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## Material Safety Data Sheet

### Methyl Red, 0.1% Solution in Methanol MSDS

#### Section 1: Chemical Product and Company Identification

**Product Name:** Methyl Red, 0.1% Solution in Methanol

**Catalog Codes:** SLM4126

**CAS#:** Mixture.

**RTECS:** Not applicable.

**TSCA:** TSCA 8(b) inventory: Methyl alcohol; Methyl red

**CI#:** Not applicable.

**Synonym:** Methyl Red, 0.1% in MeOH

**Chemical Name:** Not applicable.

**Chemical Formula:** Not applicable.

**Contact Information:**

**Sciencelab.com, Inc.**

14025 Smith Rd.

Houston, Texas 77396

US Sales: **1-800-901-7247**

International Sales: **1-281-441-4400**

Order Online: [ScienceLab.com](http://ScienceLab.com)

**CHEMTREC (24HR Emergency Telephone), call:**

1-800-424-9300

**International CHEMTREC, call:** 1-703-527-3887

**For non-emergency assistance, call:** 1-281-441-4400

#### Section 2: Composition and Information on Ingredients

**Composition:**

Name	CAS #	% by Weight
Methyl alcohol	67-56-1	99.9
Methyl red	493-52-7	0.1

**Toxicological Data on Ingredients:** Methyl alcohol: ORAL (LD50): Acute: 5628 mg/kg [Rat.]. DERMAL (LD50): Acute: 15800 mg/kg [Rabbit.]. VAPOR (LC50): Acute: 64000 ppm 4 hours [Rat].

#### Section 3: Hazards Identification

**Potential Acute Health Effects:**

Hazardous in case of skin contact (irritant, permeator), of eye contact (irritant), of ingestion, of inhalation. Severe over-exposure can result in death.

**Potential Chronic Health Effects:**

Slightly hazardous in case of skin contact (sensitizer). CARCINOGENIC EFFECTS: Classified 3 (Not classifiable for human.) by IARC [Methyl red]. MUTAGENIC EFFECTS: Mutagenic for mammalian somatic cells. [Methyl alcohol]. Mutagenic for bacteria and/or yeast. [Methyl alcohol]. Mutagenic for bacteria and/or yeast. [Methyl red]. TERATOGENIC EFFECTS: Classified POSSIBLE for human [Methyl alcohol]. DEVELOPMENTAL TOXICITY: Classified Reproductive system/toxin/female, Reproductive system/toxin/male [POSSIBLE] [Methyl alcohol]. The substance is toxic to eyes. The substance may be toxic to blood, kidneys, lungs, liver, brain, peripheral nervous system, gastrointestinal tract, upper respiratory tract, skin, central nervous system (CNS). Repeated or prolonged exposure to the substance can produce target organs damage. Repeated

exposure to a highly toxic material may produce general deterioration of health by an accumulation in one or many human organs.

## Section 4: First Aid Measures

### Eye Contact:

Check for and remove any contact lenses. Immediately flush eyes with running water for at least 15 minutes, keeping eyelids open. Get medical attention.

### 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. 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.

## Section 5: Fire and Explosion Data

**Flammability of the Product:** Flammable.

**Auto-Ignition Temperature:** The lowest known value is 464°C (867.2°F) (Methyl alcohol).

**Flash Points:** The lowest known value is CLOSED CUP: 12°C (53.6°F). OPEN CUP: 16°C (60.8°F). (Methyl alcohol)

**Flammable Limits:** The greatest known range is LOWER: 6% UPPER: 36.5% (Methyl alcohol)

**Products of Combustion:** These products are carbon oxides (CO, CO<sub>2</sub>), nitrogen oxides (NO, NO<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. Risks of explosion of the product in presence of static discharge: Not available.

### Fire Fighting Media and Instructions:

Flammable liquid, insoluble in water. **SMALL FIRE:** Use DRY chemical powder. **LARGE FIRE:** Use water spray or fog.

### Special Remarks on Fire Hazards:

Explosive in the form of vapor when exposed to heat or flame. Vapor may travel considerable distance to source of ignition and flash back. When heated to decomposition, it emits acrid smoke and irritating fumes. **CAUTION: MAY BURN WITH NEAR INVISIBLE FLAME** (Methyl alcohol)

### Special Remarks on Explosion Hazards:

Forms an explosive mixture with air due to its low flash point. Explosive when mixed with Chloroform + sodium methoxide and diethyl zinc. It boils violently and explodes. (Methyl alcohol)

## Section 6: Accidental Release Measures

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

**Large Spill:**

Toxic flammable liquid, insoluble or very slightly soluble in water. Poisonous liquid. Keep away from heat. Keep away from sources of ignition. Stop leak if without risk. Absorb with DRY earth, sand or other non-combustible material. Do not get water inside container. Do not touch spilled material. Use water spray to reduce vapors. 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.

## Section 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).

## Section 8: Exposure Controls/Personal Protection

**Engineering Controls:**

Provide exhaust ventilation or other engineering controls to keep the airborne concentrations of vapors below their respective threshold limit value. Ensure that eyewash stations and safety showers are proximal to the work-station location.

**Personal Protection:**

Splash goggles. Lab coat. Vapor 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 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:**

Methyl alcohol TWA: 200 from OSHA (PEL) [United States] TWA: 200 STEL: 250 (ppm) from ACGIH (TLV) [United States] [1999] STEL: 250 from NIOSH [United States] TWA: 200 STEL: 250 (ppm) from NIOSH SKIN TWA: 200 STEL: 250 (ppm) [Canada] Consult local authorities for acceptable exposure limits.

