

## DESCRIPTION

**Ecofect** has been formulated to aid in the reduction of cross-contamination on treated surfaces in institutions and industry. **Ecofect** is a one-step neutral disinfectant that is effective against a broad spectrum of bacteria when used as directed. When used as directed, **Ecofect** will deodorize surfaces in rest room and toilet areas, behind and under sinks and counters, garbage cans and garbage storage areas, and other places where bacterial growth can cause malodors. **Ecofect** is recommended for use in nursing homes, public rest rooms, institutions, schools, colleges, food processing plants, food storage areas, kitchens and restaurants. **Ecofect** contains no phosphorous and is a neutral pH disinfectant cleaner that disinfects, cleans and deodorizes in one labor saving step.

Use **Ecofect** on finished floors, high speed burnished floors, conductive flooring, washable walls, tables, chairs, bathroom bowls, sinks, basins, shower stalls, tubs, glazed tiles, toilet, countertops, stove tops, exteriors surfaces of appliances and refrigerators, cabinets, garbage cans, tables, outdoor furniture, chairs, desks, telephones, door knobs and handles, and glass surfaces including windows and mirrors.

**Ecofect** is a Hospital Disinfectant at 16 ml per litre, (1:64 dilution), modified in the presence of 250 ppm hard water with a 10 minute contact time. **Ecofect** is a Bactericidal according to the AOAC Use Dilution Test method, modified in the presence of 5% serum.

## SPECIAL INFORMATION

Canadian DIN #: 02414996

### **Guarantee**

Didecyl Dimethyl Ammonium Chloride

3.84%

Canadian Food Inspection Agency (CFIA) Approval for use in Food Plants

**EcoLogo™ Certified** under CCD-166 Disinfectants and Disinfectant Cleaners



## DIRECTIONS

**Disinfection of hospitals, food processing establishments, dairies, restaurants and bars:**

Apply at 16ml of **Ecofect** per litre of water to hard inanimate, non-porous surfaces, thoroughly wetting surfaces as recommended and required, with a cloth, mop, sponge or sprayer. For heavily soiled areas, a preliminary cleaning is required. For sprayer applications, use a coarse spray device. Spray 15-20 cm from surface. Rub with brush, sponge or cloth. Do not breathe spray. Treated surfaces must remain wet for 10 minutes. Prepare a fresh solution at least daily or when use solution become diluted or soiled. Rinse all surfaces which come in contact with food such as countertops, appliances, tables and stovetops with potable water before reuse. **Ecofect** is not for use to disinfect or clean eating utensils, glassware and dishes.



# Ecofect

Disinfectant - Cleaner - Deodorizer

**Disinfection of toilet bowls:**

Preclean to remove heavy soil.

**From Concentrate:** Add 16ml *Ecofect* to the toilet bowl and mix. Brush thoroughly over exposed surfaces and under the rim. Allow to stand for 10 min and flush.

**From Use Solution:** Empty toilet bowl or urinal and apply 16ml per litre *Ecofect* use solution to exposed surfaces, including under the rim with a cloth, mop, sponge or sprayer, brush or swab thoroughly and allow to stand for 10 min and flush. For sprayer application, use a coarse spray device.

**For Heavy Duty Cleaning:** Empty toilet bowl or urinal and apply 64ml per litre *Ecofect* use solution to exposed surfaces including under the rim with a cloth, mop, sponge or sprayer, brush or swap thoroughly and allow to stand for 10 minutes and flush. For sprayer application, use a coarse spray device.

**Glass Cleaning/Deodorizing:** Add 8 to 64ml *Ecofect* per litre of water to clean and deodorize windows, mirrors, and glass surfaces. Use a coarse spray device. Spray 15-20cm from surface. Rub with sponge or cloth. Do not breathe spray.

**Food Processing Plants:** Before using *Ecofect*, food products and packaging materials must be removed from the room or carefully protected. For use on non-food contact surfaces such as floors, walls, tables, garbage cans and disposal areas, follow disinfection directions.

**Food Storage Areas:** For use on non-food contact surfaces such as shelves, floors, walls and tables. Before using *Ecofect*, food products and packaging materials must be removed from the room or carefully protected. Then follow disinfection directions.

**Hatcheries:** Use 16ml *Ecofect* per litre of water to treat the following hard non-porous surfaces: hatchers, setters, trays, racks, carts, sexing tables, delivery trucks and other hard surfaces. Leave all treated surfaces exposed to disinfectant solution wet for 10 min or more. Rinse with potable water before reuse. Then allow to air dry.

**Shoe Baths:** Shoe baths containing one inch of freshly made solution (16ml *Ecofect* per litre of water) should be placed at all entrances to buildings and hatcheries and at all entrances to the production and packaging rooms. Change the solution in the bath daily or sooner if solution appears dirty.



