



Material Safety Data Sheet

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|--|--|---------------|---|-------------|---|------------|---|--|
| <p>NFPA</p>  | <p>HMIS</p> <table border="1" style="margin: auto;"> <tr> <td style="background-color: #00FFFF;">Health Hazard</td> <td style="text-align: center; border: 1px solid black;">2</td> </tr> <tr> <td style="background-color: #FFC0CB;">Fire Hazard</td> <td style="text-align: center; border: 1px solid black;">3</td> </tr> <tr> <td style="background-color: #FFFF00;">Reactivity</td> <td style="text-align: center; border: 1px solid black;">0</td> </tr> </table> | Health Hazard | 2 | Fire Hazard | 3 | Reactivity | 0 | <p>Personal Protective Equipment</p>  <p style="text-align: center;">See Section 15.</p> |
| Health Hazard | 2 | | | | | | | |
| Fire Hazard | 3 | | | | | | | |
| Reactivity | 0 | | | | | | | |

| Section 1. Chemical Product and Company Identification | | <i>Page Number: 1</i> |
|--|---|--|
| Common Name/Trade Name | Dodecyltrimethylammonium chloride, 50% solution in alcohol | |
| Manufacturer | SPECTRUM LABORATORY PRODUCTS INC. 14422 S. SAN PEDRO STREET GARDENA, CA 90248 | |
| Commercial Name(s) | Not available. | |
| Synonym | Dodecyltrimethylammonium Chloride, 50% solution in Isopropyl Alcohol | |
| Chemical Name | Not applicable. | |
| Chemical Family | Not available. | |
| Chemical Formula | Not applicable. | |
| Supplier | SPECTRUM LABORATORY PRODUCTS INC. 14422 S. SAN PEDRO STREET GARDENA, CA 90248 | |
| | Catalog Number(s). | D1072, YY338 |
| | CAS# | Mixture. |
| | RTECS | Not applicable. |
| | TSCA | TSCA 8(b) inventory: Isopropyl alcohol; Water; Dodecyltrimethylammonium chloride |
| | CI# | Not available. |
| <p><u>IN CASE OF EMERGENCY</u> <u>CHEMTREC (24hr) 800-424-9300</u></p> <p>CALL (310) 516-8000</p> | | |

| Section 2. Composition and Information on Ingredients | | | | | |
|---|-----------|--------------------------|---------------------------|---------------------------|-------------|
| | | | <i>Exposure Limits</i> | | |
| Name | CAS # | TWA (mg/m ³) | STEL (mg/m ³) | CEIL (mg/m ³) | % by Weight |
| 1) Isopropyl alcohol | 67-63-0 | 980 | 1225 | | 35-45 |
| 2) Water | 7732-18-5 | | | | 5-15 |
| 3) Dodecyltrimethylammonium Chloride | 112-00-5 | | | | 45-55 |
| Toxicological Data on Ingredients | | | | | |
| <p>Isopropyl alcohol: ORAL (LD50): Acute: 5045 mg/kg [Rat]. 3600 mg/kg [Mouse]. 6410 mg/kg [Rabbit]. DERMAL (LD50): Acute: 12800 mg/kg [Rabbit].</p> <p>Dodecyltrimethylammonium Chloride LD50: Not available. LC50: Not available.</p> | | | | | |

| Section 3. Hazards Identification | |
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| 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). |

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| 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: Not available. 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. |
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Section 4. First Aid Measures

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| 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

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| Flammability of the Product | Flammable. |
| Auto-Ignition Temperature | The lowest known value is 399°C (750.2°F) (Isopropyl alc ohol). |
| 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, CO2). |
| 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

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| 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

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| Precautions | 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, alkalis. |
| 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

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

Section 9. Physical and Chemical Properties

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| Physical state and appearance | Liquid. (Viscous liquid.) | Odor | Not available. |
| Molecular Weight | Not applicable. | Taste | Not available. |
| pH (1% soln/water) | Not available | Color | Yellow. (Light.) |
| 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 | 100% (w/w). (Isopropyl alcohol.) | | |
| Odor Threshold | The highest known value is 22 ppm (Isopropyl alcohol) | | |
| Water/Oil Dist. Coeff. | The product is equally soluble in oil and water. | | |

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| 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

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| 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, alkalis. |
| Corrosivity | Non-corrosive in presence of glass. |
| Special Remarks on Reactivity | Reacts violently with hydrogen + palladium combination, nitroform, oleum, COCl ₂ , aluminum triisopropoxide, oxidants Incompatible with acetaldehyde, chlorine, ethylene oxide, isocyanates, acids, alkaline earth, alkali metals, caustics, amines, crotonaldehyde, phosgene, ammonia. Isopropyl alcohol reacts with metallic aluminum at high temperatures. Isopropyl alcohol attacks some plastics, rubber, and coatings. Vigorous reaction with sodium dichromate + sulfuric acid. (Isopropyl alcohol) |
| Special Remarks on Corrosivity | Not available. |
| Polymerization | Will not occur. |

