



## CAIROX<sup>®</sup> POTASSIUM PERMANGANATE

ACS Reagent Grade Data Sheet - Cas Registry No. 7722-64-7

CAIROX ACS (American Chemical Society) Reagent Grade is recommended where the highest potassium permanganate (KMnO<sub>4</sub>) purity is required. Typical reagent grade applications include laboratories and electronics.

### ACS REAGENT GRADE

Assay:	Guaranteed KMnO <sub>4</sub> ≥ 99%
Insoluble Matter:	< 0.2%
Sulfate:	< 0.02%
Chloride:	< 0.005%
Mercury:	≤ 0.05 ppm

**Standards & Specifications:** Reagent Grade conforms to the ACS Specifications given in Reagent Chemicals, current edition.

### CHEMICAL/PHYSICAL DATA

Formula:	KMnO <sub>4</sub>
Formula Weight:	158.0 g/mol
Form:	Granular Crystalline
Specific Gravity:	2.703 g/cm <sup>3</sup>
Solid	1.020 g/mL
3% Solution	by weight, 20°C/4°C
Bulk Density:	Approximately 100 lb/ft <sup>3</sup>
Decomposition:	May start at 150°C/302°F

### DESCRIPTION

Crystals or granules are dark purple with a metallic sheen, sometimes with a dark bronze-like appearance.



### APPLICATIONS

- Oxidation & Synthesis
- Water Treatment
- Municipal Wastewater Treatment
- Industrial Wastewater Treatment
- Metal Surface Treatment
- Equipment Cleaning
- Purification of Gases
- Mining & Metallurgical
- Slag Quenching
- Food Processing

### HANDLING, STORAGE, & COMPATIBILITY

Protect containers against physical damage. When handling CAIROX ACS, respirators should be worn to avoid irritation of or damage to mucous membranes. Eye protection should also be worn when handling CAIROX ACS as a solid or in solution.

Store in accordance with NFPA 400 Hazardous Materials Code requirements in the United States.

CAIROX ACS is stable and will keep indefinitely if stored in a cool, dry area in closed containers. Concrete floors are preferred to wooden decks. To clean up spills and leaks, follow the steps recommended in the SDS. Be sure to use goggles, rubber gloves, and respirator when cleaning up a spill or leak.

Avoid contact with acids, peroxides, and all combustible organic or readily oxidizable materials including inorganic oxidizable materials and metal powders. With hydrochloric acid, chlorine gas is liberated. CAIROX ACS is not combustible, but will support combustion. It may decompose if exposed to intense heat. **Fires may be controlled and extinguished by using large quantities of water. Refer to the SDS for more information.**



## CORROSIVE PROPERTIES

CAIROX® potassium permanganate is compatible with many metals and synthetic materials. Natural rubbers and fibers are often incompatible. Solution pH and temperature are also important factors. The material must be compatible with either the acid or alkali also being used.

In neutral and alkaline solutions, potassium permanganate is not corrosive to iron, mild steel, or stainless steel; however, chloride corrosion of metals may be accelerated when an oxidant such as permanganate is present in solution. Plastics such as polypropylene, polyvinyl chloride Type I (PVC 1), epoxy resins, fiberglass reinforced plastic (FRP), Penton, Lucite, Viton A, and Hypalon are suitable. Teflon FEP and TFE, and Tefzel ETFE are best. Refer to Material Compatibility Chart.

Aluminum, zinc, copper, lead, and alloys containing these metals may be (slightly) affected by potassium permanganate solutions. Actual studies should be made under the conditions in which permanganate will be used.

## SHIPPING CONTAINERS

55.125 lb (25 kg) net, with handle, made of HDPE, weighs 2.9 lbs (1.3 kg). It is tapered to allow nested storage of empty drums, stands approximately 15.9 inches (40.4 cm) high and has a maximum diameter of 12.4 inches (31.5 cm).

Packaging weight has a tolerance of +/-1%

Packaging meets UN performance oriented packaging requirements.

## SHIPPING

CAIROX potassium permanganate is classified according to the U.S Department of Transportation (HMR 49 CFR Part 172) as an oxidizer.

**Proper Shipping Name:** Potassium Permanganate (RQ-100 lb/ 45.4 kg)

**Hazard Class:** Oxidizer

**Identification Number:** UN 1490

**Label Requirements:** Oxidizer

**Packaging Requirements:** 49 CFR Parts 100 to 199

## REPACKING

When potassium permanganate is repacked, the packing, markings, labels, and shipping conditions must meet applicable federal regulations. See Code of Federal Regulations-49, Transportation (parts 100-199) and Federal Hazardous Materials Substances Act, 15 U.S.C. 1261.

Permanganate products are not registered as a pesticide under the Federal Insecticide, Fungicide, and Rodenticide Act administered by U.S. EPA or similar state laws. Use as a pesticide is not government approved.



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