

## MATERIAL SAFETY DATA SHEET

Date Printed: 05/10/2007

Date Updated: 01/30/2006

Version 1.9

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Section 1 - Product and Company Information

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Product Name PHOSPHOMOLYBDIC ACID  
Product Number P7390  
Brand SIAL

Company Sigma-Aldrich  
Address 3050 Spruce Street  
SAINT LOUIS MO 63103 US

Technical Phone: 800-325-5832  
Fax: 800-325-5052  
Emergency Phone: 314-776-6555

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Section 2 - Composition/Information on Ingredient

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Substance Name	CAS #	SARA 313
PHOSPHOMOLYBDIC ACID	51429-74-4	No
Formula	H3Mo12O40P	

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Section 3 - Hazards Identification

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## EMERGENCY OVERVIEW

Oxidizing. Corrosive.

Contact with combustible material may cause fire. Causes burns.

## HMIS RATING

HEALTH: 3

FLAMMABILITY: 0

REACTIVITY: 3

SPECIAL HAZARD(S): Oxidizer

## NFPA RATING

HEALTH: 3

FLAMMABILITY: 0

REACTIVITY: 3

SPECIAL HAZARD(S): Oxidizer

For additional information on toxicity, please refer to Section 11.

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Section 4 - First Aid Measures

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## ORAL EXPOSURE

If swallowed, wash out mouth with water provided person is conscious. Call a physician.

## INHALATION EXPOSURE

If inhaled, remove to fresh air. If breathing becomes difficult, call a physician.

## DERMAL EXPOSURE

In case of skin contact, flush with copious amounts of water for at least 15 minutes. Remove contaminated clothing and shoes.

Call a physician.

#### EYE EXPOSURE

In case of contact with eyes, flush with copious amounts of water for at least 15 minutes. Assure adequate flushing by separating the eyelids with fingers. Call a physician.

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#### Section 5 - Fire Fighting Measures

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##### CONDITIONS OF FLAMMABILITY

Vigorously supports combustion.

##### FLASH POINT

N/A

##### AUTOIGNITION TEMP

N/A

##### FLAMMABILITY

N/A

##### EXTINGUISHING MEDIA

Suitable: Carbon dioxide, dry chemical powder, or appropriate foam.

##### FIREFIGHTING

Protective Equipment: Wear self-contained breathing apparatus and protective clothing to prevent contact with skin and eyes. Specific Hazard(s): Emits toxic fumes under fire conditions. Contact with other material may cause fire. May accelerate combustion.

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#### Section 6 - Accidental Release Measures

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##### PROCEDURE TO BE FOLLOWED IN CASE OF LEAK OR SPILL

Evacuate area.

##### PROCEDURE(S) OF PERSONAL PRECAUTION(S)

Wear self-contained breathing apparatus, rubber boots, and heavy rubber gloves.

##### METHODS FOR CLEANING UP

Sweep up, place in a bag and hold for waste disposal. Avoid raising dust. Ventilate area and wash spill site after material pickup is complete.

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#### Section 7 - Handling and Storage

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##### HANDLING

User Exposure: Do not breathe dust. Do not get in eyes, on skin, on clothing. Avoid prolonged or repeated exposure.

##### STORAGE

Suitable: Keep tightly closed. Keep away from combustible materials, heat, sparks, and open flame.

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#### Section 8 - Exposure Controls / PPE

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##### ENGINEERING CONTROLS

Use only in a chemical fume hood. Safety shower and eye bath.

##### PERSONAL PROTECTIVE EQUIPMENT

Respiratory: Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU). Where risk assessment shows air-purifying respirators are appropriate use a full-face particle respirator type N100 (US) or type P3 (EN 143) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator.

Hand: Compatible chemical-resistant gloves.

Eye: Chemical safety goggles.

#### GENERAL HYGIENE MEASURES

Wash thoroughly after handling. Remove and wash contaminated clothing promptly. Discard contaminated shoes.

