



MATERIAL SAFETY DATA SHEET

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To Reorder Call:
800-323-2594

1. PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME

UNITED 976 UNITED CAIROX® Granular Permanganate

FOR MEDICAL AND TRANSPORTATION EMERGENCIES
24 Hour INFOTRAC (US and CANADA): **800-535-5053**

REVISION DATE

February 10, 2014

HMIS III HEALTH (0 = Maximum Safety)

Always follow Label Directions and Cautions.

* Chronic
4 Severe
3 Serious
2 Moderate
1 Slight
0 Minimal

**See Hazards Identification Section of this MSDS
for more detailed information.**

FLAMMABILITY (0 = Maximum Safety)

Susceptibility of Material to Burning.

4 Extremely flammable.	1 Must be preheated
3 Ignites at normal temperature.	to burn.
2 Ignites when moderately heated.	0 Will not burn.

PHYSICAL HAZARD (0 = Maximum Safety)

Susceptible to Release of Energy.

4 May detonate-vacate area if materials are exposed to fire.	2 Violent chemical change possible-use hose stream from distance
3 Strong shock of heat may detonate-use monitors from behind explosion resistant barriers.	1 Unstable if heated-use precaution.
	0 Normally stable.

PERSONAL PROTECTION: F



2. COMPOSITION/INFORMATION ON INGREDIENTS

Hazardous Ingredients	CAS#	%Range	ACGIH (TLV-TWA)	OSHA (PEL-TWA)	LD50 (Species/Route)	LC50 (Species)
Potassium Permanganate	7722-64-7	>97.5	0.2 mg/m3	5 mg/m3 Ceiling	780 mg/kg (rat/oral)	NE

3. HAZARDS IDENTIFICATION

Emergency overview: DANGER

Oxidizer – contact with other material may cause fire.

Route of exposure: Eye contact - Skin Contact - Inhalation - Ingestion

Eyes: Damaging to eye tissue on contact. It may cause severe burns that result in damage to the eye.

Skin: Momentary contact of solution at room temperature may be irritating to the skin, leaving brown stains. Prolonged contact is damaging to the skin. Concentrated solutions at elevated temperature and crystals are damaging to the skin.

Inhalation: Acute inhalation toxicity data are not available. However, airborne concentrations of potassium permanganate in the form of dust or mist may cause damage to respiratory tract.

Ingestion: If ingested may cause severe burns to mucous membranes of the mouth, throat, esophagus and stomach.

Medical conditions generally aggravated by overexposure: May cause further irritation of tissue, open wounds, burns or mucous membranes.

4. FIRST AID MEASURES

Yes: Immediately flush with large amounts of water for at least 15 minutes holding lids wide apart to ensure flushing of the entire surface. Do not attempt to neutralize chemically. Seek medical attention immediately.

Skin: Immediately wash contaminated areas with water. Remove contaminated clothing and footwear. Wash clothing and decontaminate footwear before reuse. Seek medical attention immediately if irritation is severe or persistent.

Inhalation: Remove person from contaminated area to fresh air. If breathing has stopped, resuscitate and administer oxygen if readily available. Seek medical attention immediately.

Ingestion: Never give anything by mouth to an unconscious or convulsing person. If person is conscious, give large quantities of water. Seek medical attention immediately.

Notes to physician: For inhalation, consider oxygen. Avoid gastric lavage or emesis. Decomposition products are alkaline. Insoluble decomposition product formed is brown colored manganese dioxide. Show the label and safety data sheet of the product to the doctor, if possible.

5. FIRE FIGHTING MEASURES

Flash Point (TCC): None - does not flash. **Explosive Limits:** Lower (LEL): Nonflammable Upper (UEL): Nonflammable

Thermal Decomposition Products: **Combustion:** Oxides of potassium, oxides of manganese. Fire may produce irritating, poisonous and/or corrosive fumes.

Fire and Explosion Hazards: Powerful oxidizing material. May decompose spontaneously if exposed to heat (275F/135C). May be explosive in contact with certain other chemicals (Section 10). May react violently with finely divided and readily oxidizable substances. Increases burning rate of combustible material.

