

# MATERIAL SAFETY DATA SHEET (MSDS)

## Sodium methanolate

### 1. Product Identification

**Synonyms:** Methanol, sodium salt; Sodium Methylate

**CAS No.:** 124-41-4

**Molecular Weight:** 54.02

**Chemical Formula:** CH<sub>3</sub>NaO

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### 2. Composition/Information on Ingredients

Ingredient	CAS No	Percent	Hazardous
Sodium methanolate	124-41-4	-	YES

### 3. Hazards Identification

#### Potential Acute Health Effects:

Hazardous in case of skin contact (corrosive, irritant, sensitizer, permeator), of eye contact (irritant, corrosive), of ingestion, of inhalation. 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.

#### Potential Chronic Health Effects:

Slightly hazardous in case of skin contact (sensitizer).

CARCINOGENIC EFFECTS: Not available.

MUTAGENIC EFFECTS: Not available.

TERATOGENIC EFFECTS: Not available.

DEVELOPMENTAL TOXICITY: Not available.

Repeated exposure of the eyes to a low level of dust can produce eye irritation. Repeated skin exposure can produce local skin destruction, or dermatitis. Repeated inhalation of dust can produce varying degree of respiratory irritation or lung damage.

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## 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:

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:

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 if symptoms appear.

**Serious Ingestion:** Not available.

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## 5. Fire Fighting Measures

**Flammability of the Product:** Flammable.

**Auto-Ignition Temperature:** 88°C (190.4°F)

**Flash Points:** CLOSED CUP: 33°C (91.4°F).

**Flammable Limits:** LOWER: 7.3% UPPER: 36%

**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 moisture.

Flammable in presence of open flames and sparks, of heat.

**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:**

Flammable solid. Moisture reactive material.

SMALL FIRE: Obtain advice on use of water. Use DRY chemical powder.

LARGE FIRE: Use water spray or fog. Do not use water jet.

**Special Remarks on Fire Hazards:** Dangerous. It ignites spontaneously in moist air.

This material is pyrophoric (ignites spontaneously in air) at temperatures approximately 50 deg. C and above.

**Special Remarks on Explosion Hazards:**

Material in powder form, capable of creating a dust explosion.

Sodium methylate and Methyl azide + Dimethyl Malonate may cause an explosion.

Sodium Methylate and Perchloryl Fluoride + Methyl alcohol may cause an explosion.

To rapid of an addition of Sodium Methylate to a mixture of chloroform and methanol may cause an explosion.

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## 6. Accidental Release Measures

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

**Large Spill:**

Corrosive solid. Flammable solid that, in contact with water, emits flammable gases.

Stop leak if without risk. Do not get water inside container. Do not touch spilled material. Cover with dry earth,

sand or other non-combustible material. Use water spray to reduce vapors. Prevent entry into sewers, basements or confined areas; dike if needed. Eliminate all ignition sources. 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.

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## 7. Handling and Storage

**Precautions:**

Keep under inert atmosphere. 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, acids, moisture.

**Storage:**

Moisture sensitive. Air Sensitive. Store in a segregated and approved area. Keep in a cool and ventilated area away from combustible materials. 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).

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## 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. Vapor 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. Vapor 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.

**Exposure Limits:**

Exposure Limit Information for Dust or Particulates Not Otherwise Classified:

TWA: 10 (mg/m<sup>3</sup>) from ACGIH (TLV) [United States] Inhalation Total.

TWA: 3 (mg/m<sup>3</sup>) from ACGIH (TLV) [United States] Inhalation Respirable.

TWA: 15 (mg/m<sup>3</sup>) from OSHA (PEL) [United States] Inhalation Total.

TWA: 5 (mg/m<sup>3</sup>) from OSHA (PEL) [United States] Inhalation Respirable. Consult local authorities for acceptable exposure limits.

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## 9. Physical and Chemical Properties

**Physical state and appearance:**

Solid. (Solid powder. Amorphous solid powder or lumps. )

**Odor:** Not available.

**Taste:** Not available.

**Molecular Weight:** 54.03 g/mole

**Color:** White.

**pH (1% soln/water):** Not available.

**Boiling Point:** Not available.

**Melting Point:** Decomposition temperature: >126°C (258.8°F)

**Critical Temperature:** Not available.

**Specific Gravity:** 1.1 (Water = 1)

**Vapor Pressure:** Not applicable.

**Vapor Density:** 1.1 (Air = 1)

**Volatility:** Not available.

**Odor Threshold:** Not available.

**Water/Oil Dist. Coeff.:** Not available.

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

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

**Solubility:**

Soluble in cold water, methanol.

