PURITAN PRODUCTS

Effective Date: 09/01/13
Replaces Revision: 11/21/08

NON-EMERGENCY TELEPHONE
610-866-4225

24-HOUR CHEMTREC EMERGENCY TELEPHONE
800-424-9300

SDS – SAFETY DATA SHEET

1. Identification

Product Identifier: POTASSIUM PERMANGANATE
Synonyms: Permanganic Acid, Potassium Salt; Condy's Crystals
Chemical Formula: $KMnO_4$
Recommended Use of the Chemical and Restrictions On Use: Laboratory Reagent
Manufacturer / Supplier: Puritan Products; 2290 Avenue A, Bethlehem, PA 18017 **Phone:** 610-866-4225
Emergency Phone Number: 24-Hour Chemtrec Emergency Telephone 800-424-9300

2. Hazard(s) Identification

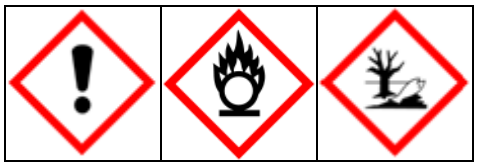
Classification of the Substance or Mixture:
Oxidizing solids (Category 2)
Acute toxicity, Oral (Category 4)
Acute aquatic toxicity (Category 1)

Risk Phrases:
R8: Contact with combustible material may cause fire.
R22: Harmful if swallowed.
R50: Very toxic to aquatic organisms.
R53: May cause long-term adverse effects in the aquatic environment.

Label Elements:

Trade Name: POTASSIUM PERMANGANATE

Signal Word: Danger



Hazard Statements:
H272: May intensify fire; oxidizer.
H302: Harmful if swallowed.
H400: Very toxic to aquatic life.

Precautionary Statements:
P220: Keep/Store away from clothing / combustible materials.
P273: Avoid release to the environment.

3. Composition / Information on Ingredients

CAS Number: 7722-64-7
EC Number: 231-760-3
Index Number: 025-002-00-9
Molecular Weight: 158.03 g/mol

Ingredient	CAS Number	EC Number	Percent	Hazardous	Chemical Characterization
Potassium Permanganate	7722-64-7	231-760-3	100%	Yes	Substance

4. First-aid Measures

Inhalation: Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give Oxygen. Get medical attention immediately.

Ingestion: Aspiration hazard. DO NOT induce vomiting. Give large amounts of water. Never give anything by mouth to an unconscious person. Get medical attention immediately.

Skin Contact: Immediately flush skin with plenty of soap and water for at least 15 minutes. Remove contaminated clothing and shoes. Get medical attention immediately. Wash clothing before reuse. Thoroughly clean shoes before reuse.

Eye Contact: Immediately flush eyes with plenty of water for at least 15 minutes, lifting lower and upper eyelids occasionally. Get medical attention immediately.

5. Fire-fighting Measures

Fire: Not combustible, but substance is a strong oxidizer and its heat of reaction with reducing agents or combustibles may cause ignition. Contact with oxidizable substances may cause extremely violent combustion.

Explosion: Strong oxidants may explode when shocked, or if exposed to heat, flame, or friction. Also may act as initiation source for dust or vapor explosions. Contact with oxidizable substances may cause extremely violent combustion. Sealed containers may rupture when heated. Sensitive to mechanical impact.

Fire Extinguishing Media: Use water spray to blanket fire, cool fire exposed containers, and to flush non-ignited spills or vapors away from fire. Suffocating type extinguishers are not as effective as water. Do not allow water runoff to enter sewers or waterways.

Special Information: In the event of a fire, wear full protective clothing and NIOSH-approved self-contained breathing apparatus with full face piece operated in the pressure demand or other positive pressure mode.

6. Accidental Release Measures

Personal Precautions, Protective Equipment and Emergency Procedures: Ventilate area of leak or spill. Remove all sources of ignition. Wear appropriate personal protective equipment as specified in Section 8. Isolate hazard area. Keep unnecessary and unprotected personnel from entering.

Environmental Precautions and Methods and Materials for Containment and Cleaning Up: Clean up spills in a manner that does not disperse dust into the air. Use non-sparking tools and equipment. Reduce airborne dust and prevent scattering by moistening with water. Pick up spill for recovery or disposal and place in a closed container. US Regulations (CERCLA) require reporting spills and releases to soil, water and air in excess of reportable quantities. The toll free number for the US Coast Guard National Response Center is (800) 424-8802.

7. Handling and Storage

Precautions for Safe Handling and Conditions for Safe Storage, Including Any Incompatibilities: Keep in a tightly closed container, stored in a cool, dry, ventilated area. Protect against physical damage and moisture. Isolate from any source of heat or ignition. Avoid storage on wood floors. Separate from incompatibles, combustibles, organic or other readily oxidizable materials. Containers of this material may be hazardous when empty since they retain product residues (dust, solids.) Observe all warnings and precautions listed for the product.

