

Potassium Permanganate Free Flowing Grade Information Sheet

USAGE & DESCRIPTION

Potassium permanganate has a broad range of applications, from medical to water treatment.

CAP Remediation specializes in the application of potassium permanganate in soil and groundwater treatment.

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

SPECIFICATIONS

Assay

Guaranteed 97% KMnO₄

Particle Size

20% maximum retained on #425 micron
(formerly #40 U.S. Standard Sieve) 7% maximum through #75 micron
(formerly #200 U.S. Standard Sieve)

CAP Remediation's potassium permanganate is certified by the National Sanitation Foundation (NSF) to NSF/ANSI Standard 60: Drinking Water Treatment Chemicals - Health Effects.

Municipal Drinking Water
CAS Registry # 7722-64-7

CUSTOM BLENDING

CAP Remediation supplies potassium permanganate in custom, pre-blended solutions of 1-5% in bulk tankers or IBC totes.

This eliminates many of the health and safety issues associated with on-site mixing.

CHEMICAL & PHYSICAL PROPERTIES

Formula KMnO₄

Formula Weight 158.0 g/mol

Form Granular Crystalline

Specific Gravity

Solid 2.703 g/cm³

3% Solution 1.020 g/mL by weight, 20°C / 4°C

Bulk Density ~100 lb/ft³

Decomposition may start at 150 °C / 302 °F

PACKAGING

25 kg pail (55.125 lb) net, with handle, made of HDPE, weighs 2.1lbs (.95 kg). Dimensions are approximately 15.6 inches (39.7 cm) high with a maximum diameter of 12.3 inches (31.2 cm). They are tapered to allow nested storage of empty pails.

150 kg drum (330.75 lb) net, made of 22-gauge steel, weighs 25.3 lbs (11.5 kg). Dimensions are approximately 28.4 inches (72.2 cm) high and 19.7 inches (50.0 cm) in diameter.

Bulk bags/supersacks are available upon request.

When potassium permanganate is repackaged, all packaging and labels 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.

HANDLING & STORAGE

Always refer to the SDS for proper handling of potassium permanganate.

Respirators should be worn when handling potassium permanganate to avoid irritation of or damage to mucous membranes.

Eye protection should be worn when handling potassium permanganate both as a solid or in solution.

Potassium permanganate is stable and will keep indefinitely if stored in a cool, dry area in closed containers.

Protect containers against physical damage. Avoid contact with all combustible organic or readily oxidizable materials, including inorganic oxidizable materials and metal powders. Avoid contact with peroxides and acids.

Decomposes on heating. This produces toxic gases and irritating fumes. The substance is a strong oxidant. It reacts with combustible and reducing materials. This generates fire and explosion hazard. Reacts violently with powdered metals. This generates fire hazard.

For leaks, spills, or exposure, follow the steps recommended in the SDS and use rubber gloves, a respirator, and eye protection when cleaning up any spill or leak.

FREIGHT/SHIPPING

Potassium permanganate is classified as an oxidizer by PHMSA (Pipeline and Hazardous Materials Safety Administration, Department of Transportation, in 49 CFR Subchapter Hazardous Materials Regulation, Part 172.101 Hazardous Materials Table.

Potassium permanganate is shipped under Interstate Commerce Commission's (ICC) Tariff 19.

Proper Shipping Name Potassium Permanganate (RQ-100/45.4)

Hazard Class Oxidizer

Identification Number UN 1490

Label Requirements Oxidizer

Packaging Requirements 49 CFR Parts 100 to 199

COMPATIBILITY

Potassium permanganate is compatible with many metals and synthetic materials. Natural rubbers and fibers are often incompatible. Important factors pertaining to compatibility with potassium permanganate include temperature and solution pH. Materials used must be compatible with either the acid or alkali also being utilized.

Potassium permanganate is not corrosive to iron, mild steel, or stainless steel in neutral and alkaline solutions. 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 I), epoxy resins, fiberglass reinforced plastic (FRP), Penton, Lucite, Viton A, and Hypalon are suitable. Teflon FEP and TFE, and Tefzel ETFE are ideal. For further information, contact us or refer to a material compatibility chart.

Aluminum, zinc, copper, lead, and alloys containing these metals may be affected slightly by potassium permanganate solutions.