# Methylene Chloride - MSDS

## 1. Product Name and Identification

**Product Name:** Methylene Chloride
**Chemical Formula:** CH2Cl2
**Synonyms:** Dichloromethane, DCM
**CAS Number:** 75-09-2
**Manufacturer/Supplier:** [Insert Manufacturer Name]
**Emergency Contact Information:** [Insert Emergency Contact Details]

## 2. Composition/Ingredients

**Substance:** Methylene Chloride
**Chemical Name:** Dichloromethane
**CAS Number:** 75-09-2
**Percent by Weight:** ≥ 99%

## 3. Hazards Identification

**GHS Classification:**

- Acute toxicity - Oral (Category 4)
- Skin irritation (Category 2)
- Serious eye irritation (Category 2A)
- Carcinogenicity (Category 2)
- Specific Target Organ Toxicity - Single Exposure (Category 3), Narcotic effects

**Signal Word:** Warning

**Hazard Statements:**

- H302: Harmful if swallowed.
- H315: Causes skin irritation.
- H319: Causes serious eye irritation.
- H336: May cause drowsiness or dizziness.
- H351: Suspected of causing cancer.

**Precautionary Statements:**

- P201: Obtain special instructions before use.
- P210: Keep away from heat, sparks, open flames, and hot surfaces.
- P261: Avoid breathing vapors or mists.
- P280: Wear protective gloves, clothing, and eye protection.

- P301+P330+P331: If swallowed, rinse mouth but do not induce vomiting.

**Potential Health Effects:**

- **Eye Contact:** Causes redness, watering, and irritation.
- **Skin Contact:** Prolonged contact may cause dryness and irritation.
- **Inhalation:** Vapors can cause dizziness, nausea, or respiratory distress if overexposed.
- **Ingestion:** May lead to gastrointestinal discomfort and central nervous system depression.

# 4. First Aid Measures

**General Advice:** Seek immediate medical attention for significant exposure or persistent symptoms.

- **Eye Contact:** Rinse eyes thoroughly with water for at least 15 minutes. Remove contact lenses if present. Seek medical attention.
- **Skin Contact:** Wash affected skin with soap and water. Remove contaminated clothing and seek medical advice if irritation persists.
- **Inhalation:** Move to fresh air. If breathing is difficult, administer oxygen and seek medical help.
- **Ingestion:** Rinse mouth with water. Do NOT induce vomiting. Immediately contact a doctor or poison control center.

# 5. Handling and Storage

**Handling:**

- Avoid breathing vapors or allowing contact with skin and eyes.
- Use only in a well-ventilated area or with proper exhaust systems.
- Keep away from open flames or sources of ignition.

**Storage:**

- Store in a cool, dry place, preferably below 25°C (77°F).
- Keep containers tightly closed and away from direct sunlight.
- Store separately from incompatible substances such as strong oxidizers and alkalis.

# 6. Exposure Controls/Personal Protection

**Exposure Limits:**

- OSHA PEL (Permissible Exposure Limit): 25 ppm (8-hour TWA)
- NIOSH REL (Recommended Exposure Limit): 75 ppm (15-minute ceiling)

**Engineering Controls:**

- Ensure adequate ventilation, particularly in confined spaces. Use local exhaust to keep vapor levels below regulatory limits.

**Personal Protective Equipment (PPE):**

- **Eye Protection:** Safety goggles or face shield.
- **Skin Protection:** Chemical-resistant gloves made of materials such as nitrile or neoprene.
- **Respiratory Protection:** Wear an approved respirator if limits are exceeded.
- **Clothing:** Wear appropriate protective clothing to prevent skin exposure.

# 7. Physical and Chemical Properties

- **Appearance:** Clear, colorless liquid
- **Odor:** Sweet, chloroform-like odor
- **Boiling Point:** 39.6°C (103.3°F)
- **Melting Point:** -97°C (-143°F)
- **Flash Point:** Not applicable (non-flammable according to standard testing methods)
- **Density:** 1.33 g/cm³ at 25°C
- **Vapor Pressure:** 47.3 kPa at 20°C
- **Solubility:** Slightly soluble in water; miscible with most organic solvents
- **pH:** Not applicable

# 8. Stability and Reactivity

**Chemical Stability:** Stable under recommended handling and storage conditions.

**Conditions to Avoid:**

- Heat, open flames, and other ignition sources.
- Prolonged exposure to air or moisture may degrade the product.

**Materials to Avoid:**

- Strong oxidizing agents, alkali metals, and amines.

**Hazardous Decomposition Products:**

- Thermal decomposition may release phosgene, hydrogen chloride, or carbon monoxide in the presence of heat or flames.

# 9. Toxicological Information

**Acute Toxicity:**

- **Oral LD50 (Rat):** 1,600 mg/kg
- **Dermal LD50 (Rabbit):** > 2,000 mg/kg
- **Inhalation LC50 (Rat):** 53 mg/L (4 hours)

**Chronic Effects:**

- Prolonged or repeated exposure may affect the central nervous system, liver, and kidneys.
- Classified as a possible human carcinogen by IARC (Group 2B).

**Symptoms of Exposure:**

- Dizziness, headache, nausea, or drowsiness with inhalation.
- Redness and irritation with skin or eye contact.

# 10. Disposal Considerations

**Waste Disposal Methods:**
Dispose of residue and containers in compliance with local, state, and federal regulations. Avoid release into sewer, soil, or water systems.

**Container Handling:**
Empty containers should be thoroughly cleaned before disposal or recycling. Treat them as hazardous waste if residue remains. Do not reuse if contaminated.