CAIROX® POTASSIUM PERMANGANATE

CAS Registry No. 7722-64-7 Technical Grade Data Sheet

Industrial Technical Grade is recommended where potassium permanganate is fed as a solution and where particle size is not critical.

INDUSTRIAL TECHNICAL GRADE

Assay Guaranteed 98% $KMnO_4$

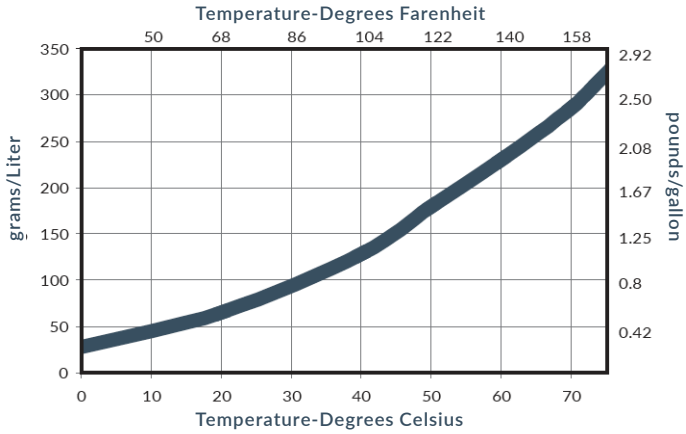
Technical Grade meets: Water Chemical Codex RMIC values

CHEMICAL/PHYSICAL DATA

Formula	$KMnO_4$
Formula Weight	158.0 g/mol
Form	Granular Crystalline
Specific Gravity	
Solid	2.703 g/cm^3
3% Solution	1.020 g/mL by weight, 20°C / 4°C
Bulk Density	Approximately 100 lb/ft^3
	Decomposition May start at 150 °C / 302 °F

SOLUBILITY IN DISTILLED WATER

Temperature		Solubility	
°C	°F	g/L	oz/gal
0	32	27.8	3.7
20	68	65.0	8.6
40	104	125.2	16.7
60	140	230.0	30.7
70	158	286.4	38.3
75	167	323.5	43.2



SHIPPING CONTAINERS

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

150 kg drum (330.75 lb.) net, made of 22-gauge steel, weighs 25.3 lbs. It stands approximately 28.4 inches high and is approximately 19.7 inches in diameter.

Packaging meets UN performance oriented packaging requirements. Packaging weight tolerance +/- 1%

DESCRIPTION

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

HANDLING, STORAGE & INCOMPATIBILITY

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

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

Potassium permanganate 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 Safety Data Sheet (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. Potassium permanganate 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

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 I), 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.

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.

SHIPPING

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

APPLICATIONS

Listed below are some of the many applications of potassium permanganate. Permanganate is a powerful oxidizing agent. The optimum condition under which it is to be used can be easily established through technical service evaluations or laboratory testing.

- Oxidation & Synthesis
- Metal Surface Treatment
- Equipment Cleaning
- Purification of Acids
- Purification of Gases
- Bleaching
- Mining & Metallurgical
- Slag Quenching
- Metal Salt Solution Purification
- Odor Control
- Desmearing/Etchback
- Food Processing
- Purification of Carbon Dioxide

CARUS®

Carus Europe
Calle Rosal 4, 1-B | Oviedo, Spain 33009 | Tel +34.985.785.513 | Fax +34.985.785.510

Carus Headquarters USA
315 Fifth Street | Peru, IL 61354 | Tel +1 (815) 223-1500 | 1(800) 435-6856 | Fax +1 (815) 224-6697
carusllc.com | salesmkt@carusllc.com