

Safety Data Sheet

according to OSHA HCS (29CFR 1910.1200) and WHMIS 2015 Regulations

Revision: January 29, 2021

1 Identification

- **Product identifier**
- **Trade name: Molybdate Reagent for PO4**
- **Product code:** MO1460-P
- **Recommended use and restriction on use**
- **Recommended use:** Laboratory chemicals
- **Restrictions on use:** No relevant information available.
- **Details of the supplier of the Safety Data Sheet**
- **Manufacturer/Supplier:**
AquaPhoenix Scientific, Inc.
860 Gitts Run Road
Hanover, PA 17331 USA
Tel +1 (717)632-1291
Toll-Free: (866)632-1291
info@aquaphoenixsci.com
- **Distributor:**
AquaPhoenix Scientific
860 Gitts Run Road,
Hanover, PA 17331
(717) 632-1291
- **Emergency telephone number:**
ChemTel Inc.
(800)255-3924 (North America)
+1 (813)248-0585 (International)

2 Hazard(s) identification

- **Classification of the substance or mixture**
Met. Corr.1 H290 May be corrosive to metals.
- **Label elements**
- **GHS label elements**
The product is classified and labeled according to the Globally Harmonized System (GHS).
- **Hazard pictograms:**



GHS05

- **Signal word:** Warning
- **Hazard statements:**
H290 May be corrosive to metals.
- **Precautionary statements:**
P234 Keep only in original container.
P280 Wear protective gloves and eye protection.
P390 Absorb spillage to prevent material damage.
P406 Store in corrosive resistant container with a resistant inner liner.
- **Other hazards** There are no other hazards not otherwise classified that have been identified.

(Cont'd. on page 2)

Safety Data Sheet

according to OSHA HCS (29CFR 1910.1200) and WHMIS 2015 Regulations

Revision: January 29, 2021

Trade name: Molybdate Reagent for PO4

(Cont'd. of page 1)

3 Composition/information on ingredients

· **Chemical characterization: Mixtures**

· **Components:**

7732-18-5	Water	95%
7664-93-9	Sulfuric acid Met. Corr. 1, H290; Skin Corr. 1A, H314; Eye Dam. 1, H318	4%
10102-40-6	sodium molybdate dihydrate	1%

· **Additional information:**

For the listed ingredient(s), the identity and/or exact percentage(s) are being withheld as a trade secret.
For the wording of the listed Hazard Statements, refer to section 16.

4 First-aid measures

· **Description of first aid measures**

· **General information:** Immediately remove any clothing soiled by the product.

· **After inhalation:** Supply fresh air; consult doctor in case of complaints.

· **After skin contact:**

If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.

If skin irritation is experienced, consult a doctor.

Seek immediate help for blistering or open wounds.

· **After eye contact:**

Protect unharmed eye.

Remove contact lenses if worn.

Rinse opened eye for several minutes under running water. Then consult a doctor.

· **After swallowing:**

Rinse out mouth and then drink plenty of water.

Do not induce vomiting; immediately call for medical help.

· **Most important symptoms and effects, both acute and delayed:**

Strong irritant with the danger of severe eye injury.

Gastric or intestinal disorders when ingested.

Nausea in case of ingestion.

Acidosis

· **Danger:**

Causes serious eye damage.

Danger of gastric perforation.

· **Indication of any immediate medical attention and special treatment needed:**

Medical supervision for at least 48 hours.

If medical advice is needed, have product container or label at hand.

5 Fire-fighting measures

· **Extinguishing media**

· **Suitable extinguishing agents:** Use fire fighting measures that suit the environment.

· **For safety reasons unsuitable extinguishing agents:** None.

· **Special hazards arising from the substance or mixture**

During heating or in case of fire poisonous gases are produced.

(Cont'd. on page 3)

Safety Data Sheet

according to OSHA HCS (29CFR 1910.1200) and WHMIS 2015 Regulations

Revision: January 29, 2021

Trade name: Molybdate Reagent for PO4

(Cont'd. of page 2)

- **Advice for firefighters**
- **Protective equipment:**
Wear self-contained respiratory protective device.
Wear fully protective suit.

