

# Safety Data Sheet

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

Revision: June 04, 2020

## 1 Identification

- **Product identifier**
- **Trade name: Phosphate VM Reagent**
- **Product code:** PV6500SS
- **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.  
Skin Corr. 1A H314 Causes severe skin burns and eye damage.  
Eye Dam. 1 H318 Causes serious eye damage.  
Repr. 2 H361 Suspected of damaging fertility or the unborn child. Route of exposure: Oral.

- **Label elements**

- **GHS label elements**

The product is classified and labeled according to the Globally Harmonized System (GHS).

- **Hazard pictograms:**



GHS05 GHS08

- **Signal word:** Danger
- **Hazard statements:**  
H290 May be corrosive to metals.  
H314 Causes severe skin burns and eye damage.  
H361 Suspected of damaging fertility or the unborn child. Route of exposure: Oral.
- **Precautionary statements:**  
P201 Obtain special instructions before use.

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P202	Do not handle until all safety precautions have been read and understood.
P234	Keep only in original container.
P264	Wash thoroughly after handling.
P280	Wear protective gloves/protective clothing/eye protection.
P302+P352	If on skin: Wash with plenty of water.
P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P310	Immediately call a poison center/doctor.
P308+P313	IF exposed or concerned: Get medical advice/attention.
P332+P313	If skin irritation occurs: Get medical advice/attention.
P362+P364	Take off contaminated clothing and wash it before reuse.
P390	Absorb spillage to prevent material damage.
P405	Store locked up.
P406	Store in corrosive resistant container with a resistant inner liner.
P501	Dispose of contents/container in accordance with local/regional/national/international regulations.

· **NFPA ratings (scale 0 - 4)**

	Health = 3
	Fire = 0
	Instability = 0

· **HMIS-ratings (scale 0 - 4)**

	Health = 3
	Fire = 0
	Reactivity = 0

## 3 Composition/information on ingredients

· **Chemical characterization: Mixtures**

· **Components:**

7732-18-5	Water	>80%
7664-93-9	Sulfuric acid Met. Corr. 1, H290; Skin Corr. 1A, H314; Eye Dam. 1, H318	<15%
12027-67-7	ammonium molybdate	<10%
7803-55-6	Ammonium metavanadate Acute Tox. 3, H301 Repr. 2, H361; STOT RE 1, H372 Acute Tox. 4, H332; Eye Irrit. 2A, H319	<1%

· **Additional information:** 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:**

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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:**

Remove contact lenses if worn, if possible.

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 caustic effect on skin and mucous membranes.

Breathing difficulty

Coughing

Gastric or intestinal disorders when ingested.

· **Danger:**

Danger of gastric perforation.

Causes serious eye damage.

May damage fertility or the unborn child. Route of exposure: Oral.

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

No relevant information available.

## 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.

· **Advice for firefighters**

· **Protective equipment:**

Wear self-contained respiratory protective device.

Wear fully protective suit.

· **Additional information:** No relevant information available.

## 6 Accidental release measures

· **Personal precautions, protective equipment and emergency procedures**

For large spills, use respiratory protective device against the effects of fumes/dust/aerosol.

Wear protective equipment. Keep unprotected persons away.

Ensure adequate ventilation.

· **Environmental precautions** Do not allow to enter sewers/ surface or ground water.

· **Methods and material for containment and cleaning up**

Use limestone to neutralize and/or absorb spill.

Dispose contaminated material as waste according to item 13.

Clean the affected area carefully; suitable cleaners are:

Warm water

Send for recovery or disposal in suitable receptacles.

· **Reference to other sections**

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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.
  - Prevent formation of aerosols.
  - Avoid splashes or spray in enclosed areas.
- **Information about protection against explosions and fires:** No special measures required.
- **Conditions for safe storage, including any incompatibilities**
- **Requirements to be met by storerooms and receptacles:**
  - Store only in the original receptacle.
  - Unsuitable material for receptacle: aluminium.
  - Unsuitable material for receptacle: steel.
- **Information about storage in one common storage facility:**
  - Store away from foodstuffs.
  - Do not store together with alkalis (caustic solutions).
  - Store away from metals.
- **Further information about storage conditions:**
  - Store in cool, dry conditions in well sealed receptacles.
  - Keep containers tightly sealed.
- **Specific end use(s)** No relevant information available.

## 8 Exposure controls/personal protection

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

- **Exposure controls**
- **General protective and hygienic measures:**

The usual precautionary measures for handling chemicals should be followed.

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Keep away from foodstuffs, beverages and feed.  
Immediately remove all soiled and contaminated clothing.  
Wash hands before breaks and at the end of work.  
Avoid contact with the eyes and skin.  
Do not inhale gases / fumes / aerosols.

