

Safety Data Sheet

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

Revision: July 31, 2020

1 Identification

- **Product identifier**
- **Trade name:** Permanganate Reagent
- **Product code:** PP1404SS
- **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**
Skin Irrit. 2 H315 Causes skin irritation.
Eye Irrit. 2A H319 Causes serious eye irritation.
Repr. 2 H361 Suspected of damaging fertility or the unborn child.
STOT RE 2 H373 May cause damage to the liver through prolonged or repeated exposure. Route of exposure: Oral.

· Label elements

· GHS label elements

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

· Hazard pictograms:



GHS07 GHS08

· Signal word: Warning

· Hazard statements:

H315 Causes skin irritation.

H319 Causes serious eye irritation.

H361 Suspected of damaging fertility or the unborn child.

H373 May cause damage to the liver through prolonged or repeated exposure. Route of exposure: Oral.

(Cont'd. on page 2)

Safety Data Sheet

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

Revision: July 31, 2020

Trade name: Permanganate Reagent

(Cont'd. of page 1)

· **Precautionary statements:**





- P260 Do not breathe mist/vapors/spray.
 P264 Wash thoroughly after handling.
 P280 Wear protective gloves and 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.
 P314 Get medical advice/attention if you feel unwell.
 P332+P313 If skin irritation occurs: Get medical advice/attention.
 P362+P364 Take off contaminated clothing and wash it before reuse.
 P337+P313 If eye irritation persists: Get medical advice/attention.
 P405 Store locked up.
 P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

· **Other hazards** There are no other hazards not otherwise classified that have been identified.

3 Composition/information on ingredients

· **Chemical characterization: Mixtures**

· **Components:**

7732-18-5	Water	>97%
7722-64-7	potassium permanganate	<3%
	 Ox. Sol. 2, H272  Repr. 2, H361; STOT RE 2, H373  Skin Corr. 1C, H314; Eye Dam. 1, H318  Acute Tox. 4, H302	

· **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:**

Symptoms of poisoning may even occur after several hours; therefore medical observation for at least 48 hours after the accident.

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

· **After skin contact:**

Immediately rinse with water.

If skin irritation continues, consult a doctor.

· **After eye contact:**

Remove contact lenses if worn.

Rinse opened eye for several minutes under running water. If symptoms persist, 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:**

(Cont'd. on page 3)

Safety Data Sheet

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

Revision: July 31, 2020

Trade name: Permanganate Reagent

(Cont'd. of page 2)

Irritant to skin and mucous membranes.

Causes eye irritation.

Gastric or intestinal disorders when ingested.

Nausea in case of ingestion.

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

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

5 Fire-fighting measures

· Extinguishing media**· Suitable extinguishing agents:**

The product is not flammable.

Use fire fighting measures that suit the environment.

· For safety reasons unsuitable extinguishing agents: No relevant information available.**· Special hazards arising from the substance or mixture**

Formation of toxic gases is possible during heating or in case of fire.

Substance/product is oxidizing when dry.

· 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

Ensure adequate ventilation.

Use personal protective equipment as required.

· Environmental precautions

Do not allow to enter sewers/ surface or ground water.

Inform respective authorities in case of seepage into water course or sewage system.

· Methods and material for containment and cleaning up

Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).

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:**

Avoid contact with the eyes and skin.

Avoid breathing mist, vapors, or spray.

Use only in well ventilated areas.

Avoid splashes or spray in enclosed areas.

· Information about protection against explosions and fires: Substance/product is oxidizing when dry.

(Cont'd. on page 4)

Safety Data Sheet

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

Revision: July 31, 2020

Trade name: Permanganate Reagent

(Cont'd. of page 3)

- **Conditions for safe storage, including any incompatibilities**
- **Requirements to be met by storerooms and receptacles:**
Store in cool, dry conditions in well sealed receptacles.
- **Information about storage in one common storage facility:**
Store away from foodstuffs.
Do not store together with acids.
- **Further information about storage conditions:** Prevent from drying out.
- **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 product does not contain any relevant quantities of materials with critical values that have to be monitored at the workplace.
- **Exposure controls**
- **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:** Not required under normal conditions of use.
- **Protection of hands:**



Protective gloves

- **Material of gloves**
Nitrile rubber, NBR
Natural rubber, NR
Butyl rubber, BR
Neoprene gloves
- **Eye protection:**



Safety glasses

- Follow relevant national guidelines concerning the use of protective eyewear.
- **Body protection:** Protective work clothing
- **Limitation and supervision of exposure into the environment**
No relevant information available.
- **Risk management measures** No relevant information available.

9 Physical and chemical properties

(Cont'd. on page 5)

Safety Data Sheet

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

Revision: July 31, 2020

Trade name: Permanganate Reagent

(Cont'd. of page 4)

Information on basic physical and chemical properties

Appearance:

Form: Liquid

Color: Violet

Odor: Odorless

Odor threshold: Not determined.

pH-value: Not determined.

Melting point/Melting range: -2 °C (28.4 °F)

Boiling point/Boiling range: 101-103 °C (213.8-153.4 °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: Substance/product is oxidizing when dry.

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

Density:

Relative density: 1.00-1.04

Vapor density: Not determined.

Evaporation rate: Not determined.

Solubility in / Miscibility with

Water: Soluble.

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: 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 strong acids and alkali.

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

Substance/product is oxidizing when dry.

(Cont'd. on page 6)

Safety Data Sheet

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

Revision: July 31, 2020

Trade name: Permanganate Reagent

(Cont'd. of page 5)

- **Conditions to avoid** Excessive heat.
- **Incompatible materials** Strong acids
- **Hazardous decomposition products**
Under fire conditions only:
Toxic metal oxide smoke

11 Toxicological information

- **Information on toxicological effects**
- **Acute toxicity:** Based on available data, the classification criteria are not met.

· **LD/LC50 values that are relevant for classification:**

7722-64-7 potassium permanganate

Oral	LD50	1090 mg/kg (rat)
------	------	------------------

- **Primary irritant effect:**
- **On the skin:** Irritant to skin and mucous membranes.
- **On the eye:** Irritating effect.
- **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):**

None of the ingredients are listed.

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

None of the ingredients are listed.

· **Probable route(s) of exposure:**

Ingestion.
Inhalation.
Eye contact.
Skin contact.

- **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:**
May cause damage to the liver through prolonged or repeated exposure. Route of exposure: Oral.
- **Aspiration hazard:** Based on available data, the classification criteria are not met.

12 Ecological information

- **Toxicity**
- **Aquatic toxicity**
Toxic to aquatic life with long lasting effects.

7722-64-7 potassium permanganate

LC50	0.47 mg/l (fish)
------	------------------

EC50	0.06 mg/l (daphnia)
------	---------------------

(Cont'd. on page 7)

Safety Data Sheet

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

Revision: July 31, 2020

Trade name: Permanganate Reagent





(Cont'd. of page 6)

- **Persistence and degradability** No relevant information available.
- **Bioaccumulative potential:** No relevant information available.
- **Mobility in soil:** No relevant information available.
- **Additional ecological information**
- **General notes:** Do not allow product to reach ground water, water course or sewage system.
- **Other adverse effects** No relevant information available.

13 Disposal considerations

- **Waste treatment methods**
- **Recommendation:**
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 | UN3082 |
| · UN proper shipping name | |
| · DOT | Environmentally hazardous substances, liquid, n.o.s. (Potassium permanganate) |
| · ADR/RID/ADN, IMDG | ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (POTASSIUM PERMANGANATE) |
| · IATA | Environmentally hazardous substance, liquid, n.o.s. (Potassium permanganate) |
| · Transport hazard class(es) | |
| · DOT, IMDG, IATA | |
|   | |
| · Class | 9 |
| · Label | 9 |
| · ADR/RID/ADN | |
|   | |
| · Class | 9 (M6) |
| · Label | 9 |
| · Packing group | |

(Cont'd. on page 8)

Safety Data Sheet

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

Revision: July 31, 2020

Trade name: Permanganate Reagent

(Cont'd. of page 7)

· DOT, ADR/RID/ADN, IMDG, IATA	III
· Environmental hazards	Product contains environmentally hazardous substances: potassium permanganate
· Marine pollutant:	Yes (DOT) Symbol (fish and tree)
· Special precautions for user	Warning: Miscellaneous dangerous substances and articles
· Hazard identification number (Kemler code):	90
· EMS Number:	F-A,S-F
· Segregation groups	Permanganates
· Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code	Not applicable.
· Transport/Additional information:	Not regulated when carried in single or combination packaging containing a net quantity of 5 L or less for liquids or 5 kg or less for solids per the following: DOT: 171.4(c)(2) ADR: SP 375 IMDG: 2.10.2.7 IATA: special provision A197
· DOT	
· Remarks:	Transport labeling is not required for non-bulk single package shipments by motor vehicle, rail car or aircraft. Bulk packaging consists of a maximum capacity of greater than 450L (119 gallons) for a liquid and a maximum net mass greater than 400kg (882 pounds) for a solid.

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):

7722-64-7 | potassium permanganate

· TSCA (Toxic Substances Control Act)

7722-64-7 | potassium permanganate

7732-18-5 | Water

· Proposition 65 (California)

· Chemicals known to cause cancer:

(Cont'd. on page 9)

Safety Data Sheet

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

Revision: July 31, 2020

Trade name: Permanganate Reagent

(Cont'd. of page 8)

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):**

7722-64-7 | potassium permanganate

D

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

None of the ingredients are listed.

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

None of the ingredients are listed.

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

Ox. Sol. 2: Oxidizing solids – Category 2

Acute Tox. 4: Acute toxicity – Category 4

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

Skin Irrit. 2: Skin corrosion/irritation – Category 2

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 2: Specific target organ toxicity (repeated exposure) – Category 2

· **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., Klaassen, Curtis D., ed., ISBN: 978-0-07-176923-5.

Safety Data Sheets, Individual Manufacturers

SDS Prepared by:

ChemTel

1305 North Florida Avenue

Tampa, Florida USA 33602-2902

Toll Free North America 1-888-255-3924 Intl. +01 813-248-0573

(Cont'd. on page 10)

Safety Data Sheet

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

Revision: July 31, 2020

Trade name: Permanganate Reagent

(Cont'd. of page 9)

Website: www.chemtel.com