CARUS EUROPE

AQUOX® POTASSIUM PERMANGANATE FREE-FLOWING GRADE

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

Free-Flowing grade is recommended where AQUOX potassium permanganate is subjected to high humidity conditions and where the material is to be dry fed through a chemical feeder or stored in a bin or hopper.

FREE-FLOWING GRADE

Assay: Guaranteed ≥97.5% $KMnO_4$

Weight Loss, % m/m: ≤0.5%

Particle Size:

20% maximum retained sieve 425 µ (ASTM 40)

7% maximum through sieve 75 µ (ASTM 200)

Standards & Specifications for Free-Flowing Grade:

EN-12672
DIN 19619
ANSI/NSF 60
KIWA-Product certification no. K83927–10mg/L max

Certified
Kosher Pareve

kiwa

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:	1.45-1.60 g/cm^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

DESCRIPTION

Crystals or granules are dark purple with a metallic sheen, sometimes with a dark bronze-like appearance. Free-Flowing grade is gray due to an additive. Potassium permanganate has sweetish, astringent taste and 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 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, 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 potassium 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 AQUOX solutions. **Actual studies should be made under the conditions in which the product will be used.**

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

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).

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

SHIPPING CONTAINERS

25 kg pail(1) **(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).

150 kg drum(1) **(330.75 lb.) net**, made of 22-gauge steel, weighs 25.3 lbs. (11.5 kg). It stands approximately 28.4 in. (72.2 cm) high and is approximately 19.7 in. (50.0 cm) in diameter.

1000 kg CYCLE BIN™(2) reusable container (3307 lb.) net

1000 kg FIBC (Flexible Intermediate Bulk Container)
100 x 100 x 65 CM high (39.4 x 39.4 x 25.6 inches)
Spout diameter is 35.5 cm or 14 inches
Spout length is 50 cm or 19.7 inches

Packaging Weight Tolerance +/-1%

Other containers may be available.

(1) Meets UN performance oriented packaging requirements.
(2) The CYCLE BIN meets DOT 56 or UN 11A Specifications.

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