

# Material Safety Data Sheet

## METHANOL



### 1. CHEMICAL PRODUCT and EMERGENCY TELEPHONE C

Product Name: METHANOL  
Chemical Family: Aliphatic Alcohol  
Formula: CH<sub>3</sub>OH  
Synonyms: Carbino, Methyl Alcohol, Wood Spirits  
**EMERGENCY TELEPHONE NUMBER:** 0491-2566889

### 2. COMPOSITION/INFORMATION ON INGREDIENTS

Name	% by Weight
Methyl alcohol	99-100

### 3. HAZARDS IDENTIFICATION EMERGENCY OVERVIEW

**Potential Acute Health Effects:** Very hazardous in case of skin contact (irritant), of eye contact (irritant), of ingestion, of inhalation. Hazardous in case of skin contact (corrosive, permeator), of eye contact (corrosive). Liquid or spray mist may produce tissue damage particularly on mucous membranes of eyes, mouth and respiratory tract. Skin contact may produce burns. Inhalation of the spray mist may produce severe irritation of respiratory tract, characterized by coughing, choking, or shortness of breath. Inflammation of the eye is characterized by redness, watering, and itching. Skin inflammation is characterized by itching, scaling, reddening, or, occasionally, blistering.

**Potential Chronic Health Effects:** Hazardous in case of skin contact (irritant), of ingestion, of inhalation. **CARCINOGENIC EFFECTS:** Not available. **MUTAGENIC EFFECTS:** Mutagenic for mammalian somatic cells. Mutagenic for bacteria and/or yeast. **TERATOGENIC EFFECTS:** Not available. **DEVELOPMENTAL TOXICITY:** Not available. The substance may be toxic to kidneys, mucous membranes, skin, teeth. Repeated or prolonged exposure to the substance can produce target organs damage. Repeated p. 2 or prolonged contact with spray mist may produce chronic eye irritation and severe skin irritation. Repeated or prolonged exposure to spray mist may produce respiratory tract irritation leading to frequent attacks of bronchial infection.

#### **POTENTIAL HEALTH EFFECTS**

**Primary Routes of Entry:** Inhalation, skin contact/absorption, eye contact, and ingestion.

**General Acute Exposure:** Liquid, mist, or vapours can cause eye, skin, and respiratory tract irritation and Central Nervous System (CNS) depression.

#### **Inhalation:**

**Acute Exposure:** Short-term exposure to high concentrations may cause CNS depression. Symptoms may include headache, weakness, drowsiness, light-headedness, nausea, difficult breathing, drunkenness, eye irritation, blurred vision, blindness, loss of consciousness, vertigo, fatigue, convulsions, and possibly death, depending on exposure. Victims may improve and then get worse again up to 30 hours later.

#### **Skin:**

**Acute Contact:** Upon prolonged or repeated contact, absorption through the skin may occur and produce toxic effects similar to those resulting from inhalation exposure. Repeated or prolonged skin contact may cause drying, cracking, and inflammation of the skin due to the defatting action of the product.

#### **Eye:**

**Acute Contact:** Eye irritation may occur upon short-term exposure, including a burning sensation, tearing, redness, or swelling. Upon direct contact with liquid, conjunctivitis and corneal burns may

occur. The primary toxic effect is exerted upon the nervous system, particularly the optic nerves and possibly the retina. The condition can progress to permanent blindness.

**Ingestion:** Ingestion may cause serious poisoning with effects similar to those of inhalation and absorption through the skin. Toxic effects are more common after ingestion. Death from as little as one ounce has been reported.

**Neurologic:**

**Acute Exposure:** Central Nervous System (CNS) depression may occur upon exposure.

**Summary of Chronic Exposure:** It is slowly eliminated from the body; hence repeated exposures may result in toxic levels in the blood and tissues. Due to its slow elimination, it should be regarded as a cumulative poison. Though single exposures to fumes may cause no harmful effect, daily exposure may result in the accumulation of sufficient amount in the body to cause illness.

**Note to the Physician:** Coma resulting from massive exposures may last as long as 2-4 days. In the body, products formed by its oxidation are formaldehyde and formic acid.

**Medical Conditions Aggravated by Exposure:** Personnel with pre-existing CNS disease, skin disorders, impaired liver or kidney function, GI tract disorders or chronic respiratory diseases should avoid exposure.

