



# MATERIAL SAFETY DATA SHEET

## POTASSIUM PERMANGANATE 0.1 N

### 1. Chemical Product and Company information.

**Product name:** Potassium Permanganate 0.1N

**Contact Information:**

Radchem cc  
PO Box 166982  
Brackendowns  
Alberton 1454  
Telephone : **011 867 3726 / 2864**

### 2. Hazard Identification

Hazardous in case of skin contact (irritant), of eye contact (irritant), of ingestion. Slightly hazardous in case of skin contact (permeator), of inhalation (lung sensitizer). Non-corrosive for lungs.

### 3. Composition / information on ingredients

**CAS #:** Mixture

**Synonym:** Potassium Permanganate, 0.1 N solution

**Chemical Name:** Not applicable

**Chemical Formula:** Not applicable

### 4. First Aid Measures

**Eye Contact:** Check for and remove any contact lenses. In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Cold water may be used. Get medical attention immediately.

**Skin Contact:** In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Cover the irritated skin with an emollient. Cold water may be used. Wash clothing before reuse. Thoroughly clean shoes before reuse. Get medical attention immediately.

**Serious Skin Contact:** Wash with a disinfectant soap and cover the contaminated skin with an anti-bacterial cream. Seek medical attention.

**Inhalation:** If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention immediately.



**Serious Inhalation:** Not available

**Ingestion:** Do NOT induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. If large quantities of this material are swallowed, call a physician immediately. Loosen tight clothing such as a collar, tie, belt or waistband.

**Serious Ingestion:** Not available

## **5. Fire-fighting measures**

**Flammability of the Product:** Non-flammable.

**Fire Hazards in Presence of Various Substances:** combustible materials, metals, organic material.

**Explosion Hazards in Presence of Various Substances:** Non-explosive in presence of open flames and sparks, of shocks

**Fire Fighting Media and Instructions:** Not applicable

**Special Remarks on Fire Hazards:** Spontaneously flammable on contact with ethylene glycol. Potassium Permanganate being conveyed through propylene tube ignited the tube. When solid hydroxylamine is brought into contact with solid potassium permanganate, Is immediately preceded by a flame. Potassium permanganate decomposes hydrogen trisulphide so rapidly that sufficient heat is liberated to ignite the trisulphide. When Antimony or arsenic and solid potassium permanganate are ground together, the metals ignite. (Potassium Permanganate)

**Special Remarks on Explosion Hazards:** Take care in handling as explosions may occur if it is brought in contact with organic or other readily oxidizable substances, either in solution or in dry state. Explosive in contact with sulphuric acid or hydrogen peroxide. Potassium permanganate + acetic acid or acetic anhydride can explode if permanganate is not kept cold. Explosions can occur when permanganates come on contact with benzene, carbon disulfide, diethyl ether, ethyl alcohol, petroleum, or organic matter. Contact with glycerol may produce explosion. Crystals of potassium permanganate explode vigorously when ground with phosphorous. A mixture of .5% potassium permanganate + ammonium nitrate explosive caused an explosion 7 hrs. later. Addition of Potassium permanganate + dimethyl formamide to give a 20% solution led to an explosion after 5 min. During a preparation of chlorine by addition of the concentrated acid (Hydrochloric acid) to solid potassium permanganate, a sharp explosion occurred on one occasion. (Potassium permanganate)

## **6. Accidental release measures**

**Small Spill:** Dilute with water and mop up, or absorb with an inert dry material and place in an appropriate waste disposal container. Finish cleaning by spreading water on the contaminated surface and dispose of according to local and regional authority requirements.

**Large Spill:** Absorb with an inert material and put the spilled material in an appropriate waste disposal. Finish cleaning by spreading water on the contaminated surface and allow to evacuate through the sanitary system.

## **7. Handling and storage**

**Precautions:** Keep locked up. Do not breathe gas/fumes/vapour/spray. Wear suitable protective clothing. In case of insufficient ventilation, wear suitable respiratory equipment. If you feel unwell, seek medical attention and show the label when possible. Avoid contact with skin and eyes.

**Storage:** Keep container tightly closed. Keep container in a cool, well-ventilated area.

## **8. Exposure controls/personal protection**

**Engineering Controls:** Provide exhaust ventilation or other engineering controls to keep the airborne concentrations of vapours below their respective threshold limit value.



**Personal Protection:** Splash goggles. Lab coat. Vapour respirator. Be sure to use an approved/certified respirator or equivalent. Gloves.