6 Accidental release measures

- **Personal precautions, protective equipment and emergency procedures**
Wear protective equipment. Keep unprotected persons away.
Ensure adequate ventilation.
For large spills, use respiratory protective device against the effects of fumes/dust/aerosol.
- **Environmental precautions**
Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.
- **Methods and material for containment and cleaning up**
Use limestone to neutralize and/or absorb spill.
Send for recovery or disposal in suitable receptacles.
- **Reference to other sections**
See Section 7 for information on safe handling.
See Section 8 for information on personal protection equipment.
See Section 13 for disposal information.

7 Handling and storage

- **Handling**
- **Precautions for safe handling:**
Use only in well ventilated areas.
Avoid splashes or spray in enclosed areas.
Avoid contact with the eyes and skin.
- **Information about protection against explosions and fires:**
Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
- **Conditions for safe storage, including any incompatibilities**
- **Requirements to be met by storerooms and receptacles:**
Avoid storage near extreme heat.
Unsuitable material for receptacle: steel.
Unsuitable material for receptacle: aluminium.
- **Information about storage in one common storage facility:**
Store away from foodstuffs.
Store away from oxidizing agents.
Do not store together with alkalis (caustic solutions).
- **Further information about storage conditions:**
Keep containers tightly sealed.
Store in cool, dry conditions in well sealed receptacles.
- **Specific end use(s)** No relevant information available.

8 Exposure controls/personal protection

(Cont'd. on page 4)

Safety Data Sheet

according to OSHA HCS (29CFR 1910.1200) and WHMIS 2015 Regulations

Revision: January 29, 2021

Trade name: Molybdate Reagent for PO4

(Cont'd. of page 3)

- **Control parameters**

- **Components with limit values that require monitoring at the workplace:**

The following constituent is the only constituent of the product which has a PEL, TLV or other recommended exposure limit.

7664-93-9 Sulfuric acid

PEL (USA)	Long-term value: 1 mg/m ³
REL (USA)	Long-term value: 1 mg/m ³
TLV (USA)	Long-term value: 0.2* mg/m ³ *as thoracic fraction
EL (Canada)	Long-term value: 0.2 mg/m ³ ACGIH A2; IARC 1
EV (Canada)	Long-term value: 0.2 mg/m ³
LMPE (Mexico)	Long-term value: 0.2* mg/m ³ A2;*fracción torácica

- **Exposure controls**

- **Engineering measures** Keep/Store away from clothing/combustible materials.

- **General protective and hygienic measures:**

The usual precautionary measures for handling chemicals should be followed.

Keep away from foodstuffs, beverages and feed.

Wash hands before breaks and at the end of work.

Avoid contact with the eyes and skin.

- **Engineering controls:** Provide adequate ventilation.

- **Breathing equipment:** Use suitable respiratory protective device when aerosol or mist is formed.

- **Protection of hands:**



Protective gloves

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.

- **Material of gloves**

Fluorocarbon rubber (Viton)

Natural rubber, NR

- **Penetration time of glove material**

The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

- **Eye protection:**



Safety glasses

Follow relevant national guidelines concerning the use of protective eyewear.

- **Body protection:** Acid resistant protective clothing.

- **Limitation and supervision of exposure into the environment**

No relevant information available.

(Cont'd. on page 5)

Safety Data Sheet

according to OSHA HCS (29CFR 1910.1200) and WHMIS 2015 Regulations

Revision: January 29, 2021

Trade name: Molybdate Reagent for PO4

(Cont'd. of page 4)

9 Physical and chemical properties

· Information on basic physical and chemical properties

· Appearance:

· Form:	Liquid
· Color:	Colorless
· Odor:	Not determined.
· Odor threshold:	Not determined.

· pH-value:	Not determined.
· Melting point/Melting range:	Not determined.
· Boiling point/Boiling range:	105-110 °C (221-166 °F)

· Flash point: The product is not flammable.

