

**MATERIAL SAFETY DATA SHEET**  
**EPA Reg. No. 47371-37-1658**      **EPA Est. No. 1658-MO-1**

**NFPA RATING:** Health = 2   Flammability = 0   Reactivity = 0  
**HMIS RATING:** Health = 2   Flammability = 1   Reactivity = 0

**SECTION I – IDENTITY AND MANUFACTURER'S INFORMATION**      (1120A)

**Manufacturer's Name:** HILLYARD INDUSTRIES      **Product Name:** CITRUS DISINFECTANT

**Address:** 302 North Fourth Street      **Date Prepared:** September 7, 2006

St. Joseph, MO 64501      **Prepared by:** Regulatory Affairs Department

**Emergency Telephone No.:** (800) 424-9300 (Only in the event of chemical emergency involving a spill, leak, fire, exposure or accident involving chemicals.)

**Other information calls:** (816) 233-1321 (Ext. 8285)

<http://www.hillyard.com>

**SECTION II – INGREDIENTS/IDENTITY INFORMATION**

**Components**

**(Specific Chemical Identity:**

<b>Common Name(s)</b>	<b>CAS#</b>	<b>OSHA PEL</b>	<b>ACGIH TLV</b>	<b>OTHER LIMITS RECOMMENDED</b>	<b>%</b>
Didecyl dimethyl ammonium chloride	7173-51-5	not established	N/A	N/A	1.875
n-Alkyl (C <sub>14</sub> 50%, C <sub>12</sub> 40%, C <sub>16</sub> 10%) dimethyl benzyl ammonium chloride	8001-54-5	not established	N/A	N/A	1.248
Deionized water	7732-18-5	none	N/A	N/A	---
VOC (Concentrate) = 0%, VOC of (Min. Dilution) = 0%					

**SECTION III – PHYSICAL / CHEMICAL CHARACTERISTICS**

<b>Boiling Point:</b> 208°F	<b>Specific Gravity (H<sub>2</sub>O = 1):</b> 25°C = 1.01 & 39°C = 1.01
<b>Vapor Pressure (mm Hg.):</b> 17.7	<b>Percent Volatile by Volume (%):</b> 94.0
<b>Vapor Density (AIR = 1):</b> 0.6	<b>Evaporation Rate (ethyl ether = 1):</b> slower than 1
<b>Solubility in Water:</b> Complete	<b>Appearance and Odor:</b> clear, orange liquid; citrus odor
<b>pH of concentrate:</b> 11-12	

**SECTION IV – FIRE AND EXPLOSION HAZARD DATA**

**Flash point:** >200°F (Tag Closed Cup)   **Flammable Limits:** LEL = Not applicable   UEL = Not applicable

**Extinguishing Media:** Foam, alcohol foam, carbon dioxide, dry chemical, water

**Special Fire Fighting Procedures:** Must wear NIOSH/MSHA approved self-contained breathing apparatus and protective clothing. Cool fire-exposed containers with water spray.

**Unusual Fire and Explosion Hazards:** Products of combustion are toxic.

**SECTION V – PHYSICAL HAZARDS**

**Stability:** Stable      **Conditions to Avoid:** None known to Hillyard.

**Incompatibility (Materials to Avoid):** Strong oxidizing and reducing agents.

**Hazardous Decomposition Products or Byproducts:** Thermal decomposition may produce toxic vapors/fumes of Hydrogen chloride, amines, and other organic materials, and oxides of carbon and nitrogen

**Hazardous Polymerization:** Will not occur      **Conditions to Avoid:** None known to Hillyard

**SECTION VI – HEALTH HAZARD DATA**

**Routes of entry:** Inhalation? yes   Skin? yes   Eye? Yes   Ingestion? yes

**HEALTH HAZARDS (1. Acute and 2. Chronic)**

1. From previous experience with a 2 oz. per gallon alkaline quat, the oral LD50 (rat): 1850 mg/kg. Dermal LD50 (Rabbit): 4430 mg/kg. Eye: Diluted product 1:64 (rabbit) essentially non-irritating; Skin irritation: Diluted product 1:64 (rabbit) Non-irritating. Inhalation of fine fog mist can cause irritation of mucous membranes. A similar formula with 5.5% quat, with pH of concentrate = 12; skin corrosivity (rabbit-DOT) Not a corrosive. Fine fog mist application is not recommended. 2. None known to Hillyard.

