



CAIROX[®] CR

Extruded Potassium Permanganate

EC- SAFETY DATA SHEET according to Regulation (EC) № 1907/2006 of the European Parliament and of the Council, of 18 December 2006 concerning REACH

Material Safety Data Sheet
Page 1 of 7

Section 1 Chemical Product and Company Identification

MANUFACTURER'S NAME: Carus Corporation	TELEPHONE NUMBER FOR INFORMATION: (815) 223-1500
MANUFACTURING FACILITY: Carus Corporation 1500 Eighth Street P. O. Box 1500 LaSalle, IL 61301	CHEMTREC TELEPHONE NO. (800) 424-9300 EMERGENCY TELEPHONE NO. (800) 435-6856

Section 2 Hazards Identification

Eye Contact: CAIROX[®]-CR is damaging to eye tissue on contact. It may cause severe burns that result in damage to the eye.

Inhalation: Acute inhalation toxicity data are not available. However, airborne concentrations of CAIROX[®]-CR in the form of dust or mist may cause damage to respiratory tract.

Skin Contact: Contact at room temperature may be irritating to the skin, leaving brown stains. Concentrated solutions at elevated temperature are damaging to the skin.

Ingestions: CAIROX[®]-CR, if swallowed, may cause severe burns to mucous membranes of the mouth, throat, esophagus and stomach.

Section 3 Composition/Information on Ingredients

Material or Component	Cas No.	%	Hazard Data
Potassium Permanganate	7722-64-7	80% min. KMnO ₄	PEL-C 5 mg Mn per cubic meter of air TLV-TWA 0.2 mg Mn per cubic meter of air
Crystalline Quartz	14808-60-7	<0.2	PEL 0.1 mg/M ³

Section 4 First Aid Measures

Eyes: Immediately flush eyes with large amounts of water for at least 15 minutes holding lids apart to ensure flushing the entire surface. Do not attempt to neutralize chemically. Seek medical attention immediately. Note to physician: Soluble decomposition products are alkaline. Insoluble decomposition product is manganese dioxide.

Skin: Immediately wash contaminated areas with large amounts of water. Remove contaminated clothing and footwear. Wash clothing and decontaminate footwear before reuse. Seek medical attention immediately if irritation is severe or persistent.

Inhalation: Remove person from contaminated area to fresh air. If breathing has stopped, resuscitate and administer oxygen if readily available. Seek medical attention immediately.

Ingestion: Never give anything by mouth to an unconscious or convulsing person. If person is conscious, give large quantities of water. Seek medical attention immediately.



CAIROX[®] CR

Extruded Potassium Permanganate

EC- SAFETY DATA SHEET according to Regulation (EC) № 1907/2006 of the European Parliament and of the Council, of 18 December 2006 concerning REACH

Material Safety Data Sheet
Page 2 of 7

Section 5 Fire Fighting Measures

NFPA*HAZARD SIGNAL

Health Hazard (less than 1 hour exposure) 1 = Materials which under fire conditions would give off irritating combustion products. Materials which on the skin could cause irritation.

Flammability Hazard 0 = Materials that will not burn.

Reactivity Hazard 0 = Materials which in themselves are normally stable, even under fire exposure conditions, and which are not reactive with water.

Special Hazard OX = Oxidizer

*National Fire Protection Association 704

FIRST RESPONDERS:

Wear protective gloves, boots, goggles, and respirator. In case of fire, wear positive pressure breathing apparatus. Approach site of incident with caution. Use 2000 Emergency Response Guide book (103-ORS-0), Research and Special Programs Administration U.S. Department of Transportation. Guide No. 140.

FLASHPOINT None

FLAMMABLE OR EXPLOSIVE LIMITS Lower: Nonflammable Upper: Nonflammable

EXTINGUISHING MEDIA Use large quantities of water. Water will turn pink to purple if in contact with CAIROX[®]-CR. Dike to contain. Do not use dry chemicals, CO₂, Halon[®] or foams. Noncombustible, but it supports and enhances combustion of combustible material.

SPECIAL FIREFIGHTING PROCEDURES If material is involved in fire, flood with water. Cool all affected containers with large quantities of water. Apply water from as far a distance as possible. Wear self-contained breathing apparatus and full protective clothing.

UNUSUAL FIRE AND EXPLOSION HAZARDS Oxidizing material. May decompose spontaneously if exposed to intense heat (150°C/302°F) with evolution of gaseous oxygen. May undergo rapid exothermic reaction when in contact with certain other chemicals (Section 10). May react with finely divided and readily oxidizable substances. Increases burning rate of combustible material.



CAIROX[®] CR

Extruded Potassium Permanganate

EC- SAFETY DATA SHEET according to Regulation (EC) № 1907/2006 of the European Parliament and of the Council, of 18 December 2006 concerning REACH

Material Safety Data Sheet
Page 3 of 7

Section 6 Accidental Release Measures

STEPS TO BE TAKNE IF MATERIAL IS RELEASED OR SPILLED

Clean up spills immediately by sweeping or scooping up the material. Do not return spilled material to the original container. Transfer to a clean metal drum. EPA banned the land disposal of D001 ignitable waste oxidizers. These wastes must be deactivated by reduction. To clean floor, flush with abundant quantities of water into sewer, if permitted by federal, state and local regulations. If not permitted, collect water and treat chemically (Section 13).