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

· **Breathing equipment:**

Not required under normal conditions of use.

Use suitable respiratory protective device when aerosol or mist is formed.

Use suitable respiratory protective device in case of insufficient ventilation.

For spills, respiratory protection may be advisable.

· **Protection of hands:**



Protective gloves

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.  
Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

· **Material of gloves**

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.

· **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.

· **For the permanent contact in work areas without heightened risk of injury (e.g. Laboratory) gloves made of the following material are suitable:**

Neoprene gloves

Natural rubber, NR

Butyl rubber, BR

Nitrile rubber, NBR

Fluorocarbon rubber (Viton)

· **Eye protection:**

Contact lenses should not be worn.



Safety glasses

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

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

No relevant information available.

· **Risk management measures**

See Section 7 for additional information.

No relevant information available.

## 9 Physical and chemical properties

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## · Information on basic physical and chemical properties

### · Appearance:

Form: Liquid

Color: Clear

· Odor: Acidic

· 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: Not applicable.

· 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 at 20 °C (68 °F): 1.25 g/cm<sup>3</sup> (10.43 lbs/gal)

· 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:** No relevant information available.

· **Chemical stability:**

· **Thermal decomposition / conditions to be avoided:**

No decomposition if used and stored according to specifications.

· **Possibility of hazardous reactions**

Toxic fumes may be released if heated above the decomposition point.

Corrosive action on metals.

Reacts with alkali (lyes).

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Reacts with base metals forming hydrogen.

- **Conditions to avoid** No relevant information available.
- **Incompatible materials** No relevant information available.
- **Hazardous decomposition products**  
Sulfur oxides (SO<sub>x</sub>)  
Toxic metal oxide smoke

## 11 Toxicological information

### · Information on toxicological effects

- **Acute toxicity:**
- **LD/LC50 values that are relevant for classification:** None.
- **Primary irritant effect:**
- **On the skin:** Strong caustic effect on skin and mucous membranes.
- **On the eye:** Strong caustic effect.
- **Sensitization:** No sensitizing effects known.

### · 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 severe skin burns and eye damage.
- **Repeated dose toxicity:** Possible risk of irreversible effects.
- **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:** Suspected of damaging fertility or the unborn child. Route of exposure: Oral.
- **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.
- **Mobility in soil:** No relevant information available.
- **Ecotoxic effects:**
- **Remark:** After neutralization a reduction of the harming action may be recognized
- **Additional ecological information**

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· **General notes:**

Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.

Must not reach bodies of water or drainage ditch undiluted or unneutralized.

Rinse off of bigger amounts into drains or the aquatic environment may lead to decreased pH-values. A low pH-value harms aquatic organisms. If the dilution of the use-level pH-value is considerably increased after use, the aqueous waste, emptied into drains, is only low water-dangerous.

· **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. Residual materials should be treated as hazardous.

· **Uncleaned packagings**

· **Recommendation:** Disposal must be made according to official regulations.

· **Recommended cleansing agent:** Water, if necessary with cleansing agents.

## 14 Transport information

· **UN-Number**

· DOT, ADR/RID/ADN, IMDG, IATA UN2796

· **UN proper shipping name**

· DOT Sulfuric acid  
· ADR/RID/ADN 2796 SULPHURIC ACID  
· IMDG, IATA SULPHURIC ACID

· **Transport hazard class(es)**

· DOT



· Class 8  
· Label 8

· ADR/RID/ADN



· Class 8 (C1)  
· Label 8

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· **IMDG, IATA**



· **Class** 8  
 · **Label** 8

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

· **Environmental hazards**  
 · **Marine pollutant:** No

· **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.

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

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 components have the value \*.

## 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)  
 NFPA: National Fire Protection Association (USA)  
 HMIS: Hazardous Materials Identification System (USA)  
 LC50: Lethal concentration, 50 percent  
 LD50: Lethal dose, 50 percent  
 OSHA: Occupational Safety & Health Administration  
 Met. Corr. 1: Corrosive to metals – Category 1  
 Acute Tox. 3: Acute toxicity – Category 3  
 Acute Tox. 4: Acute toxicity – Category 4  
 Skin Corr. 1A: Skin corrosion/irritation – Category 1A  
 Eye Dam. 1: Serious eye damage/eye irritation – Category 1  
 Eye Irrit. 2A: Serious eye damage/eye irritation – Category 2A  
 Repr. 2: Reproductive toxicity – Category 2  
 STOT RE 1: Specific target organ toxicity (repeated exposure) – Category 1

· **Sources**

SDS Prepared by:  
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