



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

AQUOX® POTASSIUM PERMANGANATE FREE-FLOWING GRADE

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 $\geq 97.5\%$ KMnO_4

Water Insolubles, % m/m ≤ 1.0

Particle Size

20% maximum retained sieve 425 μ (ASTM 40)

7% maximum through sieve 75 μ (ASTM 200)

Moisture, %m/m < 0.5

Standards and Specifications

Free Flowing Grade meets:

AWWA Standard B603

EN-12672

DIN 19619

ANSI/NSF 60

KIWA- Product certification no. K83927 - 10mg/L max



CHEMICAL/PHYSICAL DATA

Formula KMnO_4

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 Approximately 1.45-1.60 g/cm³

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 lbs) net, with handle, made of HDPE, weighs 2.1 lbs. (.95 kg). It is tapered to allow nested storage of empty drums, stands approximately 15.6 inches (39.7 cm) high and has a maximum diameter of 12.3 inches (31.2 cm).

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

1000 kg CYCLE BIN™ net,

Special Packages will be considered on request.

Packages from 25 kg to 150 kg have a weight tolerance of + - 0.3 kg, CYCLE BIN's and Super Sacks have a tolerance of + - 30 kg.

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. AQUOX has a sweetish, astringent taste and is odorless.

HANDLING, STORAGE, AND INCOMPATIBILITY

Protect containers against physical damage. When handling AQUOX, 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.

AQUOX 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. AQUOX 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.



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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

AQUOX is classified by the Hazardous Materials Transportation Board (HMTB) as an oxidizer. It 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

Sections: 173.152, 173.153, 173.194

Shipping Limitations:

Minimum quantities:

Rail car: See Tariff for destination

Truck: No minimum

APPLICATIONS

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