PERSONAL PRECAUTIONS

Personnel should wear protective clothing suitable for the task. Remove all ignition sources and incompatible materials before attempting clean-up.

Section 7 Handling and Storage

WORK/HYGENIC PRACTICES

Wash hands thoroughly with soap and water after handling CAIROX[®]-CR, and before eating or smoking. Wear proper protective equipment. Remove contaminated clothing.

VENTILATION REQUIREMENTS

Provide sufficient area or local exhaust to maintain exposure below the TLV-TWA for manganese.

CONDITIONS FOR SAFE STORAGE

Store in accordance with NFPA 430 requirements for Class II oxidizers. Protect containers against physical damage. Store in cool dry area in closed containers, Segregate from acids, peroxides, formaldehyde and all combustible, organic, or easily oxidizable materials, including antifreeze and hydraulic fluid.

Section 8 Exposure Controls/Personal Protection

Respiratory Protection:

In the case where overexposure may exist, the use of an approved NIOSH/MSHA dust respirator is advised. Engineering or administrative controls should be implemented to control dust.

Eye Protection:

Faceshield, goggles, or safety glasses with side shields should be worn. Provide eyewash in working area.

Protective Gloves:

Rubber or plastic gloves should be worn.

Other Protective Clothing or Equipment:

Regular work clothing covering arms and legs and a rubber or plastic apron should be worn.



CAIROX[®] CR

Extruded Potassium Permanganate

EC- SAFETY DATA SHEET according to Regulation (EC) № 1907/2006 of the European Parliament and of the Council, of 18 December 2006 concerning REACH

Material Safety Data Sheet
Page 4 of 7

Section 9 Physical/Chemical Characteristics

Appearance and Odor: Dark purple solid, odorless

Boiling Point, 760 mm Hg: N/A

Specific Gravity: 1.9 – 2.2 @ 20°C (68°)

Vapor Pressure (mm Hg): N/A

Vapor Density (AIR = 1): N/A

Solubility in % By Solution Water: Soluble in water at a controlled rate.

Percent Volatile by Volume: N/A

Evaporation Rate (Butyl Acetate = 1): N/A

Melting Point: Starts to decompose with evolution of oxygen (O₂) at temperatures above 150°C (302°F). Once initiated, the decomposition may be exothermic and self-sustaining.

Oxidizing Properties: Oxidizer

Section 10 Stability and Reactivity

Solubility: Under normal conditions, the material is stable.

Conditions to avoid: Contact with incompatible materials or heat (>150°C/302°F).

Incompatible Materials: Acids, peroxides, formaldehyde, anti-freeze, hydraulic fluids, and all combustible organic or readily oxidizable materials including metal powders. With hydrochloric acid, chlorine gas is liberated.

Hazardous Decomposition Products: When involved in fire, potassium permanganate may form corrosive fumes.

Conditions Contributing to Hazardous Polymerization: Material is not known to polymerize.



CAIROX[®] CR

Extruded Potassium Permanganate

EC- SAFETY DATA SHEET according to Regulation (EC) № 1907/2006 of the European Parliament and of the Council, of 18 December 2006 concerning REACH

Material Safety Data Sheet
Page 5 of 7

Section 11 Health Hazard Data

Potassium Permanganate: Acute oral LD₅₀ (rat) = 780 mg/kg Male (14 days); 525 mg/kg Female (14 days)
.....The fatal adult human dose by ingestion is estimated to be 10 grams. (Ref. Handbook of
.....Poisoning: Prevention, Diagnosis & Treatment, Twelfth Edition)

Effects of Overexposure:

Acute Overexposure

Irritating to body tissue with which it comes into contact.

Chronic Overexposure

No known cases of chronic poisoning due to CAIROX[®]-CR have been reported. Prolonged exposure, usually over many years, to heavy concentrations of manganese oxides in the form of dust and fumes, may lead to chronic manganese poisoning, chiefly involving the central nervous system.

Carcinogenicity

CAIROX[®]-CR contains <0.2% crystalline quartz.

Medical Conditions Generally Aggravated by Exposure

CAIROX[®]-CR will cause further irritation of tissue, open wounds, burns or mucous membranes.

Registry of Toxic Effects of Chemical Substances
RTECS #SD6476000 (Potassium Permanganate)

Section 12 Ecological Information

Entry to the Environment

CAIROX[®]-CR has a low estimated lifetime in the environment, being readily converted by oxidizable materials to insoluble MnO₂.

Bioconcentration Potential

In non-reducing and non-acidic environments MnO₂ is insoluble and has a very low bioaccumulative potential.