#### **4. FIRST AID MEASURES**

**First Aid for Eyes:** Immediately flush eyes with copious amounts of tepid water for at least 15 minutes. The patient should be seen in a health care facility and referral to an ophthalmologist considered.

**First Aid for Skin:** Immediately flush exposed area with copious amounts of tepid water for at least 15 minutes while removing contaminated clothing and shoes, followed by washing area thoroughly with soap and water. The patient should be seen in a health care facility if irritation or pain persists or if symptoms of toxicity develop. Wash contaminated clothing and shoes before reuse.

**First Aid for Inhalation:** Move patient to fresh air and keep warm and at rest. Monitor for respiratory distress. If difficulty in breathing develops or if breathing has stopped, administer artificial respiration and seek medical attention. If trained to do so administer supplemental oxygen with assisted ventilation as required. Caution: Administration of mouth-to-mouth resuscitation may expose the first aid provider to chemical within the victim's lungs or vomit.

**First Aid for Ingestion:** If patient is conscious, immediately give two glasses of water and induce vomiting. Do not make an unconscious person vomit. Get medical attention immediately.

#### **5. FIRE FIGHTING MEASURES**

**Flammability of the Product:** Flammable.

**Auto-Ignition Temperature:** 464°C (867.2°F)

**Flash Points:** CLOSED CUP: 12°C (53.6°F). OPEN CUP: 16°C (60.8°F).

**Flammable Limits:** LOWER: 6% UPPER: 36.5%

**Products of Combustion:** These products are carbon oxides (CO, CO<sub>2</sub>).

**Fire Hazards in Presence of Various Substances:** Highly flammable in presence of open flames and sparks, of heat. Non-flammable in presence of shocks.

**Explosion Hazards in Presence of Various Substances:** Risks of explosion of the product in presence of mechanical impact: Not available. Explosive in presence of open flames and sparks, of heat.

**Fire Fighting Media and Instructions:** Flammable liquid, soluble or dispersed in water. SMALL FIRE: Use DRY chemical powder. LARGE FIRE: Use alcohol foam, water spray and fog.

#### **6. ACCIDENTAL RELEASE MEASURES**

**Spill or Leak Measures:** Stop leak if you can do it without risk. Keep unnecessary people away and deny entry. Isolate spill or leak area immediately for at least 330 to 660 feet in all directions. Stay upwind, out of low areas, and ventilate closed spaces before entering. Eliminate all ignition sources.

Do not touch or walk through spilled material. Prevent entry of product into waterways, sewers, basements, or confined spaces. A vapour suppressing foam may be used to reduce vapours. All equipment used when handling the product must be grounded and/or spark resistant. Water spray may reduce vapours but may not prevent ignition in closed spaces. Fully encapsulating, vapour protective clothing should be worn for spills and leaks with no fire.

**Determining Spill Size:** Generally, a small spill is one that involves a single, small package (i.e. up to a 55 gallon drum), small cylinder, or a small (non-continuing) leak from a large container.

**Large Spill:**

- a. Dike far ahead of liquid spill for later disposal.
- b. Follow local emergency protocol for handling.
- c. Water spray may reduce vapor; but may not prevent ignition in closed spaces.

**Small Spill:**

- a. Absorb with earth, sand or other non-combustible material and transfer to containers for later disposal.
- b. Use clean non-sparking tools to collect absorbed material.

## 7. HANDLING AND STORAGE

**Precautions:** Keep locked up.. Keep away from heat. Keep away from sources of ignition. Ground all equipment containing material. Do not ingest. Do not breathe gas/fumes/ vapor/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 oxidizing agents, metals, acids.

**Storage:** Store in a segregated and approved area. Keep container in a cool, well-ventilated area. Keep container tightly closed and sealed until ready for use. Avoid all possible sources of ignition (spark or flame).

## 8. EXPOSURE CONTROLS, PERSONAL PROTECTION

**Skin Protection Requirements:** Equipment should prevent repeated or prolonged skin contact with the product. This may include rubber boots, resistant gloves, and other impervious and resistant clothing. Compatible materials may include butyl rubber, natural rubber, neoprene, nitrile rubber, viton and others. Review the equipment manufacture's compatibility data.

