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# Material Safety Data Sheet

## Dodecyltrimethylammonium chloride, 50% MSDS

### Section 1: Chemical Product and Company Identification

**Product Name:** Dodecyltrimethylammonium chloride, 50%

**Catalog Codes:** SLD3874

**CAS#:** Mixture.

**RTECS:** Not applicable.

**TSCA:** TSCA 8(b) inventory: Isopropyl alcohol; Water; Dodecyltrimethylammonium chloride

**CI#:** Not available.

**Synonym:** Dodecyltrimethylammonium Chloride, 50% solution in Alcohol

**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
Isopropyl alcohol	67-63-0	35-45
Water	7732-18-5	5-15
Dodecyltrimethylammonium Chloride	112-00-5	45-55

**Toxicological Data on Ingredients:** Isopropyl alcohol: ORAL (LD50): Acute: 5045 mg/kg [Rat]. 3600 mg/kg [Mouse]. 6410 mg/kg [Rabbit]. DERMAL (LD50): Acute: 12800 mg/kg [Rabbit]. Dodecyltrimethylammonium Chloride LD50: Not available. LC50: Not available.

### Section 3: Hazards Identification

**Potential Acute Health Effects:**

Hazardous in case of skin contact (irritant), of eye contact (irritant), of ingestion. Slightly hazardous in case of skin contact (permeator).

**Potential Chronic Health Effects:**

Slightly hazardous in case of skin contact (sensitizer) CARCINOGENIC EFFECTS: Classified A4 (Not classifiable for human or animal.) by ACGIH, 3 (Not classifiable for human.) by IARC [Isopropyl alcohol]. MUTAGENIC EFFECTS: Not available.

TERATOGENIC EFFECTS: Not available. DEVELOPMENTAL TOXICITY: Classified Reproductive system/toxin/female, Development toxin [POSSIBLE] [Isopropyl alcohol]. The substance may be toxic to kidneys, liver, skin, central nervous system (CNS). Repeated or prolonged exposure to the substance can produce target organs damage.

## Section 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.

### 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. Cold water may be used. 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 medical attention.

### Inhalation:

If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention if symptoms appear.

### 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. 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. Loosen tight clothing such as a collar, tie, belt or waistband. Get medical attention if symptoms appear.

**Serious Ingestion:** Not available.

## Section 5: Fire and Explosion Data

**Flammability of the Product:** Flammable.

**Auto-Ignition Temperature:** The lowest known value is 399°C (750.2°F) (Isopropyl alcohol).

**Flash Points:** CLOSED CUP: 19°C (66.2°F).

**Flammable Limits:** The greatest known range is LOWER: 2% UPPER: 12.7% (Isopropyl alcohol)

**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. Flammable in presence of oxidizing materials. Non-flammable in presence of shocks, of reducing materials, of combustible materials, of organic materials, of metals, of acids, of alkalis.

### Explosion Hazards in Presence of Various Substances:

Slightly explosive in presence of oxidizing materials. Non-explosive in presence of open flames and sparks, of shocks.

### 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 or fog.

### Special Remarks on Fire Hazards:

Vapor may travel considerable distance to source of ignition and flash back. CAUTION: MAY BURN WITH NEAR INVISIBLE FLAME (Isopropyl alcohol)

### Special Remarks on Explosion Hazards:

Secondary alcohols are readily autooxidized in contact with oxygen or air, forming ketones and hydrogen peroxide. It can become potentially explosive. Explosive in the form of vapor when exposed to heat or flame. May form explosive mixtures with air. Isopropyl alcohol + phosgene forms isopropyl chloroformate and hydrogen chloride. In the presence of iron salts, thermal decomposition can occur, which in some cases can become explosive. A homogeneous mixture of concentrated peroxides + isopropyl alcohol are capable of detonation by shock or heat. Barium perchlorate + isopropyl alcohol gives the highly explosive alkyl perchlorates. (Isopropyl alcohol)

## Section 6: Accidental Release Measures

### Small Spill:

Dilute with water and mop up, or absorb with an inert dry material and place in an appropriate waste disposal container.

### Large Spill:

Flammable 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 touch spilled material. Prevent entry into sewers, basements or confined areas; dike if needed. 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, 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:

Isopropyl alcohol TWA: 983 STEL: 1230 (mg/m<sup>3</sup>) [Australia] TWA: 200 STEL: 400 (ppm) from ACGIH (TLV) [United States] [1999] TWA: 980 STEL: 1225 (mg/m<sup>3</sup>) from NIOSH TWA: 400 STEL: 500 (ppm) from NIOSH TWA: 400 STEL: 500 (ppm) [United Kingdom (UK)] TWA: 999 STEL: 1259 (mg/m<sup>3</sup>) [United Kingdom (UK)] TWA: 400 STEL: 500 (ppm) from OSHA (PEL) [United States] TWA: 980 STEL: 1225 (mg/m<sup>3</sup>) from OSHA (PEL) [United States] Consult local authorities for acceptable exposure limits.