· Flammability (solid, gaseous): Not applicable.

· Auto-ignition temperature: Not determined.

· Decomposition temperature: Not determined.

· Danger of explosion: Product does not present an explosion hazard.

· Explosion limits

· Lower:	Not determined.
· Upper:	Not determined.

· Oxidizing properties: Not determined.

· Vapor pressure at 20 °C (68 °F): 23 hPa (17.3 mm Hg)

· Density:

· Relative density:	Not determined.
· Vapor density:	Not determined.
· Evaporation rate:	Not determined.

· Solubility in / Miscibility with

· Water: Fully miscible.

· Partition coefficient (n-octanol/water): Not determined.

· Viscosity

· Dynamic:	Not determined.
· Kinematic:	Not determined.

· Other information: No relevant information available.

10 Stability and reactivity

- **Reactivity:** Corrosive action on metals.
- **Chemical stability:** Stable under normal temperatures and pressures.
- **Thermal decomposition / conditions to be avoided:**
No decomposition if used and stored according to specifications.
- **Possibility of hazardous reactions**
Reacts with certain metals.
Reacts with alkali (lyes).

(Cont'd. on page 6)

Safety Data Sheet

according to OSHA HCS (29CFR 1910.1200) and WHMIS 2015 Regulations

Revision: January 29, 2021

Trade name: Molybdate Reagent for PO4

(Cont'd. of page 5)

Corrosive action on metals.
Toxic fumes may be released if heated above the decomposition point.

· **Conditions to avoid** No relevant information available.

· **Incompatible materials**

Alkalis

Metals.

· **Hazardous decomposition products**

Under fire conditions only:

Sulfur oxides (SO_x)

Carbon monoxide and carbon dioxide

11 Toxicological information

· **Information on toxicological effects**

· **Acute toxicity:**

· **LD/LC50 values that are relevant for classification:** None.

· **Primary irritant effect:**

· **On the skin:** Based on available data, the classification criteria are not met.

· **On the eye:** Strong irritant with the danger of severe eye injury.

· **Sensitization:** Based on available data, the classification criteria are not met.

· **IARC (International Agency for Research on Cancer):**

None of the ingredients are listed.

· **NTP (National Toxicology Program):**

7664-93-9 | Sulfuric acid

K

· **OSHA-Ca (Occupational Safety & Health Administration):**

None of the ingredients are listed.

· **Probable route(s) of exposure:**

Ingestion.

Inhalation.

Eye contact.

Skin contact.

· **Acute effects (acute toxicity, irritation and corrosivity):** Causes serious eye damage.

· **Repeated dose toxicity:** No relevant information available.

· **Germ cell mutagenicity:** Based on available data, the classification criteria are not met.

· **Carcinogenicity:** Based on available data, the classification criteria are not met.

· **Reproductive toxicity:** Based on available data, the classification criteria are not met.

· **STOT-single exposure:** Based on available data, the classification criteria are not met.

· **STOT-repeated exposure:** Based on available data, the classification criteria are not met.

· **Aspiration hazard:** Based on available data, the classification criteria are not met.

12 Ecological information

· **Toxicity**

· **Aquatic toxicity** No relevant information available.

· **Persistence and degradability** No relevant information available.

· **Bioaccumulative potential:** No relevant information available.

(Cont'd. on page 7)

Safety Data Sheet

according to OSHA HCS (29CFR 1910.1200) and WHMIS 2015 Regulations

Revision: January 29, 2021

Trade name: Molybdate Reagent for PO4



(Cont'd. of page 6)

- **Mobility in soil:** No relevant information available.
- **Additional ecological information**
- **General notes:**
Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.
- **Other adverse effects** No relevant information available.

13 Disposal considerations

- **Waste treatment methods**
- **Recommendation:**
Must not be disposed of together with household garbage. Do not allow product to reach sewage system. The user of this material has the responsibility to dispose of unused material, residues and containers in compliance with all relevant local, state and federal laws and regulations regarding treatment, storage and disposal for hazardous and nonhazardous wastes.
- **Uncleaned packagings**
- **Recommendation:** Disposal must be made according to official regulations.