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#### Section 9 - Physical/Chemical Properties

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Appearance	Physical State: Solid Color: Yellow Form: Crystals	
Property	Value	At Temperature or Pressure
Molecular Weight	1,825.24 AMU	
pH	N/A	
BP/BP Range	N/A	
MP/MP Range	79.0 - 90.0 °C	
Freezing Point	N/A	
Vapor Pressure	N/A	
Vapor Density	N/A	
Saturated Vapor Conc.	N/A	
SG/Density	0.86 g/cm <sup>3</sup>	
Bulk Density	N/A	
Odor Threshold	N/A	
Volatile%	N/A	
VOC Content	N/A	
Water Content	N/A	
Solvent Content	N/A	
Evaporation Rate	N/A	
Viscosity	N/A	
Surface Tension	N/A	
Partition Coefficient	N/A	
Decomposition Temp.	N/A	
Flash Point	N/A	
Explosion Limits	N/A	
Flammability	N/A	
Autoignition Temp	N/A	
Refractive Index	N/A	
Optical Rotation	N/A	
Miscellaneous Data	N/A	
Solubility	N/A	

N/A = not available

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#### Section 10 - Stability and Reactivity

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##### STABILITY

Stable: Stable.

Materials to Avoid: Organic materials, Finely powdered metals.

##### HAZARDOUS DECOMPOSITION PRODUCTS

Hazardous Decomposition Products: Phosphorous oxides, Molybdenum oxides.

HAZARDOUS POLYMERIZATION

Hazardous Polymerization: Will not occur

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Section 11 - Toxicological Information

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ROUTE OF EXPOSURE

Skin Contact: Causes burns.

Skin Absorption: May be harmful if absorbed through the skin.

Eye Contact: Causes burns.

Inhalation: Material is extremely destructive to the tissue of the mucous membranes and upper respiratory tract. May be harmful if inhaled.

Ingestion: May be harmful if swallowed.

SIGNS AND SYMPTOMS OF EXPOSURE

Inhalation may result in spasm, inflammation and edema of the larynx and bronchi, chemical pneumonitis, and pulmonary edema.

Symptoms of exposure may include burning sensation, coughing, wheezing, laryngitis, shortness of breath, headache, nausea, and vomiting. To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

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Section 12 - Ecological Information

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No data available.

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Section 13 - Disposal Considerations

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APPROPRIATE METHOD OF DISPOSAL OF SUBSTANCE OR PREPARATION

Contact a licensed professional waste disposal service to dispose of this material. Observe all federal, state, and local environmental regulations.

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Section 14 - Transport Information

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DOT

Proper Shipping Name: Corrosive solids, oxidizing, n.o.s.

UN#: 3084

Class: 8

Packing Group: Packing Group II

Hazard Label: Corrosive

Hazard Label: Oxidizer

PIH: Not PIH

IATA

Proper Shipping Name: Corrosive solid, oxidizing, n.o.s.

IATA UN Number: 3084

Hazard Class: 8

Packing Group: II

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Section 15 - Regulatory Information

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EU ADDITIONAL CLASSIFICATION

Symbol of Danger: O-C

Indication of Danger: Oxidizing. Corrosive.

R: 8-34

Risk Statements: Contact with combustible material may cause fire. Causes burns.

S: 17-26-36/37/39-45

Safety Statements: Keep away from combustible material. In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. Wear suitable protective clothing, gloves, and eye/face protection. In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

#### US CLASSIFICATION AND LABEL TEXT

Indication of Danger: Oxidizing. Corrosive.

Risk Statements: Contact with combustible material may cause fire. Causes burns.

Safety Statements: Keep away from combustible material. In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. Wear suitable protective clothing, gloves, and eye/face protection. In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

#### UNITED STATES REGULATORY INFORMATION

SARA LISTED: No

#### CANADA REGULATORY INFORMATION

WHMIS Classification: This product has been classified in accordance with the hazard criteria of the CPR, and the MSDS contains all the information required by the CPR.

DSL: No

NDSL: No

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#### Section 16 - Other Information

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#### DISCLAIMER

For R&D use only. Not for drug, household or other uses.

#### WARRANTY

The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. Sigma-Aldrich Inc., shall not be held liable for any damage resulting from handling or from contact with the above product. See reverse side of invoice or packing slip for additional terms and conditions of sale. Copyright 2007 Sigma-Aldrich Co. License granted to make unlimited paper copies for internal use only.