**Personal Protection in Case of a Large Spill:** Splash goggles. Full suit. Vapour respirator. Boots. Gloves. A self contained breathing apparatus should be used to avoid inhalation of the product. Suggested protective clothing might not be sufficient; consult a specialist BEFORE handling this product.

### **9. Physical and chemical properties**

**Physical state and appearance:** Liquid

**Odour:** Odourless

**Taste:** Not available

**Colour:** Dark-purple red (Dark)

**Boiling Point:** The lowest known value is 100°C (Water)

**Melting Point:** Not available

**Critical Temperature:** Not available

**Specific Gravity:** The only known value is 1 (Water = 1) (Water)

**Vapour Density:** The highest known value is 0.62 (Air = 1) (Water)

**Volatility:** Not available

**Odour Threshold:** Not available

**Ionicity (in Water):** Not available.

**Dispersion Properties:** See solubility in water, methanol, and acetone.

**Solubility:** Easily soluble in cold water, hot water, methanol, acetone

### **10. Stability and reactivity**

**Stability:** The product is stable.

**Instability Temperature:** Not available.

**Conditions of Instability:** Incompatible materials

**Incompatibility with various substances:** Slightly reactive to reactive with reducing agents, combustible materials, organic materials, metals, acids.

**Corrosivity:** Non-corrosive in presence of glass.

**Special Remarks on Reactivity:** It is a powerful oxidizing agent. Incompatible with reducing agents, acids, formaldehyde, ammonium nitrate, dimethyl formamide, glycerol, combustible materials, alcohols, arsenites, bromides, iodides, charcoal, organic substances, ferrous or mercurous salts, hypophosphites, hyposulfites, sulphites, peroxides, oxalates, ethylene glycol, Manganese salts in air oxidize the toxic sulphur dioxide to more toxic sulphur trioxide. Can react violently with most metal powders, ammonia, ammonium salts, phosphorous, many finely divided organic compounds (materials), flammable liquids, acids, sulphur. (Potassium permanganate)

**Special Remarks on Corrosivity:** Not available

**Polymerization:** Will not occur.



## **11. Toxicological information**

**Routes of Entry:** Absorbed through skin. Eye contact.

**Toxicity to Animals:** LD50: Not available. LC50: Not available

**Chronic Effects on Humans:** MUTAGENIC EFFECTS: Mutagenic for bacteria and/or yeast. [Potassium permanganate Reagent, Technical, & USP]. Contains material which may cause damage to the following organs: central nervous system (CNS).

**Other Toxic Effects on Humans:** Hazardous in case of skin contact (irritant), of ingestion, . Slightly hazardous in case of skin contact (permeator), of eye contact (irritant), of inhalation (lung sensitizer, lung).

**Special Remarks on Toxicity to Animals:** Not available

**Special Remarks on Chronic Effects on Humans:** May cause adverse reproductive effects (Male and Female fertility) based on animal data. May affect genetic material (mutagenetic) based on animal data. (Potassium permanganate)

**Special Remarks on other Toxic Effects on Humans:** Acute Potential Health effects: Causes skin irritation. Skin contact can cause brown stains in the area and possible hardening of the outer layer. Eyes: Causes eye irritation. Inhalation: May be harmful if inhaled. May cause respiratory tract and mucous membrane irritation. Ingestion: Causes digestive (gastrointestinal) tract irritation with nausea, vomiting. May affect respiration (hypoxia, dyspnoea), cardiovascular system (hypertension, hypotension, tachycardia), liver (hepatitis, jaundice, hepatocellular necrosis), blood (methemoglobinemia), urinary system (renal failure, albuminuria, hematuria, proteinuria, chemical burns), behaviour/central nervous system(somnolence, headache, dizziness, tremor, paresthesia, fatigue, and even coma) Chronic Acute Potential Health Effects: Ingestion: it is a central nervous system poison and can affect the central nervous system Skin: Repeated prolonged contact may cause defatting and dermatitis

## **12. Ecological information**

**Ecotoxicity:** Not available

**BOD5 and COD:** Not available

**Products of Biodegradation:** Possibly hazardous short term degradation products are not likely. However, long term degradation products may arise.

**Toxicity of the Products of Biodegradation:** The product itself and its products of degradation are not toxic.

**Special Remarks on the Products of Biodegradation:** Not available

## **13. Disposal considerations**

**Waste Disposal:** Waste must be disposed of in accordance with federal, state and local environmental control regulations.

## **14. Transport information**

**DOT Classification:** Not a DOT controlled material

**Identification:** : Not applicable

**Special Provisions for Transport:** Not available

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