Section 11. Toxicological Information

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| 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]. 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, developmental 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: Breathing large amounts may be harmful and may affect the respiratory system and mucous membranes (irritation), behavior and brain (Central nervous system depression - headache, dizziness, drowsiness, stupor, incoordination, unconciousness, coma and possible death), peripheral nerve and sensation, blood, urinary system, and liver. Ingestion: Swallowing large amounts may be harmful. Swallowing large amounts may cause gastrointestinal tract irritation with nausea, vomiting and diarrhea, abdominal pain. It also may affect the urinary system, cardiovascular system, sense organs, behavior or central nervous system (somnolence, generally depressed activity, irritability, headache, dizziness, drowsiness), liver, and respiratory system (breathing difficulty). Chronic Potential Health Effects: May cause defatting of the skin and dermatitis and allergic reaction. May cause adverse reproductive effects based on animal data (studies). |


Section 12. Ecological Information

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| 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

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| Waste Disposal | Waste must be disposed of in accordance with federal, state and local environmental control regulations. |
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Section 14. Transport Information

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| DOT Classification | CLASS 3: Flammable liquid. |
| Identification | UNNA: 1219 : Isopropanol Solution PG: II |
| Special Provisions for Transport | Not available. |
| DOT (Pictograms) |  |

Section 15. Other Regulatory Information and Pictograms

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| Federal and State Regulations | <p>California prop. 65: This product contains the following ingredients for which the State of California has found to cause birth defects which would require a warning under the statute: No products were found.</p> <p>California prop. 65: This product contains the following ingredients for which the State of California has found to cause cancer which would require a warning under the statute: No products were found.</p> <p>Connecticut hazardous material survey.: Isopropyl alcohol</p> <p>Illinois toxic substances disclosure to employee act: Isopropyl alcohol</p> <p>Rhode Island RTK hazardous substances: Isopropyl alcohol</p> <p>Pennsylvania RTK: Isopropyl alcohol</p> <p>Florida: Isopropyl alcohol</p> <p>Minnesota: Isopropyl alcohol</p> <p>Massachusetts RTK: Isopropyl alcohol</p> <p>New Jersey: Isopropyl alcohol</p> <p>New Jersey spill list: Isopropyl alcohol</p> <p>TSCA 8(b) inventory: Isopropyl alcohol; Water</p> <p>TSCA 4(a) final testing order: Isopropyl alcohol</p> <p>TSCA 8(a) IUR: Isopropyl alcohol</p> <p>TSCA 8(d) H and S data reporting: Isopropyl alcohol: Effective date: 12/15/86 Sunset Date: 12/15/96</p> <p>TSCA 12(b) one time export: Isopropyl alcohol</p> | | |
| California Proposition 65 Warnings | <p>California prop. 65: This product contains the following ingredients for which the State of California has found to cause cancer which would require a warning under the statute: No products were found.</p> <p>California prop. 65: This product contains the following ingredients for which the State of California has found to cause birth defects which would require a warning under the statute: No products were found.</p> | | |
| Other Regulations | OSHA: Hazardous by definition of Hazard Communication Standard (29 CFR 1910.1200). | | |
| Other Classifications | <table border="1"> <tr> <td>WHMIS (Canada)</td> <td> <p>CLASS B-2: Flammable liquid with a flash point lower than 37.8°C (100°F).</p> <p>CLASS D-2B: Material causing other toxic effects (TOXIC).</p> </td> </tr> </table> | WHMIS (Canada) | <p>CLASS B-2: Flammable liquid with a flash point lower than 37.8°C (100°F).</p> <p>CLASS D-2B: Material causing other toxic effects (TOXIC).</p> |
| WHMIS (Canada) | <p>CLASS B-2: Flammable liquid with a flash point lower than 37.8°C (100°F).</p> <p>CLASS D-2B: Material causing other toxic effects (TOXIC).</p> | | |

DSCL (EEC)

R11- Highly flammable.
R36/38- Irritating to eyes and skin.
R67- Vapors may cause drowsiness
and dizziness.

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,
gloves and eye/face protection.

HMIS (U.S.A.)

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| Health Hazard | 2 |
| Fire Hazard | 3 |
| Reactivity | 0 |
| Personal Protection | h |

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

Health



Flammability

Reactivity

Specific hazard

**WHMIS (Canada)
(Pictograms)**



**DSCL (Europe)
(Pictograms)**



**TDG (Canada)
(Pictograms)**



**ADR (Europe)
(Pictograms)**



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

MSDS Code D3589

References Not available.

Other Special Considerations Not available.

Validated by Sonia Owen on 7/10/2009.

Verified by Sonia Owen.

Printed 7/13/2009.

CALL (310) 516-8000

Notice to Reader

All chemicals may pose unknown hazards and should be used with caution. This Material Safety Data Sheet (MSDS) applies only to the material as packaged. If this product is combined with other materials, deteriorates, or becomes contaminated, it may pose hazards not mentioned in this MSDS. It shall be the user's responsibility to develop proper methods of handling and personal protection based on the actual conditions of use. While this MSDS is based on technical data judged to be reliable, Spectrum Quality Products, Inc. assumes no responsibility for the completeness or accuracy of the information contained herein.