14 Transport information

- | | |
|---|---|
| · UN-Number | |
| · DOT, ADR/RID/ADN, IMDG, IATA | UN1760 |
| · UN proper shipping name | |
| · DOT | Corrosive liquids, n.o.s. (Sulfuric Acid) |
| · ADR/RID/ADN, IMDG, IATA | CORROSIVE LIQUID, N.O.S. (Sulfuric Acid) |
| · Transport hazard class(es) | |
| · DOT | |
|  | |
| · Class | 8 |
| · Label | 8 |
| ----- | |
| · ADR/RID/ADN | |
|  | |
| · Class | 8 (C1) |
| · Label | 8 |

(Cont'd. on page 8)

Safety Data Sheet

according to OSHA HCS (29CFR 1910.1200) and WHMIS 2015 Regulations

Revision: January 29, 2021

Trade name: Molybdate Reagent for PO4

(Cont'd. of page 7)

· **IMDG, IATA**



· **Class** 8
 · **Label** 8

· **Packing group**
 · **DOT, ADR/RID/ADN, IMDG, IATA** III

· **Environmental hazards** Not applicable.

· **Special precautions for user** Warning: Corrosive substances
 · **Hazard identification number (Kemler code):** 80
 · **EMS Number:** F-A, S-B
 · **Segregation groups** Acids

· **Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code** Not applicable.

15 Regulatory information

- **Safety, health and environmental regulations/legislation specific for the substance or mixture**
- **United States (USA)**
- **SARA**

· **Section 302 (extremely hazardous substances):**

None of the ingredients are listed.

· **Section 313 (Specific toxic chemical listings):**

7664-93-9 | Sulfuric acid

· **TSCA (Toxic Substances Control Act)**

7664-93-9 | Sulfuric acid

7732-18-5 | Water

· **Proposition 65 (California)**

· **Chemicals known to cause cancer:**

None of the ingredients are listed.

· **Chemicals known to cause developmental toxicity for females:**

None of the ingredients are listed.

· **Chemicals known to cause developmental toxicity for males:**

None of the ingredients are listed.

· **Chemicals known to cause developmental toxicity:**

None of the ingredients are listed.

· **EPA (Environmental Protection Agency):**

(Cont'd. on page 9)

Safety Data Sheet

according to OSHA HCS (29CFR 1910.1200) and WHMIS 2015 Regulations

Revision: January 29, 2021

Trade name: Molybdate Reagent for PO4

(Cont'd. of page 8)

None of the ingredients are listed.

· **IARC (International Agency for Research on Cancer):**

None of the ingredients are listed.

· **Canadian Domestic Substances List (DSL):**

All ingredients listed on DSL or NDSL.

*

16 Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

· **Abbreviations and acronyms:**

ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road

IMDG: International Maritime Code for Dangerous Goods

DOT: US Department of Transportation

IATA: International Air Transport Association

CAS: Chemical Abstracts Service (division of the American Chemical Society)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

OSHA: Occupational Safety & Health Administration

Met. Corr. 1: Corrosive to metals – Category 1

Skin Corr. 1A: Skin corrosion/irritation – Category 1A

Eye Dam. 1: Serious eye damage/eye irritation – Category 1

· **Sources**

Website, European Chemicals Agency (echa.europa.eu)

Website, US EPA Substance Registry Services (ofmpub.epa.gov/sor_internet/registry/substreg/home/overview/home.do)

Website, Chemical Abstracts Registry, American Chemical Society (www.cas.org)

Patty's Industrial Hygiene, 6th ed., Rose, Vernon, ed. ISBN: 978-0-470-07488-6

Casarett and Doull's Toxicology: The Basic Science of Poisons, 8th Ed., Klaasen, Curtis D., ed., ISBN: 978-0-07-176923-5.

Safety Data Sheets, Individual Manufacturers