## EFFICACY DATA

### DISINFECTION DATA:

Test Method: AOAC Use Dilution

Test Conditions: 5% serum, 10 minute contact time, stainless steel carrier substrates, 250 ppm hard water, 20°C exposure temperature, 2 oz/US gallon dilution.

### Results:

#### Test Organism

#### No. of Carriers

#### Sample

#### Expose

#### Positive

<i>Enterobacter aerogenes</i> (ATCC 15038)	A&B	10	0
<b><i>Enterobacter aerogenes</i> (ATCC 13048)</b>	<b>A&amp;B</b>	<b>10</b>	<b>0</b>
<i>Enterococcus faecalis</i> (Vancomycin Resistant) (VRE) (ATCC 51575)	A	10	0
	B	10	0
<b><i>Enterococcus faecalis</i> (Vancomycin resistance) (VRE) (ATCC 51299)</b>	<b>A</b>	<b>10</b>	<b>0</b>
	<b>B</b>	<b>10</b>	<b>0</b>
<i>Enterococcus faecium</i> (Antibiotic Resistance) (ATCC 51559)	A	10	0
	B	10	0
<b><i>Escherichia coli</i> O157:H7 (ATCC 35150)</b>	<b>A&amp;B</b>	<b>60</b>	<b>0</b>
<i>Klebsiella pneumonia</i> (Antibiotic Resistance) (ATCC 700603)	A	10	0
	B	10	0
<b><i>Klebsiella pneumoniae</i> (ATCC 4352)</b>	<b>A&amp;B</b>	<b>10</b>	<b>0</b>
<i>Listeria monocytogenes</i> (ATCC 19117)	A&B&C	60	0
<b><i>Pseudomonas aeruginosa</i> PRD-10(ATCC 15442)</b>	<b>A&amp;B&amp;C</b>	<b>60</b>	<b>0</b>
<i>Salmonella choleraesuis</i> (ATCC 10708)	A&B&C	10	0
<b><i>Salmonella enterica</i> subsp. <i>enterica</i> serotype <i>paratyphi</i> B (ATCC 8759)</b>	<b>A</b>	<b>10</b>	<b>0</b>
	<b>B</b>	<b>10</b>	<b>0</b>
<i>Salmonella enterica</i> subsp. <i>enterica</i> serotype <i>typhi</i> (ATCC 6539)	A	10	0
	B	10	0
<b><i>Serratia marcescens</i> (ATCC 14756)</b>	<b>A&amp;B</b>	<b>10</b>	<b>0</b>
<i>Shigella dysenteriae</i> (ATCC 13313)	A&B	10	0
<b><i>Staphylococcus aureus</i> (ATCC 6538)</b>	<b>A&amp;B</b>	<b>10</b>	<b>0</b>
<i>Staphylococcus aureus</i> (Methicillin Resistant) (MRSA) (ATCC 33592)	A	10	0
	B	10	0
<b><i>Staphylococcus aureus</i> (Vancomycin Intermediate Resistance) (VISA) (HIP 5836)</b>	<b>A</b>	<b>10</b>	<b>0</b>
	<b>B</b>	<b>10</b>	<b>0</b>
<i>Staphylococcus epidermidis</i> (ATCC 35983)	A&B	10	0
<b><i>Staphylococcus epidermidis</i> (Antibiotic Resistance) (ATCC 51625)</b>	<b>A</b>	<b>10</b>	<b>0</b>
	<b>B</b>	<b>10</b>	<b>0</b>
<i>Streptococcus pyogenes</i> (clinical-flesh eating strain, BIRD M#-Clinical Isolate)	A	10	0
	B	10	0



**DISINFECTION DATA continued:**

**Conclusion:**

Under the conditions of these investigations, **Ecofect** demonstrated disinfectant activity against *Enterobacter aerogenes* (ATCC 15038), *Enterobacter aerogenes* (ATCC 13048), *Enterococcus faecalis* (Antibiotic Resistance), *Enterococcus faecalis* (Vancomycin Resistance), *Enterococcus faecium* (Antibiotic Resistance), *Escherichia coli* (O157:H7), *Klebsiella pneumonia* (Antibiotic Resistance), *Klebsiella pneumonia*, *Listeria monocytogenes*, *Pseudomonas aeruginosa*, *Salmonella choleraesuis*, *Salmonella schottmuelleri*, *Salmonella typhi*, *Serratia marcescens*, *Shigella dysenteriae*, *Staphylococcus aureus*, *Staphylococcus aureus* (Methicillin Resistance)(MRSA), *Staphylococcus aureus* (Vancomycin Intermediate Resistance)(VISA), *Staphylococcus epidermidis*, *Staphylococcus epidermidis* (Antibiotic Resistance), and *Streptococcus pyogenes* (clinical-flesh eating strain, BIRD M#-Clinical Isolate) according to criteria established by the U.S. Environmental Protection Agency for registration and labeling of a disinfectant product as a bactericide. **Ecofect** also demonstrated disinfectant activity against the following antibiotic resistant clinical isolates: *Enterococcus faecalis*, *Klebsiella pneumonia* and, *Staphylococcus epidermidis*.



