



LABORATORY CHEMICALS AND CONSUMABLES

# MATERIAL SAFETY DATA SHEET

## MERCURIC CHLORIDE

### 1. Chemical Product and Company information.

**Product name:** Mercuric Chloride

**Contact Information:**

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

### 2. Hazard Identification

Extremely hazardous in case of ingestion, of inhalation. Very hazardous in case of skin contact (irritant, permeator), of eye contact (irritant). Corrosive to eyes and skin. The amount of tissue damage depends on length of contact. Eye contact can result in corneal damage or blindness. Skin contact can produce inflammation and blistering. Inhalation of dust will produce irritation to gastro-intestinal or respiratory tract, characterized by burning, sneezing and coughing. Severe over-exposure can produce lung damage, choking, unconsciousness or death. Inflammation of the eye is characterized by redness, watering, and itching. Skin inflammation is characterized by itching, scaling, reddening, or, occasionally, blistering.

### 3. Composition / information on ingredients

**CAS #:** 7487-94-7

**Synonym:** Calochlor; Mercury (II) Chloride; Bichloride of Mercury

**Chemical Name:** Mercuric chloride

**Chemical Formula:** HgCl<sub>2</sub>

### 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 immediate 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:** Evacuate the victim to a safe area as soon as possible. Loosen tight clothing such as a collar, tie, belt or waistband. If breathing is difficult, administer oxygen. If the victim is not breathing, perform mouth-to-mouth resuscitation. **WARNING:** It may be hazardous to the person providing aid to give mouth-to-mouth resuscitation when the inhaled material is toxic, infectious or corrosive. Seek immediate medical attention.

**Ingestion:** If swallowed, do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Loosen tight clothing such as a collar, tie, belt or waistband. Get medical attention immediately.

**Serious Ingestion:** Not available.

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

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

**Fire Hazards in Presence of Various Substances:** Not applicable

**Explosion Hazards in Presence of Various Substances:** Risks of explosion of the product in presence of mechanical impact: Not available. Risks of explosion of the product in presence of static discharge: Not available.

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

**Special Remarks on Fire Hazards:** When heated to decomposition it emits toxic fumes

**Special Remarks on Explosion Hazards:** Mixture of Mercuric Chloride with Potassium and metallic halides produces strong explosion on impact. Mixture of Mercuric Chloride with sodium and halide compounds produces a strong explosion in impact.

## **6. Accidental release measures**

**Small Spill:** Use appropriate tools to put the spilled solid in a convenient waste disposal container.

**Large Spill:** Corrosive solid. Poisonous solid. Stop leak if without risk. Do not get water inside container. Do not touch spilled material. Use water spray to reduce vapours. Prevent entry into sewers, basements or confined areas; dike if needed. Call for assistance on disposal. Be careful that the product is not present at a concentration level above TLV. Check TLV on the MSDS and with local authorities.

## **7. Handling and storage**

**Precautions:** Keep locked up. Keep container dry. Do not ingest. Do not breathe dust. Never add water to this product. In case of insufficient ventilation, wear suitable respiratory equipment. If ingested, seek medical advice immediately and show the container or the label. Avoid contact with skin and eyes. Keep away from incompatibles such as oxidizing agents, metals, acids, alkalis.

**Storage:** Keep container tightly closed. Keep container in a cool, well-ventilated area. Do not store above 23°C

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

**Engineering Controls:** Use process enclosures, local exhaust ventilation, or other engineering controls to keep airborne levels below recommended exposure limits. If user operations generate dust, fume or mist, use ventilation to keep exposure to airborne contaminants below the exposure limit.