## Section 9: Physical and Chemical Properties

**Physical state and appearance:** Liquid.

**Odor:** Alcohol like.

**Taste:** Not available.

**Molecular Weight:** Not applicable.

**Color:** Clear Red.

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

**Boiling Point:** The lowest known value is 64.5°C (148.1°F) (Methyl alcohol).

**Melting Point:** May start to solidify at -97.8°C (-144°F) based on data for: Methyl alcohol.

**Critical Temperature:** The lowest known value is 240°C (464°F) (Methyl alcohol).

**Specific Gravity:** The only known value is 0.7915 (Water = 1) (Methyl alcohol).

**Vapor Pressure:** The highest known value is 12.3 kPa (@ 20°C) (Methyl alcohol).

**Vapor Density:** The highest known value is 1.11 (Air = 1) (Methyl alcohol).

**Volatility:** Not available.

**Odor Threshold:** The highest known value is 100 ppm (Methyl alcohol)

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

**Ionicity (in Water):** Non-ionic.

**Dispersion Properties:**

Is not dispersed in cold water, hot water. See solubility in methanol.

**Solubility:**

Easily soluble in methanol. Insoluble in cold water, hot water.

## Section 10: Stability and Reactivity Data

**Stability:** The product is stable.

**Instability Temperature:** Not available.

**Conditions of Instability:** Heat, ignition sources (flames, sparks, static), 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, cyanuric 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 dichloromethane. 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. (Methyl alcohol)

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

**Polymerization:** Will not occur.

## Section 11: Toxicological Information

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

**Toxicity to Animals:**

Acute oral toxicity (LD50): 5628 mg/kg [Rat.]. (Methyl alcohol). Acute dermal toxicity (LD50): 15800 mg/kg [Rabbit.]. (Methyl alcohol).

**Chronic Effects on Humans:**

CARCINOGENIC EFFECTS: Classified 3 (Not classifiable for human.) by IARC [Methyl red]. MUTAGENIC EFFECTS: Mutagenic for mammalian somatic cells. [Methyl alcohol]. Mutagenic for bacteria and/or yeast. [Methyl alcohol]. Mutagenic

for bacteria and/or yeast. [Methyl red]. TERATOGENIC EFFECTS: Classified POSSIBLE for human [Methyl alcohol]. DEVELOPMENTAL TOXICITY: Classified Reproductive system/toxin/female, Reproductive system/toxin/male [POSSIBLE] [Methyl alcohol]. Contains material which may cause damage to the following organs: blood, kidneys, lungs, liver, brain, peripheral nervous system, gastrointestinal tract, upper respiratory tract, skin, central nervous system (CNS).

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

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

**Special Remarks on Chronic Effects on Humans:**

Passes through the placental barrier. May affect genetic material. May cause birth defects and adverse reproductive effects(paternal and maternal effects and fetotoxicity ) based on animal studies. (Methyl alcohol)

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

## Section 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 products of degradation are less toxic than the product itself.

**Special Remarks on the Products of Biodegradation:**

Methanol in water is rapidly biodegraded and volatilized. Aquatic hydrolysis, oxidation, photolysis, adsorption to sediment, and bioconcentration are not significant fate processes. The half-life of methanol in surfact water ranges from 24 hrs. to 168 hrs. Based on its vapor pressure, methanol exists almost entirely in the vapor phase in the ambient atmosphere. It is degraded by reaction with photochemically produced hydroxyl radicals and has an estimated half-life of 17.8 days. Methanol is physically removed from air by rain due to its solubility. Methanol can react with NO<sub>2</sub> in polluted to form methyl nitrate. The half-life of methanol in air ranges from 71 hrs. (3 days) to 713 hrs. (29.7 days) based on photooxidation half-life in air. (Methyl alcohol)

## Section 13: Disposal Considerations

**Waste Disposal:**

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

## Section 14: Transport Information

**DOT Classification:**

CLASS 3: Flammable liquid. CLASS 6.1: Poisonous material.

**Identification:** : Methanol (Methyl alcohol) UNNA: 1230 PG: II

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

## Section 15: Other 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 TSCA 8(b) inventory: Methyl alcohol; Methyl red SARA 313 toxic chemical notification and release reporting: Methyl alcohol 99.9% CERCLA: Hazardous substances.: Methyl alcohol: 5000 lbs. (2268 kg);

**Other Regulations:** OSHA: Hazardous by definition of Hazard Communication Standard (29 CFR 1910.1200).

**Other Classifications:**

**WHMIS (Canada):**

CLASS B-2: Flammable liquid with a flash point lower than 37.8°C (100°F). CLASS D-1A: Material causing immediate and serious toxic effects (VERY TOXIC). CLASS D-2A: Material causing other toxic effects (VERY TOXIC).

**DSCL (EEC):**

R11- Highly flammable. R23/24/25- Toxic by inhalation, in contact with skin and if swallowed. S7- Keep container tightly closed. S16- Keep away from sources of ignition - No smoking. S36/37- Wear suitable protective clothing and gloves. S45- In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

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

**Health Hazard:** 2

**Fire Hazard:** 3

**Reactivity:** 0

**Personal Protection:** h

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

**Health:** 1

**Flammability:** 3

**Reactivity:** 0

**Specific hazard:**

**Protective Equipment:**

Gloves. Lab coat. Vapor respirator. Be sure to use an approved/certified respirator or equivalent. Wear appropriate respirator when ventilation is inadequate. Splash goggles.

## Section 16: Other Information

**References:** Not available.

**Other Special Considerations:** Not available.

**Created:** 10/10/2005 10:48 AM

**Last Updated:** 11/01/2010 12:00 PM

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