

# POTASSIUM PERMANGANATE

PTP

## CAUTIONARY RESPONSE INFORMATION

<b>Common Synonyms</b>	Solid crystals      Dark purple      Odorless
	Sinks and mixes slowly with water.
<p>Keep people away.                  Avoid contact with solid and dust.                  Notify local health and pollution control agencies.                  Protect water intakes.</p>	
<b>Fire</b>	Not flammable. Containers may explode in fire. May cause fire and explode on contact with combustibles. Flood discharge area with water. Cool exposed containers with water.
<b>Exposure</b>	CALL FOR MEDICAL AID.  SOLID Irritating to skin and eyes. If swallowed, will cause nausea, vomiting, or loss of consciousness. Flush affected areas with plenty of water. IF IN EYES, hold eyelids open and flush with plenty of water. IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk and have victim induce vomiting. IF SWALLOWED and victim is UNCONSCIOUS OR HAVING CONVULSIONS, do nothing except keep victim warm.
<b>Water Pollution</b>	HARMFUL TO AQUATIC LIFE IN VERY LOW CONCENTRATIONS. May be dangerous if it enters water intakes.

<p><b>1. CORRECTIVE RESPONSE ACTIONS</b>                  Dilute and disperse dissolved material                  Stop discharge                  Collection Systems: Dredge                  Do not add water to undissolved material</p>	<p><b>2. CHEMICAL DESIGNATIONS</b>                  2.1 <b>CG Compatibility Group:</b> Not listed.                  2.2 <b>Formula:</b> KMnO<sub>4</sub>                  2.3 <b>IMO/UN Designation:</b> 5.1/1490                  2.4 <b>DOT ID No.:</b> 1490                  2.5 <b>CAS Registry No.:</b> 7722-64-7                  2.6 <b>NAERG Guide No.:</b> 140                  2.7 <b>Standard Industrial Trade Classification:</b> 52389</p>
<p><b>3. HEALTH HAZARDS</b></p> <p>3.1 <b>Personal Protective Equipment:</b> Goggles or face shield; rubber gloves.</p> <p>3.2 <b>Symptoms Following Exposure:</b> Burns and stains the skin dark brown. If ingested will cause severe distress of gastro-intestinal system. May be fatal if over 4 oz. are consumed.</p> <p>3.3 <b>Treatment of Exposure:</b> INGESTION: induce vomiting and follow with thorough gastric lavage, demulcents, glucose I.V., fluid therapy, and antibiotics. Tracheostomy may be lifesaving.</p> <p>3.4 <b>TLV-TWA:</b> Not listed.                  3.5 <b>TLV-STEL:</b> Not listed.                  3.6 <b>TLV-Ceiling:</b> Not listed.                  3.7 <b>Toxicity by Ingestion:</b> Grade 3; LD<sub>50</sub> = 50 to 500 mg/kg                  3.8 <b>Toxicity by Inhalation:</b> Currently not available.                  3.9 <b>Chronic Toxicity:</b> None                  3.10 <b>Vapor (Gas) Irritant Characteristics:</b> Non-volatile                  3.11 <b>Liquid or Solid Characteristics:</b> Can burn skin if not flushed with water.                  3.12 <b>Odor Threshold:</b> Odorless                  3.13 <b>IDLH Value:</b> Not listed.                  3.14 <b>OSHA PEL-TWA:</b> Not listed.                  3.15 <b>OSHA PEL-STEL:</b> Not listed.                  3.16 <b>OSHA PEL-Ceiling:</b> Not listed.                  3.17 <b>EPA AEGL:</b> Not listed</p>	

## 4. FIRE HAZARDS

- 4.1 **Flash Point:**  
Not flammable
- 4.2 **Flammable Limits in Air:** Not flammable
- 4.3 **Fire Extinguishing Agents:** Flood spill area with water.
- 4.4 **Fire Extinguishing Agents Not to Be Used:** Not pertinent
- 4.5 **Special Hazards of Combustion Products:** Not pertinent
- 4.6 **Behavior in Fire:** May cause fire on contact with combustibles. Containers may explode.
- 4.7 **Auto Ignition Temperature:** Not flammable
- 4.8 **Electrical Hazards:** Not pertinent
- 4.9 **Burning Rate:** Not flammable
- 4.10 **Adiabatic Flame Temperature:** Currently not available
- 4.11 **Stoichiometric Air to Fuel Ratio:** Not pertinent.
- 4.12 **Flame Temperature:** Currently not available
- 4.13 **Combustion Molar Ratio (Reactant to Product):** Not pertinent.
- 4.14 **Minimum Oxygen Concentration for Combustion (MOCC):** Not listed

## 5. CHEMICAL REACTIVITY

- 5.1 **Reactivity with Water:** No reaction
- 5.2 **Reactivity with Common Materials:**  
 Attacks rubber and most fibers. May cause ignition of wood. Some acids, such as sulfuric acid, may cause an explosion.
- 5.3 **Stability During Transport:** Stable
- 5.4 **Neutralizing Agents for Acids and Caustics:** Not pertinent
- 5.5 **Polymerization:** Not pertinent
- 5.6 **Inhibitor of Polymerization:** Not pertinent

