CAS# 12026-57-2 is listed on the TSCA inventory.

Health & Safety Reporting List
None of the chemicals are on the Health & Safety Reporting List.

Chemical Test Rules
None of the chemicals in this product are under a Chemical Test Rule.

Section 12b
None of the chemicals are listed under TSCA Section 12b.

TSCA Significant New Use Rule
None of the chemicals in this material have a SNUR under TSCA.

CERCLA Hazardous Substances and corresponding RQs
None of the chemicals in this material have an RQ.

SARA Section 302 Extremely Hazardous Substances
None of the chemicals in this product have a TPQ.

SARA Codes
CAS # 51429-74-4: immediate, delayed, fire.
CAS # 12026-57-2: immediate, delayed, fire.

Section 313 No chemicals are reportable under Section 313.

Clean Air Act:
This material does not contain any hazardous air pollutants.
This material does not contain any Class 1 Ozone depleters.
This material does not contain any Class 2 Ozone depleters.

Clean Water Act:
None of the chemicals in this product are listed as Hazardous Substances under the CWA.
None of the chemicals in this product are listed as Priority Pollutants under the CWA.
None of the chemicals in this product are listed as Toxic Pollutants under the CWA.

OSHA:
None of the chemicals in this product are considered highly hazardous by OSHA.

STATE

CAS# 51429-74-4 can be found on the following state right to know lists: California, (listed as Molybdenum compounds, n.o.s.), Minnesota, (listed as Molybdenum soluble compounds).

CAS# 12026-57-2 can be found on the following state right to know lists: California, (listed as Molybdenum compounds, n.o.s.), Minnesota, (listed as Molybdenum soluble compounds).

California Prop 65

California No Significant Risk Level: None of the chemicals in this product are listed.

European/International Regulations**European Labeling in Accordance with EC Directives****Hazard Symbols:**

O C

Risk Phrases:

R 34 Causes burns.

R 8 Contact with combustible material may cause fire.

Safety Phrases:

S 25 Avoid contact with eyes.

S 36/37/39 Wear suitable protective clothing, gloves and eye/face protection.

S 45 In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

WGK (Water Danger/Protection)

CAS# 51429-74-4: No information available.

CAS# 12026-57-2: No information available.

Canada - DSL/NDSL

CAS# 12026-57-2 is listed on Canada's DSL List.

Canada - WHMIS

This product has a WHMIS classification of C, E, D2A.

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all of the information required by those regulations.

Canadian Ingredient Disclosure List

CAS# 51429-74-4 (listed as Molybdenum compounds, n.o.s.) is listed on the Canadian Ingredient Disclosure List.

CAS# 12026-57-2 (listed as Molybdenum compounds, n.o.s.) is listed on the Canadian Ingredient Disclosure List.

Section 16 - Additional Information

MSDS Creation Date: 9/02/1997

Revision #4 Date: 10/03/2005

The information above is believed to be accurate and represents the best information currently available to us. However, we make no warranty of merchantability or any other warranty, express or implied, with respect to such information, and we assume no liability resulting from its use. Users should make their own investigations to determine the suitability of the information for their particular purposes. In no event shall Fisher 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 Fisher has been advised of the possibility of such damages.