**Chemical listed as Carcinogen or Potential Carcinogen:**

**National Toxicology Program =** No      **I.A.R.C. Monographs =** No      **OSHA =** No

**Signs and Symptoms of Exposure** No health effects information available for human exposure. Based upon the available animal toxicity information for similar material(s), it is anticipated that direct contact with this material may possibly produce severe eye and/or skin irritation. Prolonged exposure may cause chemical burns with possible irreversible damage. Ingestion may cause immediate burning pain in the mouth, throat and abdomen; severe swelling of the larynx. Ingestion can cause skeletal muscle paralysis affecting the ability to breathe, circulatory shock, and/or convulsions. Solvent vapors or mist of product may cause irritation of mucous membranes. 2. None known to Hillyard.

## SECTION VI – HEALTH HAZARD DATA continued:

**Medical Conditions Generally Aggravated by Exposure:** None known to manufacturer.

**Emergency and First Aid Procedures** For eye contact, immediately flush eyes with large amounts of running water for at least 15 minutes. Hold eyelids apart to ensure rinsing of the entire surface of the eye and lids with water. Get immediate medical attention. If physician not available, flush for additional 15 minutes and then transport victim to medical care. For skin contact, wash with plenty of running water, and soap if available, for 15 minutes. Remove contaminated clothing and shoes. Get immediate medical attention. Wash clothing and decontaminate shoes before reuse. If swallowed, immediately give 3-4 glasses of milk (if unavailable, give water). DO NOT INDUCE VOMITING. If vomiting does occur, give fluids again. Get immediate medical attention. Have physician determine if patient's condition allows for induction of vomiting or evacuation of the stomach. Do not give anything by mouth to a convulsing or unconscious person. Note to physician: Possible mucosal damage may contraindicate the use of gastric lavage. Measures against circulatory shock, as well as oxygen and measures to support breathing manually or mechanically, may be needed.

## SECTION VII – PRECAUTIONS FOR SAFE HANDLING AND USE

**Steps To Be Taken In Case Material Is Released Or Spilled:** Caution. Irritant liquid. Floors may become slippery. Wear appropriate protective gear and respiratory protection where mist or vapors of unknown concentrations may be generated (self-contained breathing apparatus preferred). Dike and contain spill with inert material (sand, earth, etc.) and transfer the liquid and solid separately to containers of recovery or disposal. Keep spill out of sewers and open bodies of water.

**Waste Disposal Method:** Dispose of in compliance with all federal, state and local laws and regulations. Incineration is the preferred method.

**Precautions To Be Taken In Handling And Storing:** Keep away from children.

**Other Precautions:** Triple rinse (or equivalent). Then offer for recycling or reconditioning, or puncture and dispose of in a sanitary landfill, or incineration, or, if allowed by state and local authorities, by burning. If burned, stay out of smoke. This product contains no reportable quantities of toxic chemicals subject to reporting requirements of Section 313 of SARA Title III Emergency Planning & Community Right to Know Act of 1986 and 40 CFR Part 372.

## SECTION VIII – CONTROL MEASURES

**Ventilation:** In processes where mists or vapors must be generated, proper ventilation must be provided in accordance with good ventilation practices. **Respiratory Protection (Specify Type):** In processes where mists or vapors may be generated, a NIOSH/MSHA jointly approved respirator is advised in the absence of proper environmental controls. **Protective Gloves:** Rubber or neoprene, when needed, to prevent skin contact with concentrate. **Eye Protection:** Wear chemical splash goggles where there is a potential for eye contact. Use safety glasses with side shields under normal use conditions. **Other Protective Clothing or Equipment:** Eyewash; safety shower, protective clothing (long sleeves, coveralls or other, as appropriate), when needed to prevent skin contact with concentrate. **Work / Hygienic Practices:** Wash hands thoroughly after handling.

## SECTION IX – TRANSPORTATION INFORMATION

Applicable regulations: 49 CFR = No; IMCO = No; IATA = No

Proper shipping name: Cleaning Compound; UN No.: Not applicable; Limited Qty.: Not applicable; Hazard Class: Not applicable

Labels required: Not required Exception: Not applicable

EPA Hazardous waste number/code: Not listed

Hazardous waste characteristics: Ignitability = Not applicable; Corrosivity = Not applicable; Reactivity = Not applicable.

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