

Section 1. Product and Company Identification

**Product Name** Didecyl Dimethyl Ammonium Chloride  
**CAS Number** 7173-51-5

**Parchem - fine & specialty chemicals**  
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Section 2. Hazards Identification

**Classification of the substance or mixture**

Aquatic Toxicity; Combustible Liquid; Corrosive

**GHS Label Elements**

**Pictograms:**



**Signal word:** DANGER

**Hazard and precautionary statements**

**Hazard Statements**

H227: Combustible liquid  
H302: Harmful if swallowed  
H315: Causes skin irritation.  
H319: Causes serious eye irritation.  
H335: May cause respiratory irritation.  
H400: Very toxic to aquatic life.

**Precautionary Statements**

P261: Avoid breathing dust/fume/gas/mist/vapors/spray.  
P262: Do not get in eyes, on skin, or on clothing.  
P264: Wash skin thoroughly after handling.  
P270 Do not eat, drink, or smoke when using this product.  
P 273: Avoid release to the environment.  
P280: Wear protective gloves/protective clothing/eye protection/face protection.  
P305- P351- P338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact



lenses. If present and easy to do. Continue rinsing.  
P314: Get Medical advice/attention if you feel unwell.  
P337- P313: If eye irritation persists: Get medical advice/attention.  
P360: Immediately rinse contaminated clothing and skin with plenty of water before removing clothes.  
P501: Dispose of contents/container to an approved waste disposal plant.

**Carcinogenic Effects:** Not available.  
**Mutagenic Effects:** Not available.  
**Teratogenic Effects:** Not available.  
**Developmental Toxicity:** Not available.

Section 3. Composition / Information on Ingredients

**Common Name** Didecyl Dimethyl Ammonium Chloride  
**Synonym(s)** DDAC; Didecyldimethyl Ammonium Chloride  
**Formula**  $C_{22}H_{48}ClN$   
**CAS Number** 7173-51-5

COMPONENT	CAS NUMBER	CONCENTRATION
Didecyl Dimethyl Ammonium Chloride	7173-51-5	80 – 82%
Ethanol	64-17-5	10 – 17%
Water	7732-18-5	QS

Section 4. First Aid Measures

**Inhalation:** If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Mists and vapors can irritate the throat and respiratory tract. High vapor concentrations may cause central nervous system effects. May be fatal if inhaled. Symptoms may include headaches, dizziness, and drowsiness. Get medical attention.

**Ingestion:** Ingestion can cause gastrointestinal irritation, nausea, vomiting and diarrhea and even death. Contact medical center quickly. Never give anything by mouth to an unconscious person. Get medical attention.

**Skin Contact:** Causes corrosive burns. Brief exposures may cause irritation and defatting of the skin. Immediately flush skin with plenty of water for at least 15 minutes. Remove contaminated clothing and shoes. Get medical attention. Wash clothing before reuse. Thoroughly clean shoes before reuse.

**Eye Contact:** Causes burns and may result in permanent injury to eyes including blindness. Check for and remove any contact lenses. Immediately flush eyes with running water for at least 15 minutes, keeping eyelids open. Cold water may be used. Get medical attention.

Section 5. Firefighting Measures

**Flash point (Closed Cup):** 109°F (43°C)  
**Auto-ignition Temperature:** N/A



Toxic fumes, nitrogen oxides and carbon monoxide may be formed in fire. Explosive mixtures can form with air. Combustion products are toxic. Solvent vapors can travel to an ignition source and flash back.

**Fire Extinguishing Media:** Dry chemical, foam, carbon dioxide, or water fog. Solid water streams may spread burning liquid. Water may not be effective.

**Special Information:** In the event of a fire, wear full protective clothing and NIOSH-approved self-contained breathing apparatus with full face piece operated in the pressure demand or other positive pressure mode.

#### Section 6. Accidental Release Measures

**Small Spill:** Mop and pick up the material and place in an appropriate waste disposal container. Finish cleaning by spreading water on the contaminated surface and dispose of according to local and regional authority requirements.

**Large Spill:** Isolate spill or leak area immediately. Keep unauthorized personnel away. Stay upwind. Keep out of low areas where vapors may accumulate. Eliminate all ignition sources (no smoking, flares, sparks, or flames) in immediate area. Keep away from heat. Keep away from sources of ignition. Provide ventilation. Prevent entry into waterways, sewers, basements or confined areas. Absorb or cover with dry earth, sand, or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material.

#### Section 7. Handling and Storage

Keep away from heat and source of fire preferably in a ventilated area. Keep in tightly closed container. Do not breathe dust. Containers may be hazardous when empty since they retain product residues (vapors, liquid): observe all warnings and precautions listed for the product.

#### Section 8. Exposure Controls / Personal Protection

##### **Airborne Exposure Limits**

##### **Ethanol**

**ACGIH TWA:** 1000 ppm (TWA)

**NIOSH:** 1000 ppm (TWA)

**Ventilation system:** A system of local and/or general exhaust is recommended to keep employee exposures as low as possible. Local exhaust ventilation is generally preferred because it can control the emissions of the contaminant at its source, preventing dispersion of it into the general work area. Please refer to the ACGIH document, Industrial Ventilation, A Manual of Recommended Practices, most recent edition, for details.