8. Exposure Controls / Personal Protection

Airborne Exposure Limits:
OSHA Permissible Exposure Limit (PEL): 5 mg/m3 Ceiling for manganese compounds as Mn

Ventilation System: A system of local and / or general exhaust is recommended to keep employee exposures below the Airborne Exposure Limits. Local exhaust ventilation is generally preferred because it can control the emissions of the contaminant at its source, preventing dispersion of it into the general work area. Please refer to the ACGIH document, *Industrial Ventilation, A Manual of Recommended Practices*, most recent edition, for details.

Personal Respirators (NIOSH Approved): If the exposure limit is exceeded and engineering controls are not feasible, a half face piece particulate respirator (NIOSH type N95 or better filters) may be worn for up to ten times the exposure limit or the maximum use concentration specified by the appropriate regulatory agency or respirator supplier, whichever is lowest.. A full-face piece particulate respirator (NIOSH type N100 filters) may be worn up to 50 times the exposure limit, or the maximum use concentration specified by the appropriate regulatory agency, or respirator supplier, whichever is lowest. If oil particles (e.g. lubricants, cutting fluids, glycerine, etc.) are present, use a NIOSH type R or P filter. For emergencies or instances where the exposure levels are not known, use a full face piece positive-pressure, air-supplied respirator. WARNING: Air-purifying respirators do not protect workers in Oxygen-deficient atmospheres.

Skin Protection: Wear impervious protective clothing, including boots, gloves, lab coat, apron or coveralls, as appropriate, to prevent skin contact.

Eye Protection: Use chemical safety goggles and / or a full face shield where splashing is possible. Maintain eye wash fountain and quick-drench facilities in work area.

9. Physical and Chemical Properties

Appearance: Purple-bronze crystals
Odor: Odorless
Odor Threshold: Not determined
pH: No data available
% Volatiles by volume @ 21C (70F): 0
Melting Point: ca. 240C (ca. 464F)
Boiling Point / Boiling Range: Not applicable
Flash Point: No data available
Evaporation Rate (BuAC=1): Not determined
Flammability: Strong oxidizer
Upper / Lower Flammability or Explosive Limits: Not applicable
Vapor Pressure (mm Hg): Not determined
Vapor Density (Air=1): Not determined
Relative Density: 2.710 g/cm3
Solubility: 7 g in 100 g of water
Partition Coefficient: n-octanol / water: Not determined
Auto-ignition Temperature: Not determined
Decomposition Temperature: Not determined
Viscosity: Not determined

10. Stability and Reactivity

Reactivity and / or Chemical Stability: Stable under ordinary conditions of use and storage.

Possibility of Hazardous Reactions and Conditions to Avoid: Heat, flame, ignition sources, incompatibles.

Incompatible Materials: Powdered metals, Alcohol, arsenites, bromides, iodides, Phosphorous, Sulfuric Acid, organic compounds, Sulfur, activated Carbon, Hydrides, strong Hydrogen Peroxide, ferrous or mercurous salts, hypophosphites, hyposulfites, sulfites, peroxides, and oxalates.

Hazardous Decomposition Products: Toxic metal fumes may form when heated to decomposition.

11. Toxicological Information

Emergency Overview: DANGER! STRONG OXIDIZER. CONTACT WITH OTHER MATERIAL MAY CAUSE FIRE. CORROSIVE. CAUSES BURNS TO ANY AREA OF CONTACT. HARMFUL IF SWALLOWED OR INHALED.

Potential Health Effects:

Inhalation: Causes irritation to the respiratory tract. Symptoms may include coughing, shortness of breath. High concentrations can cause pulmonary edema.

Ingestion: Ingestion of solid or high concentrations causes severe distress of gastro-intestinal system with possible burns and edema; slow pulse; shock with fall of blood pressure. May be fatal. Ingestion of concentrations up to 1% causes burning of the throat, nausea, vomiting, and abdominal pain; 2-3% causes anemia and swelling of the throat with possible suffocation; 4-5% may cause kidney damage.

Skin Contact: Dry crystals and concentrated solutions are caustic causing redness, pain, severe burns, brown stains in the contact area and possible hardening of outer skin layer. Diluted solutions are only mildly irritating to the skin.

Eye Contact: Eye contact with crystals (dusts) and concentrated solutions causes severe irritation, redness, blurred vision and can cause severe damage, possibly permanent.

Chronic Exposure: Prolonged skin contact may cause irritation, defatting, and dermatitis. Chronic manganese poisoning can result from excessive inhalation exposure to manganese dust and involves impairment of the central nervous system. Early symptoms include sluggishness, sleepiness, and weakness in the legs. Advanced cases have shown symptoms of fixed facial expression, emotional disturbances, spastic gait, and falling.