## 6. WATER POLLUTION

- 6.1 **Aquatic Toxicity:**  
5.4 ppm/48 hr/bluegill/TL<sub>96</sub>/fresh water
- 6.2 **Waterfowl Toxicity:** Currently not available
- 6.3 **Biological Oxygen Demand (BOD):** None
- 6.4 **Food Chain Concentration Potential:** None
- 6.5 **GESAMP Hazard Profile:**  
 Bioaccumulation: 0  
 Damage to living resources: 3  
 Human Oral hazard: 1  
 Human Contact hazard: 0  
 Reduction of amenities: X

## 7. SHIPPING INFORMATION

- 7.1 **Grades of Purity:** USP, Reagent (both 99+%)
- 7.2 **Storage Temperature:** Ambient
- 7.3 **Inert Atmosphere:** No requirement
- 7.4 **Venting:** Open
- 7.5 **IMO Pollution Category:** Currently not available
- 7.6 **Ship Type:** Currently not available
- 7.7 **Barge Hull Type:** Currently not available

## 8. HAZARD CLASSIFICATIONS

- 8.1 **49 CFR Category:** Oxidizer
- 8.2 **49 CFR Class:** 5.1
- 8.3 **49 CFR Package Group:** II
- 8.4 **Marine Pollutant:** No
- 8.5 **NFPA Hazard Classification:**

Category	Classification
Health Hazard (Blue).....	3
Flammability (Red).....	0
Instability (Yellow).....	0
Special (White).....	OX
- 8.6 **EPA Reportable Quantity:** 100 pounds
- 8.7 **EPA Pollution Category:** B
- 8.8 **RCRA Waste Number:** Not listed
- 8.9 **EPA FWPCA List:** Yes

## 9. PHYSICAL & CHEMICAL PROPERTIES

- 9.1 **Physical State at 15° C and 1 atm:** Solid
- 9.2 **Molecular Weight:** 158.04
- 9.3 **Boiling Point at 1 atm:** Decomposes
- 9.4 **Freezing Point:** >464°F = >240°C = >513°K
- 9.5 **Critical Temperature:** Not pertinent
- 9.6 **Critical Pressure:** Not pertinent
- 9.7 **Specific Gravity:** 2.70 at 15°C (solid)
- 9.8 **Liquid Surface Tension:** Not pertinent
- 9.9 **Liquid Water Interfacial Tension:** Not pertinent
- 9.10 **Vapor (Gas) Specific Gravity:** Not pertinent
- 9.11 **Ratio of Specific Heats of Vapor (Gas):** Not pertinent
- 9.12 **Latent Heat of Vaporization:** Not pertinent
- 9.13 **Heat of Combustion:** Not pertinent
- 9.14 **Heat of Decomposition:** Not pertinent
- 9.15 **Heat of Solution:** Not pertinent
- 9.16 **Heat of Polymerization:** Not pertinent
- 9.17 **Heat of Fusion:** Currently not available
- 9.18 **Limiting Value:** Currently not available
- 9.19 **Reid Vapor Pressure:** Currently not available

## NOTES

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9.20 SATURATED LIQUID DENSITY		9.21 LIQUID HEAT CAPACITY		9.22 LIQUID THERMAL CONDUCTIVITY		9.23 LIQUID VISCOSITY	
Temperature (degrees F)	Pounds per cubic foot	Temperature (degrees F)	British thermal unit per pound-F	Temperature (degrees F)	British thermal unit inch per hour-square foot-F	Temperature (degrees F)	Centipoise
	N O T  P E R T I N E N T		N O T  P E R T I N E N T		N O T  P E R T I N E N T		N O T  P E R T I N E N T

9.24 SOLUBILITY IN WATER		9.25 SATURATED VAPOR PRESSURE		9.26 SATURATED VAPOR DENSITY		9.27 IDEAL GAS HEAT CAPACITY	
Temperature (degrees F)	Pounds per 100 pounds of water	Temperature (degrees F)	Pounds per square inch	Temperature (degrees F)	Pounds per cubic foot	Temperature (degrees F)	British thermal unit per pound-F
34	3.031		N		N		N
36	3.264		O		O		O
38	3.497		T		T		T
40	3.731		P		P		P
42	3.964		E		E		E
44	4.197		R		R		R
46	4.431		T		T		T
48	4.664		I		I		I
50	4.897		N		N		N
52	5.131		E		E		E
54	5.364		N		N		N
56	5.597		T		T		T
58	5.831		E		E		E
60	6.064		N		N		N
62	6.297		T		T		T
64	6.531						
66	6.764						
68	6.997						
70	7.231						
72	7.464						
74	7.697						
76	7.931						
78	8.164						
80	8.397						
82	8.631						
84	8.864						