



LABORATORY CHEMICALS AND CONSUMABLES

# MATERIAL SAFETY DATA SHEET

## CHLOROFORM

### 1. Chemical Product and Company information.

**Product name:** Chloroform

**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, of inhalation.  
Slightly hazardous in case of skin contact (permeator).

### 3. Composition / information on ingredients

**CAS #:** 67-66-3

**Synonym:** Trichloromethane; Methane, trichlor-

**Chemical Name:** Chloroform

**Chemical Formula:**  $\text{CHCl}_3$

### 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. WARM water MUST be used. Get medical attention.

**Skin Contact:** In case of contact, immediately flush skin with plenty of water. Cover the irritated skin with an emollient. Remove contaminated clothing and shoes. Wash clothing before reuse. Thoroughly clean shoes before reuse. Get medical attention.

**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.



**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 medical attention.

**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:** Not available

**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 available

**Special Remarks on Fire Hazards:** Not available

**Special Remarks on Explosion Hazards:** Not available

## **6. Accidental release measures**

**Small Spill:** Absorb with an inert material and put the spilled material in an appropriate waste disposal.

**Large Spill:** Absorb with an inert material and put the spilled material in an appropriate waste 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:** Do not ingest. Do not breathe gas/fumes/ vapour/spray. Wear suitable protective clothing. 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 metals, alkalis.

**Storage:** Keep container tightly closed. Keep container in a cool, well-ventilated area. Sensitive to light. Store in light-resistant containers.

## **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. Ensure that eyewash stations and safety showers are proximal to the workstation location.

**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.



<p><b><u>9. Physical and chemical properties</u></b></p> <p><b>Physical state and appearance:</b> Liquid</p> <p><b>Odour:</b> Pleasant. Sweetish. Etheric. Non-irritating</p> <p><b>Taste:</b> Burning. Sweet.</p> <p><b>Colour:</b> Colourless. Clear</p> <p><b>Boiling Point:</b> 61°C</p> <p><b>Melting Point:</b> -63.5°C</p> <p><b>Critical Temperature:</b> 263.33°C</p> <p><b>Specific Gravity:</b> 1.484 (Water = 1)</p> <p><b>Vapour Density:</b> 4.36 (Air = 1)</p> <p><b>Volatility:</b> Not available</p>	<p><b>Odour Threshold:</b> 85 ppm</p> <p><b>Ionicity (in Water):</b> Not available.</p> <p><b>Dispersion Properties:</b> Not available</p> <p><b>Solubility:</b> Slightly soluble in cold water</p>
<p><b><u>10. Stability and reactivity</u></b></p> <p><b>Stability:</b> The product is stable.</p> <p><b>Instability Temperature:</b> Not available.</p> <p><b>Conditions of Instability:</b> Incompatible materials, Light</p> <p><b>Incompatibility with various substances:</b> Reactive with metals, alkalis.</p> <p><b>Corrosivity:</b> Non-corrosive in presence of glass</p> <p><b>Special Remarks on Reactivity:</b> Light Sensitive. Incompatible with triisopropyl phosphine, acetone, disilane, fluorine, strong bases and reactive metals (aluminium, magnesium in powdered form), light.</p> <p><b>Special Remarks on Corrosivity:</b> It will attack some forms of plastics, rubber, and coatings.</p> <p><b>Polymerization:</b> Will not occur.</p>	
<p><b><u>11. Toxicological information</u></b></p> <p><b>Routes of Entry:</b> Absorbed through skin. Eye contact. Inhalation</p> <p><b>Toxicity to Animals:</b> WARNING: THE LC50 VALUES HEREUNDER ARE ESTIMATED ON THE BASIS OF A 4-HOUR EXPOSURE. Acute oral toxicity (LD50): 36 mg/kg [Mouse]. Acute dermal toxicity (LD50): &gt;20000 mg/kg [Rabbit]. Acute toxicity of the vapour (LC50): 47702 mg/m 4 hours [Rat]. 3</p> <p><b>Chronic Effects on Humans:</b> CARCINOGENIC EFFECTS: Classified + (Proven.) by NIOSH. Classified A3 (Proven for animal.) by ACGIH, 2B (Possible for human.) by IARC. Classified 2 (Some evidence.) by NTP. MUTAGENIC EFFECTS: Mutagenic for mammalian somatic cells. Mutagenic for bacteria and/or yeast. May cause damage to the following organs: kidneys, liver, heart.</p> <p><b>Other Toxic Effects on Humans:</b> Hazardous in case of skin contact (irritant), of ingestion, of inhalation. Slightly hazardous in case of skin contact (permeator).</p> <p><b>Special Remarks on Toxicity to Animals:</b> Not available</p>	



**Special Remarks on Chronic Effects on Humans:** May affect genetic material (possible mutagen) and cause adverse reproductive effects (embryo toxicity and fetotoxicity) Suspected carcinogen (tumorigenic) and teratogen based on animal data. Human: passes the placental barrier, detected in maternal milk.

**Special Remarks on other Toxic Effects on Humans:** Acute Potential Health Effects: Skin: Causes skin irritation and may cause chemical burns. Eye: Causes eye irritation, burning pain and reversible injury to corneal epithelium. Inhalation: Causes irritation of the respiratory system (mucous membranes). May affect behaviour/Nervous system (CNS depressant, fatigue, dizziness, nervousness, giddiness, euphoria, loss of coordination and judgement, weakness, hallucinations, muscle contraction/spasticity, general anaesthetic, spastic paralysis, headache), anorexia (neurological and gastrointestinal symptoms resembling chronic alcoholism), and possibly coma and death. May affect the liver, kidneys and gastrointestinal tract (nausea, vomiting). Ingestion: Causes gastrointestinal tract irritation (nausea, vomiting). May affect the liver, urinary system (kidneys), respiration, behaviour/nervous system (symptoms similar to inhalation), and heart. Chronic Potential Health Effects: Inhalation: Prolonged or repeated inhalation may affect the liver (hepatitis, jaundice, hepatocellular necrosis), metabolism (weight loss), respiration (fibrosis, pneumoconiosis), behaviour/central nervous system (symptoms similar to acute inhalation), blood, musculoskeletal system, and kidneys. Ingestion: Prolonged or repeated ingestion may affect the liver, kidneys, metabolism (weight loss), endocrine system (spleen), blood (changes in cell count).

## **12. Ecological information**

**Ecotoxicity:** Ecotoxicity in water (LC50): 43.8 mg/l 96 hours [Trout].

**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 as toxic as 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:** : Chloroform UNNA: UN1888 PG: III

**Special Provisions for Transport:** Not available

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