## Section 9: Physical and Chemical Properties

**Physical state and appearance:** Liquid. (Viscous liquid.)

**Odor:** Not available.

**Taste:** Not available.

**Molecular Weight:** Not applicable.

**Color:** Yellow. (Light.)

**pH (1% soln/water):** Neutral.

**Boiling Point:** The lowest known value is 82.5°C (180.5°F) (Isopropyl alcohol). Weighted average: 86°C (186.8°F)

**Melting Point:** May start to solidify at -88.5°C (-127.3°F) based on data for: Isopropyl alcohol.

**Critical Temperature:** The lowest known value is 235°C (455°F) (Isopropyl alcohol).

**Specific Gravity:** 0.892 (Water = 1)

**Vapor Pressure:** The highest known value is 4.4 kPa (@ 20°C) (Isopropyl alcohol). Weighted average: 3.98 kPa (@ 20°C)

**Vapor Density:** The highest known value is 2.07 (Air = 1) (Isopropyl alcohol). Weighted average: 1.78 (Air = 1)

**Volatility:** Not available.

**Odor Threshold:** The highest known value is 22 ppm (Isopropyl alcohol)

**Water/Oil Dist. Coeff.:** The product is equally soluble in oil and water.

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

**Dispersion Properties:** See solubility in water, methanol, diethyl ether, n-octanol, acetone.

**Solubility:** Easily soluble in cold water, hot water, methanol, diethyl ether, n-octanol, acetone.

## Section 10: Stability and Reactivity Data

**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, acids.

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

**Special Remarks on Reactivity:**

Reacts violently with hydrogen-palladium combination. Incompatible with acetaldehyde, chlorine, ethylene oxide, isocyanates. (Isopropyl alcohol)

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

**Polymerization:** Will not occur.

## Section 11: Toxicological Information

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

**Toxicity to Animals:**

Acute oral toxicity (LD50): 3600 mg/kg [Mouse]. (Isopropyl alcohol). Acute dermal toxicity (LD50): 12800 mg/kg [Rabbit]. (Isopropyl alcohol).

**Chronic Effects on Humans:**

CARCINOGENIC EFFECTS: Classified A4 (Not classifiable for human or animal.) by ACGIH, 3 (Not classifiable for human.) by IARC [Isopropyl alcohol]. DEVELOPMENTAL TOXICITY: Classified Reproductive system/toxin/female, Development toxin [POSSIBLE] [Isopropyl alcohol]. Contains material which may cause damage to the following organs: kidneys, liver, skin, central nervous system (CNS).

**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:**

Lowest Published Lethal Dose for Dodecyltrimethylammonium Chloride: LDL [Mouse] - Route: Oral; Dose: 300 mg/kg

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

May cause adverse reproductive/teratogenic effects (fertility, fetotoxicity, development a l abnormalities(developmental toxin)) based on animal studies. Detected in maternal milk in human. (Isopropyl alcohol)

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

Acute Potential Health Effects: Skin: May cause skin irritation and possible burns Eyes: May cause eye irritation and possible burns Inhalation: May cause respiratory tract irritation. Ingestion: May cause gastrointestinal tract irritation with nausea, vomiting and diarrhea. The toxicological properties is this substance have not been fully investigated.

## 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 product itself and its products of degradation are not toxic.

**Special Remarks on the Products of Biodegradation:** Not available.

## 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.

**Identification:** : Isopropanol Solution (Isopropyl alcohol) UNNA: 1219 PG: II

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

## Section 15: Other Regulatory Information

**Federal and State Regulations:**

Rhode Island RTK hazardous substances: Isopropyl alcohol Pennsylvania RTK: Isopropyl alcohol Florida: Isopropyl alcohol Minnesota: Isopropyl alcohol Massachusetts RTK: Isopropyl alcohol New Jersey: Isopropyl alcohol TSCA 8(b) inventory: Isopropyl alcohol; Water; Dodecyltrimethylammonium Chloride TSCA 4(a) final testing order: Isopropyl alcohol TSCA 8(d) H and S data reporting: Isopropyl alcohol: Effective date: 12/15/86 Sunset Date: 12/15/96 TSCA 12(b) one time export: Isopropyl alcohol

**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).

**DSCL (EEC):**

R11- Highly flammable. R36/38- Irritating to eyes and skin. S7- Keep container tightly closed. S16- Keep away from sources of ignition - No smoking. S24/25- Avoid contact with skin and eyes. S26- In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. S36/37/39- Wear suitable protective clothing,

**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:** 10/09/2005 05:25 PM**Last Updated:** 11/01/2010 12:00 PM

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