

Libox Chem (India) Pvt. Ltd.

112, Kundaim Industrial Estate, Kundaim, Goa – 403115, India. Telefax: +91-832-2396145

MATERIAL SAFETY DATA SHEET Potassium Permanganate

1. Product Information

Product Name: Potassium Permanganate

Synonyms: Permanganic acid, potassium salt; Condy's Crystals; Chameleon Mineral; Permanganate of Potash

CAS No: 7722-64-7

Molecular Wt: 158.03 g/mol.

Molecular Formula: KMnO_4

2. Ingredient Information:

<u>Ingredient</u>	<u>CAS No:</u>	<u>Concentration</u>	<u>Hazardous</u>
KMnO_4	7722-64-7	>98%	Yes
Others	-----	As per A.R.	Yes

3. Hazard Identification:

Very Strong Oxidizer. Contact with combustible material may cause fire. May cause skin burns if in contact for a long time. Harmful if swallowed or inhaled.

Potential Health Effects

Inhalation:

Causes irritation to the respiratory tract. Symptoms may include coughing, shortness of breath.

Ingestion:

Intake of solid or high concentrations causes severe distress of gastro-intestinal system with possible burns; shock with fall of blood pressure. May be fatal. Ingestion of concentrations up to 1% causes burning of the throat, nausea, vomiting, and abdominal pain; 2-3% causes anemia and swelling of the throat with possible suffocation; 4-5% may cause kidney damage.

Skin Contact:

Dry crystals and concentrated solutions are caustic causing redness, severe burns, brown stains in contact area and possible hardening of outer skin layer. May cause Dermatitis. Diluted solutions are only mildly irritating to the skin.

Eye Contact:

Eye contact with crystals and concentrated solutions causes severe irritation, redness, blurred vision and can cause severe damage, possibly permanent.

Chronic Exposure:

Chronic manganese poisoning can result from excessive inhalation exposure to manganese dust and involves impairment of the central nervous system. Early symptoms include sluggishness, sleepiness, and weakness in the legs.

4. First Aid Measures:

After Inhalation: Expose to fresh Air. Give artificial respiration. Consult a physician.

After Skin Contact: Wash off immediately with water for about 15-20 mins. Remove stained clothing. Consult a physician.

After ingestion: If swallowed do not induce vomiting (due to risk of perforation!). Drink plenty of water. Consult a physician.

After eye contact: Flush eyes with plenty of water for at least 15 minutes with eyelid held wide open. Consult an Ophthalmologist immediately.

5. Fire Fighting Measures:

Fire: Generally not explosive, but a very strong oxidizer. May cause fire if combustible materials are kept in vicinity. Contact with oxidizable substance may cause violent combustion.

Explosion: Strong oxidants may explode if exposed to fire, heat or friction. Contact with oxidizable substance may cause violent combustion. Sealed containers may explode if heated.

Fire Extinguishing Media: Use water to cool down flames and spray water to create blanket on the fire exposed areas. Other types of extinguishing media are not much effective. Don't let the fire fighting water to run-off in sewers or seep into the ground.

6. Accidental Release Measures:

Avoid Contact with the substance. Ventilate the area of spill. Do not allow to enter the sewerage system. Clean up the spills in a manner that do not allow spreading off the dusts or vapors into air.

7. Handling and storage:

Keep the material in air-tight containers, dry, cool and well ventilated area. Keep off from any sources of heat or ignition.

8. Exposure Control / Personal Protection:

Exposure limits: PEL 0.5mg/m³ Ceiling for manganese compounds as Mn
TLV 0.2mg/m³ for manganese, elemental and inorganic compounds as Mn

PPE:

PPE should be selected specifically as per the requirements of the working place.

Skin Protection: Use impervious protective clothing, including boots, gloves, lab coat, apron or coveralls, as appropriate.

Face / Eye covers: Use chemical safety goggles or Full face shields where risk of splashes or dusting is there. Maintain quick drenches and eye splash fountains at appropriate location.

9. Physical and Chemical Properties:

Appearance: Dark Purple Crystals with bluish Metallic Sheen.

State: Solid

Odor: Odorless

Melting Point: >240 °C, accompanied with decomposition.

Boiling Point: Not applicable.

Density: 2.703 g/c.c

Vapour Pressure: No information found.

Ignition Temperature: No information found

Explosion Limits: No information found

10. Stability and Reactivity:

Stable under normal conditions of use and storage. Avoid Strong Heating. Keep out of contact of oxidizable substances, organic substance, acids, conc. Alcohols, peroxides etc. Toxic metal fumes occur when heated to decomposition.

11. Toxicology Information:

1.Acute Toxicity

Ingestion:

LD₅₀ (oral, rat): 750 mg/Kg.

Investigated as a mutagen, reproductive effector.

SKIN CONTACT:

LD 50 dermal no data available.

The product may be absorbed into the body through the skin. Major effects of exposure: severe irritation, brown staining of skin.

INHALATION:

LC 50 inhal. no data available,

The product may be absorbed into the body by inhalation. Major effects of exposure: respiratory disorder, cough.

Note: Max Usage Level for Potable water treatment should not exceed 50 mg/l.

The finished drinking water shall be monitored to ensure that levels of manganese do not exceed 0.05 mg/L.

2. CHRONIC TOXICITY

No known cases of chronic poisoning due to permanganates 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.

3. CARCINOGENICITY

Potassium permanganate has not been classified as a carcinogen by ACGIH, NIOSH, OSHA, NTP, or IARC.

4. MEDICAL CONDITIONS GENERALLY AGGRAVATED BY EXPOSURE

Potassium permanganate solution will cause further irritation of tissue, open wounds, burns or mucous membranes.

12. Ecological Information:

Environmental Fate: No information found.

Environmental Toxicity:

Dangerous to the environment. Very toxic to aquatic organisms; may cause long term adverse effects in the aquatic environment.

13. Disposal Considerations:

Chemical and Packaging must be disposed of in accordance with the country specific and local disposal laws. The material that cannot be recovered for recycling must be handled as hazardous waste and must be sent to an approved waste disposal facility.

14. Transport Information:

Domestic (Land, D.O.T.)

Proper Shipping Name: POTASSIUM PERMANGANATE

Hazard Class: 5.1

UN/NA: UN1490

Packing Group: II

International (Water, I.M.O.)

Proper Shipping Name: POTASSIUM PERMANGANATE

Hazard Class: 5.1

UN/NA: UN1490

Packing Group: II

15. Regulatory Information:

Labeling

Symbol

O
Xn
N

Oxidizer
Harmful
Dangerous to the Environment



Xn



N



O

R- Phrase

08
22
50/53

Contact with combustible material may cause fire
Harmful if swallowed
Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

S- Phrase

(2)
60
61

Keep out of the reach of children
This material and its container must be disposed of as hazardous waste.
Avoid release to the environment.
Refer to special instructions/safety data sheet

16. Other Information:

Label Hazard Warning:

DANGER! STRONG OXIDIZER. CONTACT WITH OTHER MATERIAL MAY CAUSE FIRE. CORROSIVE. CAUSES BURNS TO ANY AREA OF CONTACT. HARMFUL IF SWALLOWED OR INHALED.

Safety Phrases:

S17 S26 S36 S37 S39 S45.

Label First Aid:

In case of contact, immediately flush eyes or skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Wash clothing before reuse. If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. If swallowed, DO NOT INDUCE VOMITING. Give large quantities of water. Never give anything by mouth to an unconscious person. In all cases get medical attention immediately.

Disclaimer:

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