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### SECTION I PRODUCT IDENTIFICATION

**Product Trade Name:** Ecofect  
**Description:** Cleaner disinfectant (1:64)  
**Canada DIN 02414996**  
**Manufacturer:** Maxim Technologies Inc.  
**Effective Date:** 1607 Derwent Way, Delta BC V4E 2T8  
Jan. 2, 2015

### SECTION II COMPOSITION IDENTIFICATION

Ingredient	Approx. Wt. %	SARA-313	CAS Number
Didecyl Dimethyl Ammonium Chloride	2.0-5.0		7173-51-5
Ethanol	< 1.0		64-17-5

None of the other components in this mixture contribute significantly to the hazards associated with this component. All pertinent hazard information has been provided in this MSDS, per the requirements of the U.S. Federal Occupational Safety and Health Administration Standard (29 CFR 1910.1200), U.S. State equivalent Standards, and the Canadian Workplace Hazardous Materials Identification System Standards (CPR 4).

### SECTION III HAZARD IDENTIFICATION

**Route of Entry:** Skin, eye, inhalation, ingestion  
**Eyes:** Causes burns and may result in permanent injury to eyes including blindness.  
**Skin:** Causes corrosive burns. Brief exposures may cause irritation and defatting of the skin. Exposures not promptly washed off may lead to toxic effects similar to ingestion. Harmful if absorbed through the skin.  
**Inhalation:** Mists and vapors can irritate the throat and respiratory tract. High vapor concentrations may cause central nervous system effects. Symptoms may include headaches, dizziness, and drowsiness. Harmful if inhaled.  
**Ingestion:** Ingestion can cause gastrointestinal irritation, swelling of the larynx, difficulty in breathing, circulatory shock, convulsions and possibly death.  
**Effects of Chronic Exposure:** Ingestion of ethanol by pregnant women can cause reproductive toxicity to the fetus.  
**Effects of Acute Exposure to Product:** Corrosive to the eyes, skin, gastrointestinal tract, and respiratory system.

### SECTION IV FIRST AID MEASURES

**Ingestion:** Call a poison control center or doctor immediately for treatment advice. Have person sip a glass of water if able to swallow. Do not induce vomiting unless told to do so by a poison control center or doctor. Do not give anything by mouth to an unconscious person.  
**Inhalation:** If symptoms are experienced, move victim to fresh air. If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably mouth-to-mouth if possible. Call a poison control center or doctor for further treatment advice.  
**Skin Contact:** Take off contaminated clothing. Rinse skin immediately with plenty of water for 15-20 minutes. Call a poison control center or doctor for treatment advice.  
**Eye Contact:** Immediately flush eyes with water for 15-20 minutes, while holding eyelids open. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. Seek medical attention at once.  
**If irritation occurs or persists, get medical attention.**

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### SECTION V FIRE FIGHTING MEASURES

<b>Extinguishing Media:</b>	Dry chemical, foam, carbon dioxide, water fog or any other agent suitable for surrounding fire.
<b>Special Firefighting Procedures:</b>	Firefighters should wear full protective clothing including self-contained breathing apparatus. Cool fire exposed containers with spray.
<b>Unusual Fire / Explosion Hazards:</b>	Combustion products are toxic. Irritating and toxic gases or fumes may be released during a fire.

### SECTION VI ACCIDENTAL RELEASE MEASURES

#### Spill and Leak Procedures

<b>Emergency Action:</b>	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).
<b>Spill Cleanup:</b>	Ventilate closed spaces before entering. All equipment used when handling the product must be grounded. Floor will be slippery. Do not touch or walk through spilled material. Stop leak if you can do it without risk.. 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.
<b>Large Spills:</b>	Dike far ahead of liquid spill for later disposal. Pump into containers for disposal.

### SECTION VII HANDLING AND STORAGE

**Precautions To Be Taken In Handling And Storage:** Avoid contact with skin and eyes. Use good personal hygiene practices. Wash hands before eating, drinking, smoking, or using toilet facilities. Wash thoroughly after work using soap and water. Keep the container tightly closed and in a cool, well-ventilated place. Keep from freezing. Do not handle or store near an open flame, heat or other sources of ignition. Prevent electrostatic charge buildup by using common bonding and grounding techniques.

### SECTION VIII EXPOSURE CONTROLS / PERSONAL PROTECTION

**Respiratory Protection:** If exposure limits are exceeded or if irritation is experienced, a NIOSH/MSNA approved respirator or an organic/vapor removing cartridge respirator protection device should be worn. Ventilation and other forms of engineering controls are often the preferred means for controlling chemical exposures. Respiratory protection may be needed for non-routine or emergency situations.

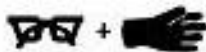
**Ventilation: Local Exhaust:** