

Material Safety Data Sheet

Potassium Permanganate Solution (1.0N)

MSDS# 90870

Section 1 - Chemical Product and Company Identification

MSDS Name: Potassium Permanganate Solution (1.0N)  
Catalog Numbers: SP282-1, SP282-4  
Synonyms:  
Company Identification: Fisher Scientific  
One Reagent Lane  
Fair Lawn, NJ 07410  
For information in the US, call: 201-796-7100  
Emergency Number US: 201-796-7100  
CHEMTREC Phone Number, US: 800-424-9300

Section 2 - Composition, Information on Ingredients

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Risk Phrases:

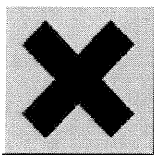
CAS#: 7722-64-7  
Chemical Name: Potassium permanganate  
%: 3.16  
EINECS#: 231-760-3  
Hazard Symbols:  
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Risk Phrases:

CAS#: 7732-18-5  
Chemical Name: Water  
%: 96.84  
EINECS#: 231-791-2  
Hazard Symbols:  
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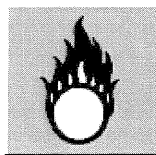
Text for R-phrases: see Section 16

Hazard Symbols:



Risk Phrases:

XN O



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Section 3 - Hazards Identification

EMERGENCY OVERVIEW

Danger! Oxidizer. The toxicological properties of this material have not been fully investigated. May be harmful if swallowed. May cause kidney damage. Contact with other material may cause fire. May cause eye, skin, and respiratory tract irritation. Target Organs: Blood, kidneys, central nervous system, liver.

Potential Health Effects

Eye: May cause eye irritation. May cause conjunctivitis.  
Skin: May cause skin irritation.  
May cause irritation of the digestive tract. May be harmful if swallowed. May form methemoglobin which in

- Ingestion: sufficient concentration causes cyanosis (bluish discoloration of skin due to deficient oxygenation of the blood). In high doses, manganese may increase anemia by interfering with iron absorption. May cause nausea, vomiting, and diarrhea, possibly with blood.
- Inhalation: May cause respiratory tract irritation. Aspiration may lead to pulmonary edema. May cause acute pulmonary edema, asphyxia, chemical pneumonitis, and upper airway obstruction caused by edema.
- Chronic: Prolonged or repeated skin contact may cause defatting and dermatitis. May cause liver and kidney damage. Laboratory experiments have resulted in mutagenic effects. Chronic manganese toxicity through inhalation may result in "manganism", which is a disease of the central nervous system involving psychic and neurological disorders. May cause adverse reproductive effects.

#### Section 4 - First Aid Measures

- Eyes: Flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Get medical aid.
- Skin: Get medical aid. Flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Wash clothing before reuse.
- Ingestion: Never give anything by mouth to an unconscious person. Get medical aid. Do NOT induce vomiting. If conscious and alert, rinse mouth and drink 2-4 cupfuls of milk or water.
- Inhalation: Remove from exposure and move to fresh air immediately. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical aid.
- Notes to Physician: Absorption of this product into the body may cause cyanosis (bluish discoloration of skin due to deficient oxygenation of the blood). Moderate degrees of cyanosis need to be treated only by supportive measures: bed rest and oxygen inhalation. If cyanosis is severe, intravenous injection of Methylene Blue, 1mg/kg of body weight may be of value.

#### 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. Strong oxidizer. Contact with other material may cause fire. During a fire, irritating and highly toxic gases may be generated by thermal decomposition or combustion. Use water with caution and in flooding amounts. Some oxidizers may react explosively with hydrocarbons(fuel). May accelerate burning if involved in a fire. Containers may explode when heated.
- Extinguishing Media: In case of fire, use water, dry chemical, chemical foam, or alcohol-resistant foam. Use agent most appropriate to extinguish fire. Contact professional fire-fighters immediately.
- Autoignition Temperature: Not available
- Flash Point: Not available
- Explosion Limits: Lower: Not available
- Explosion Limits: Upper: Not available
- NFPA Rating: ; instability: OX

#### Section 6 - Accidental Release Measures

- General Information: Use proper personal protective equipment as indicated in Section 8.
- Spills/Leaks: Avoid runoff into storm sewers and ditches which lead to waterways. Clean up spills immediately, observing precautions in the Protective Equipment section. Remove all sources of ignition. Absorb spill using an absorbent, non-combustible material such as earth, sand, or vermiculite. Do not use combustible materials such as sawdust. Provide ventilation. Do not use combustible materials such as paper towels to clean up spill. Clean up residual material by washing area with a 2-5% solution of soda ash.

#### Section 7 - Handling and Storage

- Handling: Wash thoroughly after handling. Remove contaminated clothing and wash before reuse. Use only in a well-ventilated area. Avoid contact with eyes, skin, and clothing. Keep container tightly closed. Avoid contact with clothing and other combustible materials. Avoid ingestion and inhalation.
- Storage: Keep away from heat, sparks, and flame. Do not store near combustible materials. Store in a tightly closed container. Store in a cool, dry, well-ventilated area away from incompatible substances.

#### Section 8 - Exposure Controls, Personal Protection

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Chemical Name	ACGIH	NIOSH	OSHA - Final PELs
Potassium permanganate	0.2 mg/m3 TWA (as Mn) (listed under Manganese, inorganic compounds).	1 mg/m3 TWA (as Mn) (listed under Manganese compounds, n.o.s.). 500 mg/m3 IDLH (as Mn) (listed under Manganese compounds, n.o.s.).	5 mg/m3 Ceiling (as Mn) (listed under Manganese compounds, n.o.s.).
Water	none listed	none listed	none listed

OSHA Vacated PELs: Potassium permanganate: None listed Water: None listed

#### Engineering Controls:

Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower. Use adequate ventilation to keep airborne concentrations low.

#### Exposure Limits

#### 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 clothing to prevent skin exposure.

**Respirators:** Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149. Use a NIOSH/MSHA or European Standard EN 149 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced.

#### Section 9 - Physical and Chemical Properties

Physical State: Liquid

Color: purple

Odor: none reported

pH: Not available

Vapor Pressure: 14 mm Hg

Vapor Density: 0.7

Evaporation Rate: >1 (ether =1)

Viscosity: Not available

Boiling Point: 100 deg C ( 212.00°F)

Freezing/Melting Point: 0 deg C ( 32.00°F)

Decomposition Temperature: Not available

Solubility in water: Not available

Specific Gravity/Density: 1.0

Molecular Formula: Mixture

Molecular Weight: 0

#### Section 10 - Stability and Reactivity

**Chemical Stability:** Stable under normal temperatures and pressures.

**Conditions to Avoid:** High temperatures, ignition sources, dust generation, combustible materials.

**Incompatibilities with Other Materials:** Acids, acetic acid, acetic anhydride, alcohols, aluminum, ammonium nitrate, copper, copper alloys, hydroxylamine, peroxides, phosphorus, rubber, sulfur, sulfuric acid, zinc, ferric salts, antimony, dimethyl formamide, lead, arsenites, mercurous salts, hypophosphites, combustible organics, sulfites, bromides, hydrochloric acid, charcoal, glycerol, ammonium salts, iodides, ethylene glycol, organic materials, hydrogen trisulfide.

**Hazardous**

Decomposition Products Hydrogen trisulfide, oxygen, oxides of potassium, oxides of manganese.  
Hazardous Polymerization Has not been reported.

#### Section 11 - Toxicological Information

RTECS#: CAS# 7722-64-7: SD6475000  
CAS# 7732-18-5: ZC0110000  
RTECS:  
CAS# 7722-64-7: Oral, mouse: LD50 = 2157 mg/kg;  
Oral, mouse: LD50 = 750 mg/kg;  
LD50/LC50: Oral, rat: LD50 = 750 mg/kg;  
RTECS:  
CAS# 7732-18-5: Oral, rat: LD50 = >90 mL/kg;  
Carcinogenicity: Potassium permanganate - Not listed as a carcinogen by ACGIH, IARC, NTP, or CA Prop 65.  
Water - Not listed as a carcinogen by ACGIH, IARC, NTP, or CA Prop 65.  
Other: No information found.

#### Section 12 - Ecological Information

Ecotoxicity: Fish: Channel catfish: LC50 = 0.75 mg/L; 96 Hr; Unspecified  
Fish: Goldfish: LC50 = 3.6 mg/L; 24 Hr; Unspecified  
Fish: Striped bass: LC50 = 1.5-5.0 mg/L; 24 Hr; Static bioassay

#### Section 13 - Disposal Considerations

Dispose of in a manner consistent with federal, state, and local regulations.

#### Section 14 - Transport Information

US DOT

Shipping Name: OXIDIZING LIQUID, N.O.S.

Hazard Class: 5.1

UN Number: UN3139

Packing Group: III

Canada TDG

Shipping Name: Not available

Hazard Class:

UN Number:

Packing Group:

USA RQ: CAS# 7722-64-7: 100 lb final RQ; 45.4 kg final RQ

#### Section 15 - Regulatory Information

European/International Regulations

European Labeling in Accordance with EC Directives

Hazard Symbols: XN O

Risk Phrases:

R 22 Harmful if swallowed.

R 8 Contact with combustible material may cause fire.

Safety Phrases:

S 16 Keep away from sources of ignition - No smoking.

S 24/25 Avoid contact with skin and eyes.

S 28B After contact with skin, wash immediately with plenty of water and soap.

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# 7722-64-7: 2

CAS# 7732-18-5: Not available

Canada

CAS# 7722-64-7 is listed on Canada's DSL List

CAS# 7732-18-5 is listed on Canada's DSL List

Canadian WHMIS Classifications: C, D1B

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.

CAS# 7722-64-7 is listed on Canada's Ingredient Disclosure List

CAS# 7732-18-5 is not listed on Canada's Ingredient Disclosure List.

US Federal

TSCA

CAS# 7722-64-7 is listed on the TSCA Inventory.

CAS# 7732-18-5 is listed on the TSCA Inventory.

**REVIEWED**

DATE: July 30/2012  
*Chutneyford*

Section 16 - Other Information

MSDS Creation Date: 7/08/1999

Revision #8 Date 7/20/2009

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 the company 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 the company has been advised of the possibility of such damages.

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