



CARUS EUROPE

## AQUOX® POTASSIUM PERMANGANATE ACS REAGENT GRADE

EINECS Reference No. 231-760-3, No. 025-002-9 CAS Registry No. 7722-64-7 Data Sheet

ACS (American Chemical Society) Reagent Grade is recommended where the highest potassium permanganate purity is required. Typical reagent grade applications include laboratories and electronics.

### ACS REAGENT GRADE

Assay:	Guaranteed $\leq 99.0\%$ $\text{KMnO}_4$
Water Insolubles, % m/m:	$\leq 0.2$
Chlorides:	$\leq 0.005\%$
Sulfates:	$\leq 0.02\%$
Mercury:	$\leq 0.05$ ppm
Standards & Specifications:	Reagent Grade conforms to the ACS Specifications given in Reagent Chemicals, current edition.

### CHEMICAL/PHYSICAL DATA

Formula:	$\text{KMnO}_4$
Formula Weight:	158.0 g/mol
Form:	Granular Crystalline
Specific Gravity:	
Solid	2.703 g/cm <sup>3</sup>
3% Solution	1.020 g/mL by weight, 20°C / 4°C
Bulk Density:	Approximately 100 lb/ft <sup>3</sup>
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*

For more information, refer to the Solubility Fact Sheet.

\*Extrapolated

### SHIPPING CONTAINERS

**25 kg pail (55.125 lb) 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).

**Special Packages** will be considered on request.

Packaging meets UN performance oriented packaging requirements.

### DESCRIPTION

Crystals or granules are dark purple with a metallic sheen, sometimes with a dark bronze-like appearance. ACS grade is gray due to an additive. Potassium permanganate has sweetish, astringent taste and is odorless.

### HANDLING, STORAGE & COMPATIBILITY

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 the European Fire Association in Europe for Class II oxidizers. Additional regulations in Europe are REACH (Regulation for Registration, Evaluation, Authorization and Restriction of Chemicals), and CLP (Classification, Labeling, Packaging). REACH is a regulation that increases the responsibility of the industry to manage the risks that the chemical may pose. For REACH registration numbers, refer to the eSDS. Check local regulations to ensure proper storage.

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 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 Safety Data Sheet (SDS) for more information.**



## CORROSIVE PROPERTIES

AQUOX® 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, AQUOX is not corrosive to iron, mild steel, or stainless steel; however, chloride corrosion of metals may be accelerated when an oxidant such as AQUOX 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 AQUOX solutions. Actual studies should be made under the conditions in which the product will be used.



## SHIPPING

Potassium Permanganate is classified as an oxidizer according to International Maritime Dangerous Goods Code (IMDG Code), Agreement Concerning the International Carriage of Dangerous Goods by road (ADR) and the Regulations concerning the International Carriage of Dangerous Goods by Rail (RID).

<b>Proper Shipping Name:</b>	Potassium Permanganate (RQ-100 lb/45.4 kg)
<b>Hazard Class:</b>	Oxidizer
<b>Identification Number:</b>	UN 1490
<b>Label Requirements:</b>	Oxidizer

## APPLICATIONS

Listed below are some of the many applications of AQUOX permanganate as 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 and Synthesis
- Municipal Wastewater Treatment
- Industrial Wastewater Treatment
- Metal Surface Treatment
- Equipment Cleaning
- Purification of Gases
- Mining and Metallurgical
- Slag Quenching
- Food Processing



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