Aggravation of Pre-existing Conditions: No information found.

Specific Target Organ Toxicity - Single Exposure (Globally Harmonized System:) No data available.

Specific Target Organ Toxicity - Repeated Exposure (Globally Harmonized System:) No data available.

Numerical Measures of Toxicity: Cancer Lists: NTP Carcinogen

Ingredient	Known	Anticipated	IARC Category
Potassium Permanganate (7722-64-7)	No	No	None

Acute Toxicity:
Oral rat LD50: 750 mg/kg; Investigated as a mutagen, reproductive effecter.

12. Ecological Information

Ecotoxicity:
Very toxic to aquatic life.
Toxicity to fish LC50 - Oncorhynchus mykiss (rainbow trout) - 0.3 - 0.6 mg/l / 96 h
Toxicity to daphnia and other aquatic invertebrates: EC50 - Daphnia magna (Water flea) - 0.084 mg/l / 48 h

Persistence and Degradability: No data available.

Bioaccumulative Potential: No data available.

Mobility in Soil: No data available.

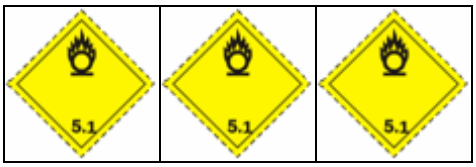
Other adverse effects: An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.

13. Disposal Considerations

Whatever cannot be saved for recovery or recycling should be handled as hazardous waste and sent to a RCRA approved waste facility. Processing, use or contamination of this product may change the waste management options. State and local disposal regulations may differ from federal disposal regulations. Dispose of container and unused contents in accordance with federal, state and local requirements.

14. Transport Information

UN Number: UN1490
Packing Group: II



DOT **IMDG** **IATA**

Land Transport ADR/RID and GGVS/GGVE (Cross Border / Domestic)
UN Proper Shipping Name: RQ, POTASSIUM PERMANGANATE
Transport Hazard Class(es): 5.1

Maritime Transport IMDG/GGVSea
UN Proper Shipping Name: POTASSIUM PERMANGANATE
Transport Hazard Class(es): 5.1
Marine Pollutant: No

Air Transport ICAO-TI and IATA-DGR
UN Proper Shipping Name: POTASSIUM PERMANGANATE
Transport Hazard Class(es): 5.1

Transport in Bulk (According to Annex II of MARPOL 73/78 and the IBC Code): No

Special Precautions for User: No additional information

15. Regulatory Information

Chemical Inventory Status – Part 1

Ingredient	TSCA	EC	Japan	Australia
Potassium Permanganate (7722-64-7)	Yes	Yes	Yes	Yes

Chemical Inventory Status – Part 2

Ingredient	Korea	Canada		Phil.
		DSL	NDSL	
Potassium Permanganate (7722-64-7)	Yes	Yes	No	Yes

Federal, State & International Regulations - Part 1

	SARA 302		SARA 313	
Ingredient	RQ	TPQ	List Chemical	Catg.
Potassium Permanganate (7722-64-7)	No	No	No	Manganese co

Federal, State & International Regulations - Part 2

	RCRA		TSCA
Ingredient	CERCLA	261.33	8(d)
Potassium Permanganate (7722-64-7)	100	No	Yes

Chemical Weapons Convention: No		**TSCA 12(b):** No		**CDTA:** Yes
SARA 311/312:	**Acute:** Yes	**Chronic:** Yes	**Fire:** Yes	**Pressure**: No
Reactivity: No		Pure / Solid		

Australian Hazchem Code: 2Y

Poison Schedule: S6

16. Other Information

THE INFORMATION CONTAINED IN THIS DATA SHEET IS BASED ON THE DATA AVAILABLE TO PURITAN PRODUCTS AT THIS TIME. WHILE BELIEVED TO BE ACCURATE, PURITAN PRODUCTS DOES NOT CLAIM IT TO BE ALL INCLUSIVE. IT IS PROVIDED INDEPENDENT OF ANY SALE OF THE PRODUCT, FOR THE PURPOSE OF HAZARD COMMUNICATION, AND AS A GUIDE FOR THE APPROPRIATE PRECAUTIONARY HANDLING OF THE PRODUCT BY PROPERLY TRAINED INDIVIDUALS. IT IS NOT INTENDED TO PROVIDE PRODUCT PERFORMANCE OR APPLICABILITY INFORMATION, AND NO EXPRESS OR IMPLIED WARRANTY OF ANY KIND IS MADE WITH RESPECT TO THE PRODUCT, THE UNDERLYING PRODUCT DATA, OR THE INFORMATION CONTAINED HEREIN.

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