Aquatic Toxicity (Potassium Permanganate)

Rainbow trout, 96 hour LC₅₀: 1.80 mg/L

Bluegill sunfish, 96 hour LC₅₀: 2.3 mg/L



CAIROX[®] CR

Extruded Potassium Permanganate

EC- SAFETY DATA SHEET according to Regulation (EC) № 1907/2006 of the European Parliament and of the Council, of 18 December 2006 concerning REACH

Material Safety Data Sheet
Page 6 of 7

Section 13 Disposal Consideration

Deactivation of D001 Ignitable Waste Oxidizers by Chemical Reduction

Reduce CAIROX[®]-CR in aqueous solutions with sodium thiosulfate (Hypo), or sodium bisulfite or ferrous salt solution. The bisulfate or ferrous salt may require some dilute sulfuric acid to promote rapid reduction. If acid was used, neutralize with sodium bicarbonate to neutral pH. Decant or filter, and mix the sludge with sodium carbonate and deposit in an approved landfill. Where permitted, the sludge can be drained into sewer with large quantities of water. Use caution when reacting chemicals. Contact Carus chemical Company for additional recommendations.

Section 14 Transport Information

U.S. Department of Transportation Information:

Proper Shipping Name: 79 CFR 172.101.....Oxidizing solid, n.o.s. (potassium permanganate)
ID Number: 49 CFR 172.101.....UN 1479
Hazard Class: 49 CFR 172.101.....Oxidizer
Division: 49 CFR 172.101.....5.1
Packaging Group: 49 CFR 172.101.....III

Section 15 Regulatory Information

TSCA Listed in the TSCA Chemical Substance Inventory (Potassium Permanganate)

CERCLA Hazardous Substance

Reportable Quantity: RQ – 100 lb (Potassium Permanganate)
40 CFR 116.4; 40 CFR 302.4

RCRA Oxidizers such as CAIROX[®]-CR meet the criteria of ignitable waste. 40 CFR 261.21

SARA Title III Information

Section 302 Extremely hazardous substance: Not listed
Section 311/312 Hazard categories: Fire, acute and chronic toxicity
Section 303 CAIROX[®]-CR contains 80% Manganese Compound as part of the chemical structure
(manganese compounds CAS Reg. No. N/A) and is subject to the reporting requirements of Section 303 of Title III, Superfund Amendments and Reauthorization Act of 1986 and 40 CFR 372.

State Lists Michigan Critical Materials Register: Not listed
California Proposition 65: Not listed
Massachusetts Substance List: 5 F8 (Potassium Permanganate)

Foreign Lists Canadian Domestic Substances List (DSL) Listed (Potassium Permanganate)
Canadian Ingredient Disclosure List Listed (Potassium Permanganate)
European Inventory of Existing Chemical Substances (EINECS) 2317603 (Potassium Permanganate)



CAIROX[®] CR

Extruded Potassium Permanganate

EC- SAFETY DATA SHEET according to Regulation (EC) № 1907/2006 of the European Parliament and of the Council, of 18 December 2006 concerning REACH

Material Safety Data Sheet
Page 7 of 7

Section 16 Other Information

NIOSH	National Institute for Occupational Safety and Health
MSHA	Mine Safety and Health Administration
OSHA	Occupational Safety and Health Administration
NTP	National Toxicology Program
IARC	International Agency for Research on Cancer
TSCA	Toxic Substances Control Act
CERCLA	Comprehensive Environmental Response, Compensation and Liability Act of 1980
RCRA	Resource Conservation and Recovery Act
SARA	Superfund Amendments and Reauthorization Act of 1986
PEL-C	OSHA Permissible Exposure Limit-OSHA Ceiling Exposure Limit
TLV-TWA	Threshold Limit Value – Time Weighted Average (American Conference of Governmental Industrial Hygienists)


Chithambarathanu Pillai (S.O.F.)
April 2008

The information contained herein is accurate to the best of our knowledge. However, data, safety standards and government regulations are subject to change and, therefore, holders and users should satisfy themselves that they are aware of all current data and regulations relevant to their particular use of product. CARUS CORPORATION DISCLAIMS ALL LIABILITY FOR RELIANCE ON THE COMPLETENESS OR ACCURACY OR THE INFORMATION INCLUDED HEREIN. CARUS CORPORATION MAKES NO WARRANTY, EITHER EXPRESS OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, ANY WARRANTIES OF MERCHANTABILITY OR FITNESS FOR PARTICULAR USE OR PURPOSE OF THE PRODUCT DESCRIBED HEREIN. All conditions relating to storage, handling, and use of the product are beyond the control of Carus Corporation, and shall be the sole responsibility of the holder or user of the product.

CARUS CORPORATION IS A DIVISION OF CARUS CORPORATION, 315 5TH STREET, PERU, ILLINOIS 61354



DIVISION OF CARUS CORPORATION

 is a registered service mark of Carus Corporation. CAIROX[®] is a registered trademark of Carus Corporation. CARUS[®] is a registered trademark of Carus Corporation. Responsible Care[®] is a registered service mark of the American Chemistry Council.