**Personal Respirators (NIOSH-Approved):** For conditions of use where exposure to the substance is apparent and engineering controls are not feasible. Consult an industrial hygienist. For emergencies, or instances where the exposure levels are not known, use a full-face piece positive-pressure, air-supplied respirator.

WARNING: Air purifying respirators do not protect workers in oxygen-deficient atmospheres.



**Skin Protection:** Wear impervious protective clothing, including boots, gloves, lab coat, apron, or coveralls, as appropriate, to prevent skin contact.

**Eve Protection:** Use chemical safety goggles and/or a full face shield where splashing is possible. Maintain eye wash fountain and quick-drench facilities in work area.

#### Section 9. Physical and Chemical Properties

**Appearance:** Pale Yellow, Viscous Liquid.

**Odor:** Alcohol & Benzaldehyde Type.

**Solubility:** Miscible with water

**Specific Gravity:** 0.92 - 0.96 (7.7 lbs/gal) for un-diluted material

**pH:** 6 - 9 for 10% solution.

**% Volatiles by volume (21°C/70°F):** N/A

**Boiling Point:** N/A

**Melting Point:** N/A.

**Molecular Weight:** 362.1

**Molecular Formula:** C<sub>22</sub>H<sub>48</sub>ClN

**Vapor Pressure (mmHg):** N/A

**Evaporation Rate (BuAc= 1):** N/A

#### Section 10. Stability and Reactivity

**Stability:** DDAC. Didecyl dimethyl Ammonium Chloride is stable under ordinary conditions of use and storage.

**Hazardous Decomposition Products:** Carbon dioxide, carbon monoxide, nitrogen oxides, and toxic fumes may form when heated to decomposition.

**Hazardous Polymerization:** Not reported. However it can explode under certain conditions.

**Incompatibilities:** Acids, oxidizing agents, heat, and sparks.

**Conditions to Avoid:** Heat, flames, ignition sources, and incompatibles.

#### Section 11. Toxicological Information

**Oral rat LD50:** 400 mg/kg

**Dermal LD50:** 1990 mg/kg

**Mutagenic Effects:** N/A.

**Teratogenicity:** No information available.

**Reproductive Effects:** No information available.

**IARC Monographs:** Overall evaluation

Ethanol (64-17-5) 1 Carcinogenic to humans.

**US ACGIH Threshold Limit Values:** A3 carcinogen

Ethanol (64-17-5) Group A3 Confirmed annual carcinogen with unknown relevance to humans.



Section 12. Ecological Information

**Environmental Toxicity:** Very Toxic to aquatic organisms.  
This product is biodegradable

Section 13. Disposal Considerations

**Waste Treatment Methods:** Dispose of product and contaminated packaging in accordance with all local, state, and federal environmental control regulations.

Section 14. Transport Information

**US DOT (Land)**

**DOT Hazard Class:** 8 - Corrosive

**DOT Proper Shipping Name:** UN1903, Disinfectants. Liquid, Corrosive N.O.S., (Quaternary Ammonium Compound), 8, PG II

**US DOT (Air and Water), IMDG (Sea), IATA (Air)**

**DOT, IMDG, IATA Hazard Class:** 8(3) - Corrosive (Flammable)

**Proper Shipping Name:** UN2920. Corrosive Liquids. Flammable. N.O.S. (Quaternary Ammonium Compound. Ethanol). 8(3), P.G. II

Section 15. Regulatory Information

**OSHA:** Corrosive

**TSCA:** -

**TSCA Significant New Use Rule:** None of the chemicals in this product have SNUR under TSCA.

**Section 12b:** None of the chemicals in this product are listed under TSCA Section 12b.

**CERLA Hazardous Substances and Corresponding ROs:** 1000 pounds is a reportable quantity.

**SARA 302:** No chemicals in this material are subject to the reporting requirements of SARA Title III Section 302.

**SARA 313:** This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

**SARA 311/312 Hazards:** Acute Hazard. Fire.

**USA State Right to Know:** Ethanol is listed in AZ, Ca, Ct, FL, ID, MA, MN, NJ, PA, RI

**California Prop 65**

**No Significant Risk Level:** None of the chemicals in this product are listed.

**EINECS EC Code:** 230-525-2



**Hazard Symbols:** C

**Risk Phrases**

R10 - Flammable.  
R21/22 - Harmful in contact with skin & swallowing.  
R34 - Causes burns.  
R50 - Very toxic to aquatic organism.  
R67 - Vapors may cause drowsiness

**Safety Phrases**

S16 - Keep away from source of ignition. No smoking.  
S26 - In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.  
S28 - In case of contact with skin, wash immediately with plenty of soap & water.  
S36/37/39 - Wear suitable protective clothing, gloves, and eye/face protection.  
S46 - If swallowed, seek medical advice immediately and show this MSDS  
S57 - Use appropriate containment to avoid environment contamination.  
S24/25 Avoid contact with skin and eyes.

**WHMIS (Canada):** E-B3-D1B.

**HMIS (USA)**

**Health:** 3

**Flammability:** 2

**Reactivity:** 0

**Personal Protection:** N/A

**National Fire Protection Association (USA)**

**Health:** 3

**Flammability:** 2

**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

**Disclaimer:** The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product.

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