Extinguishing Media: Use large quantities of water. Water will turn pink to purple when in contact with potassium permanganate. Dike to contain. Do not use dry chemicals, CO₂, Halon or foams, because they are not effective.

Fire Fighting Instructions: Wear self-contained breathing apparatus w/full protective clothing. Move container from fire area if it can be done without risk. Cool containers exposed to flames with water until well after the fire is out. Prevent runoff from fire control or dilution from entering streams, storm sewers, or drinking water supply. Dike fire control water for later disposal. Water runoff can cause environmental damage.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions: Keep unnecessary personnel away. Keep upwind. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Avoid inhalation of vapors and contact with skin and eyes. See section 8 for protective clothing.

Environmental precautions: Do not flush into or allow to enter storm drains, storm sewers, or watercourses. If accidental release into the environment occurs, inform the responsible authorities. Sanitary drains going to collection systems are okay.

Small Spills: Clean up spills immediately by sweeping or shoveling up the material. Do not return spilled material to the original container; transfer to a clean metal or plastic drum. Disposal of all materials shall be in full and strict compliance with all federal, state, and local regulations pertaining to permanganates.

Large Spills: Same as above.

To clean up potassium permanganate solutions, follow either of the following two options.

Option # 1: Dilute to approximately 6% with water, and then reduce with sodium thiosulfate, a bisulfite or ferrous salt solution. The bisulfite or ferrous salt may require some dilute sulfuric acid (10% w/w) to promote reduction. Neutralize with sodium carbonate to neutral pH, if acid was used. Decant or filter and deposit sludge in approved landfill. Where permitted, the sludge may be drained into sewer with large quantities of water.

Option # 2: Absorb with inert media like diatomaceous earth or inert floor dry, collect into a drum and dispose of properly. Does not use saw dust or other incompatible media. Disposal of all materials shall be in full and strict compliance with all federal, state, and local regulations pertaining to permanganates.

To clean contaminated floors, flush with abundant quantities of water into sewer, if permitted by federal, state, and local regulations. If not, collect water and treat as described above.

7. HANDLING AND STORAGE

Store in accordance with NFPA 430 requirements for Class II oxidizers. Store in cool dry area in tightly closed containers and in a well-ventilated place. Store away from incompatible materials listed in section 10. Do not mix with combustibles. Do not get this material in your eyes, on your skin, or on your clothing. Do not breathe mist or vapor. See section 8 for protective equipment. Wash hands thoroughly with soap and water after handling, and before eating or smoking. Wear proper protective equipment. Remove contaminated clothing. Spontaneous ignition may occur in contact with cloth or paper. When using, do not eat, drink or smoke.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Eyes: Face shield, goggles or safety glasses with side shields are recommended.

Skin: Chemical resistant gloves (rubber or plastic gloves) are recommended. Chemically resistant clothing covering arms and legs, and rubber or plastic apron should be worn. **Caution:** if clothing becomes contaminated, wash off immediately.

Respiratory: Where overexposure may exist, the use of an approved NIOSH/MSHA dust respirator is advised. Engineering or administrative controls should be implemented to control dust.

Respiratory Protection:

In cases where overexposure to dust may occur, the use of an approved NIOSH-MSHA dust respirator or an air supplied respirator is advised. Engineering or administrative controls should be implemented to control dust.

Measurement Element: Manganese (Mn)

10 mg/m³

Any particulate respirator equipped with an N95, R95, or P95 filter (including N95, R95, and P95 filtering face pieces) except quarter-mask respirators. The following filters may also be used: N99, R99, P99, N100, R100 or P100.

Any supplied-air respirator.

25 mg/m³

Any supplied-air respirator operated in a continuous-flow mode.

Any powered, air-purifying respirator with a high-efficiency particulate filter.

50 mg/m³

Any air-purifying, full-face piece respirator equipped with an N100, R100, or P100 filter.

Any supplied-air respirator with a tight-fitting face piece that is operated in a continuous-flow mode.

Any powered, air-purifying respirator with a tight-fitting face piece and a high-efficiency particulate filter.

Any self-contained breathing apparatus with a full face piece.

Any supplied-air respirator with a full face piece.

500 mg/m³

Any supplied-air respirator operated in a pressure-demand or other positive-pressure mode.