Soluble in ethanol.

Decomposes/reacts in water.

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## 10. Stability and Reactivity

**Stability:** The product is stable.

**Instability Temperature:** Not available.

**Conditions of Instability:** Excess heat, air, moisture, water, incompatible materials.

**Incompatibility with various substances:**

Reactive with oxidizing agents, acids, moisture.

The product reacts violently with water to emit flammable but non toxic gases.

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

**Special Remarks on Reactivity:**

Moisture sensitive Air sensitive. Also incompatible with chlorinated solvents, chloroform, 4-chloronitrobenzene, perfluorocyclopropane, liquid metals.

Attacks some forms of plastics, rubbers, and coatings.

Sodium Methylate + water produces a caustic soda solution and a solution of methyl alcohol. The reaction is not violent.

When heated to decomposition it emits toxic fumes.

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

**Polymerization:** Will not occur.

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## 11. Toxicological Information

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

**Toxicity to Animals:** Acute oral toxicity (LD50): 2037 mg/kg [Rat].

**Chronic Effects on Humans:** Not available.

**Other Toxic Effects on Humans:**

Hazardous in case of skin contact (corrosive, irritant, sensitizer, permeator), of eye contact (corrosive), of ingestion, of inhalation (lung corrosive).

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

**Special Remarks on Chronic Effects on Humans:** Not available.

**Special Remarks on other Toxic Effects on Humans:**

Acute Potential Health Effects:

Skin: Causes severe skin irritation and burns.

Eyes: Causes severe eye irritation and burns. May cause eye injury

Inhalation: Material is destructive to tissue of the mucous membranes and upper respiratory tract. It may cause severe irritation to the respiratory tract and chemical burns to the respiratory tract. Symptoms may

include sore throat, burning sensation, coughing, wheezing, labored breathing, and possible pulmonary edema.

Ingestion: Causes mouth, esophagus, pharynx, and gas trintestinal tract irritation and burns. Symptoms may include sore throat, vomiting diarrhea, and abdominal pain. It may also affect respiration(dyspnea), and behavior (ataxia).

Chronic Potential Health Effects: Repeated or prolonged skin contact may cause dermitits, an allergic reaction.It may cause severe and permanent damage to the digestive tract.

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## 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.

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## 13. Disposal Considerations

**Waste Disposal:**

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

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## 14. Transport Information

**DOT Classification:**

CLASS 4.2: Spontaneously combustible substance.

Class 8: Corrosive material

**Identification:** : Sodium methylate UNNA: 1431 PG: II

**Special Provisions for Transport:** Not available.

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## 15. Regulatory Information

**Federal and State Regulations:**

Connecticut hazardous material survey.: Sodium methoxide

Illinois toxic substances disclosure to employee act: Sodium methoxide

Illinois chemical safety act: Sodium methoxide

New York release reporting list: Sodium methoxide

Pennsylvania RTK: Sodium methoxide

Massachusetts RTK: Sodium methoxide

Massachusetts spill list: Sodium methoxide

New Jersey: Sodium methoxide

New Jersey spill list: Sodium methoxide

Louisiana spill reporting: Sodium methoxide

California Director's List of Hazardous Substances: Sodium methoxide

TSCA 8(b) inventory: Sodium methoxide

CERCLA: Hazardous substances.: Sodium methoxide: 1000 lbs. (453.6 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.

**Other Classifications:**

**WHMIS (Canada):**

CLASS B-6: Reactive and very flammable material.

CLASS E: Corrosive solid.

**DSCL (EEC):**

**HMIS (U.S.A.):**

**Health Hazard:** 2

**Fire Hazard:** 2

**Reactivity:** 2

**Personal Protection:** j

**National Fire Protection Association (U.S.A.):**

**Health:** 3

**Flammability:** 2

**Reactivity:** 2

**Specific hazard:**

**Protective Equipment:**

Gloves.

Synthetic apron.

Vapor and dust respirator. Be sure to use an approved/certified respirator or equivalent. Wear appropriate respirator when ventilation is inadequate.

Splash goggles.

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## 16. Other Information

**References:**

-SAX, N.I. Dangerous Properties of Industrial Materials. Toronto, Van Nostrand Reinold, 6e ed. 1984.

-The Sigma-Aldrich Library of Chemical Safety Data, Edition II.

**Other Special Considerations:** Not available.

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