**Eye Protection Requirements:** Use chemical (indirectly vented) goggles when there is a potential for contact with product, including vapour. A full-face shield may be worn over goggles for additional protection, but not as a substitute for goggles.

**Other Protective Equipment:** Safety shower and eyewash fountain should be provided. Proper fire extinguishment equipment must be kept in the handling area.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

Physical Form:

Liquid

Color:

Colourless

Specific Gravity:

0.905-0.910

Density:

0.92g/ml

Evaporation Time:

2Min

## 10. REACTIVITY

**Stability:** The product is stable.

**Instability Temperature:** Not available.

**Conditions of Instability:** Heat, ignition sources, incompatible materials

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

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

**Special Remarks on Reactivity:** Can react vigorously with oxidizers. Violent reaction with alkyl aluminum salts, acetyl bromide, chloroform + sodium methoxide, chromic anhydride, cyanuic

chlorite, lead perchlorate, phosphorous trioxide, nitric acid. Exothermic reaction with sodium hydroxide + chloroform. Incompatible with beryllium dihydride, metals (potassium and magnesium), oxidants (barium perchlorate, bromine, sodium hypochlorite, chlorine, hydrogen peroxide), potassium tert-butoxide, carbon tetrachloride, alkali metals, metals (aluminum, potassium magnesium, zinc), and dichlormethane. Rapid autocatalytic dissolution of aluminum, magnesium or zinc in 9:1 methanol + carbon tetrachloride - sufficiently vigorous to be rated as potentially hazardous. May attack some plastics, rubber, and coatings.

**Special Remarks on Corrosivity:** Not available.

## 11. TOXICOLOGICAL INFORMATION

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

**Toxicity to Animals:** WARNING: THE LC50 VALUES HEREUNDER ARE ESTIMATED ON THE BASIS OF A 4-HOUR EXPOSURE. Acute oral toxicity (LD50): 5628 mg/kg [Rat]. Acute dermal toxicity (LD50): 15800 mg/kg [Rabbit]. Acute toxicity of the vapor (LC50): 64000 4 hours [Rat].

**Chronic Effects on Humans:** MUTAGENIC EFFECTS: Mutagenic for mammalian somatic cells. Mutagenic for bacteria and/or yeast. TERATOGENIC EFFECTS: Classified POSSIBLE for human. Causes damage to the following organs: eyes. May cause damage to the following organs: blood, kidneys, liver, brain, peripheral nervous system, upper respiratory tract, skin, central nervous system (CNS), optic nerve.

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

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

## 12. ECOLOGICAL INFORMATION

**Ecotoxicity:** Ecotoxicity in water (LC50): 29400 mg/l 96 hours [Fathead Minnow].

**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.

## 13. DISPOSAL CONSIDERATIONS

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

## 14. TRANSPORTATION INFORMATION

Not classified as dangerous in the meaning of transport regulation

## 15. REGULATORY INFORMATION

**Federal and State Regulations:** Connecticut hazardous material survey.: Methyl alcohol Illinois toxic substances disclosure to employee act: Methyl alcohol Illinois chemical safety act: Methyl alcohol New York release reporting list: Methyl alcohol Rhode Island RTK hazardous substances: Methyl alcohol Pennsylvania RTK: Methyl alcohol Minnesota: Methyl alcohol Massachusetts RTK: Methyl alcohol Massachusetts spill list: Methyl alcohol New Jersey: Methyl alcohol New Jersey spill list: Methyl alcohol Louisiana spill reporting: Methyl alcohol California Directors List of Hazardous Substances (8CCR 339): Methyl alcohol Tennessee Hazardous Right to Know : Methyl alcohol TSCA 8(b) inventory: Methyl alcohol SARA 313 toxic chemical notification and release reporting: Methyl alcohol CERCLA: Hazardous substances.: Methyl alcohol: 5000 lbs. (2268 kg)

**Other Regulations:** OSHA: Hazardous by definition of Hazard Communication Standard (29 CFR 1910.1200). EINECS: This product is on the European Inventory of Existing Commercial Chemical Substances.

## 16. OTHER INFORMATION

**Preparation Date :** 23-05-2015

**Prepared By :** Mereena Petrochemicals Pvt Ltd, NIDA, Kanjikkode, Palakkad, Kerala, India.  
PIN: 678621

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