**Personal Protection:** Splash goggles. Synthetic apron. Vapour and dust 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 and dust 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:** Solid (Crystals solid)

**Odour:** Odourless

**Taste:** Not available

**Colour:** White

**Boiling Point:** 302°C

**Melting Point:** 276°C

**Critical Temperature:** Not available

**Odour Threshold:** Not available

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

**Dispersion Properties:** See solubility in water, methanol, diethyl ether

**Solubility:** Easily soluble in cold water, hot water. Soluble in methanol, diethyl ether.

**Specific Gravity:** 5.44 (Water = 1)

**Vapour Density:** Not available

**Volatility:** Not available

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

**Stability:** The product is stable.

**Instability Temperature:** Not available.

**Conditions of Instability:** Incompatible materials, light, excess heat, organic matter.

**Incompatibility with various substances:** Reactive with oxidizing agents, metals, acids, alkalis.

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

**Special Remarks on Reactivity:** May decompose on exposure to light. Reacts with sodium, potassium and their alloys. Incompatible with Acids, Albumin, Alkalis, alkaloid salts, ammonia, antimony, arsenic, borax, bromides, carbonates, copper, formates, gelatin, hypophosphites, iron, lead, lime water, metals, phosphates, potassium, reduced iron, sodium, sulphates, sulphides, tannic acid, and vegetable astringents.

**Special Remarks on Corrosivity:** Not available

**Polymerization:** Will not occur.

### **11. Toxicological information**

**Routes of Entry:** Inhalation. Ingestion

**Toxicity to Animals:** Acute oral toxicity (LD50): 1 mg/kg [Rat.]. Acute dermal toxicity (LD50): 41 mg/kg [Rat].

**Chronic Effects on Humans:** CARCINOGENIC EFFECTS: Classified POSSIBLE by IRIS, 3 (Equivocal evidence.) by NTP. A4 (Not classifiable for human or animal.) by ACGIH. MUTAGENIC EFFECTS: Mutagenic for mammalian somatic cells. Mutagenic for bacteria and/or yeast. DEVELOPMENTAL TOXICITY: Classified Reproductive system/toxin/female, Reproductive system/toxin/male [POSSIBLE]. Causes damage to the following organs: brain, peripheral nervous system, skin, central nervous system (CNS), eye, lens or cornea. May cause damage to the following organs: the reproductive system.



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

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

**Special Remarks on Chronic Effects on Humans:** May affect genetic material and cause adverse reproductive effects (fetotoxicity, developmental abnormalities, fertility). Found in human breast milk.

**Special Remarks on other Toxic Effects on Humans:** Acute Potential Health Effects: Skin: Causes severe skin irritation. May be fatal if absorbed through skin Eyes: Causes severe eye irritation. It can also be corrosive to eyes. Inhalation: May be fatal if inhaled. Causes respiratory tract irritation and can be corrosive to the throat and mucous membranes. May cause coughing, shortness of breath. May also affect behaviour and brain (central and peripheral nervous systems) with vertigo, anxiety, depression, muscle in coordination, and emotional instability. Ingestion: May be fatal if swallowed. Causes gastrointestinal tract irritation with nausea, vomiting, bloody diarrhoea, foul taste, corrosive ulceration, and loosened teeth. May also affect the liver, blood, and urinary system (kidneys, urethra, and bladder). Affects the brain, behaviour (the central and peripheral nervous systems). Chronic Potential Health Effects: Skin: Repeated skin exposure may cause allergic contact dermatitis. Eyes: May cause Mercurialentis (brown mercury deposits in the lens of the eye), with visual defects. Ingestion: Excessive salivation, muscle weakness, Mercurial Erethism (short term memory loss, personality changes). May cause effects of those of acute ingestion. Inhalation: May cause effects similar to acute inhalation.

## **12. Ecological information**

**Ecotoxicity:** Ecotoxicity in water (LC50): 0.9 ppm 24 hours [Rainbow Trout (juvenile)]. 0.1 ppm 48 hours [Fathead Minnow]. 0.2 ppm 96 hours [Bluegill Sunfish].

**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 products of degradation are less toxic than the product itself.

**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:** CLASS 6.1: Poisonous material

**Identification:** : Mercuric chloride UNNA: 1624 PG: II

**Special Provisions for Transport:** Marine Pollutant

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