Emergency or planned entry into unknown concentrations or IDLH conditions -

Any self-contained breathing apparatus that has a full face piece and is operated in a pressure-demand or other positive-pressure mode.

Escape

Any air-purifying, full-face piece respirator equipped with an N100, R100, or P100 filter.

Engineering Controls: Provide sufficient area or local exhaust to maintain exposure below the TLV-TWA.

9. PHYSICAL AND CHEMICAL PROPERTIES

Boiling Point: NA **Specific Gravity:** NA **Vapor Pressure:** NA **Melting Point:** ** **Vapor Density:** NA
Evaporation Rate: NA **Solubility in Water:** 6 % (by weight) at 20C & 20 % (by weight) at 65C **pH:** NA

Appearance and Odor: Dark purple solid with metallic luster, odorless.

** Starts to decompose with evolution of oxygen (O₂) at temperatures above 150°C/302°F). Once initiated, the decomposition may be exothermic and self-sustaining.

10. STABILITY AND REACTIVITY

Conditions to avoid: Contact with incompatible materials or heat (302F/150C) could result in violent exothermic chemical reaction.

Hazardous Polymerization: Will not occur.

Hazardous Decomposition: When involved in fire, potassium permanganate may liberate irritating, poisonous and/or corrosive fumes. oxides of potassium and manganese may be formed..

Chemical Stability: Stable at normal conditions.

Incompatibility: Acids, peroxides, formaldehyde, anti-freeze, hydraulic fluids and all combustible organic or readily oxidizable inorganic materials including metal powders. With hydrochloric acid, chlorine gas is liberated. .

11. TOXICOLOGICAL INFORMATION

Carcinogenicity (NTP/IARC/OSHA): Not classified.

California Proposition 65: Does this product contain chemical(s) known to the State of California to cause cancer and/or to cause birth defects or other reproductive harm? None

12. ECOLOGICAL INFORMATION

Ecotoxicity: Very toxic to aquatic life. **Persistence and degradability:** Permanganate has a low estimated lifetime in the environment, being readily converted by oxidizable materials to insoluble MnO₂. **Mobility:** Miscible in water. **Bioaccumulation/Accumulation:** In non-reducing and non-acidic environments, MnO₂ is insoluble and has a very low bioaccumulative potential.

13. DISPOSAL CONSIDERATIONS

Consult your local, state and federal regulations for proper disposal guidelines. Disposal regulations may be different for each state and/or locality. Offer surplus and non-recyclable product or solutions to a licensed disposal company. Disposal of all materials shall be in full and strict compliance with all federal, state, and local regulations. This material and its container must be disposed of as hazardous waste. US EPA guidelines for the classification determination are listed in 40 CFR Parts 261.3. When it becomes a waste, potassium permanganate is considered a D001 hazardous (ignitable) waste. For disposal of potassium permanganate solutions, follow procedures in Section 6 and deactivate the permanganate to insoluble manganese dioxide. Dispose of it in a permitted landfill. Packaging materials must be triple rinsed to remove all residues prior to re-cycling or disposal as a non-hazardous waste.

14. TRANSPORT INFORMATION

DOT-Land USA: UN 1490, Potassium permanganate, 5.1, II

TDG: Available upon request.

UN: Available upon request.

15. REGULATORY INFORMATION

VOC (Volatile Organic Compounds): None

TSCA (Toxic Substances Control Act): No

SARA Title III Section 302 EHS: No

SARA Title III Section 311/312: Yes

SARA Title III Section 313 Toxic Chemicals: CAS 7722-64-7 Potassium permanganate listed

Drug Enforcement Administration (DEA) 21 CFR 1308.11-15): Not controlled.

WHMIS Classification: Controlled C, D2B

This product has been classified in accordance with the hazard criteria of the CPR (Controlled Products Regulations/ WHMIS) and the MSDS contains all the information required by the CPR.

16. OTHER INFORMATION

Read and follow all label directions and precautions before using this product. These products are intended for industrial and institutional use only. NOT FOR HOUSEHOLD USE OR RESALE. KEEP OUT OF REACH OF CHILDREN.

UNITED 976 UNITED CAIROX® Potassium Permanganate

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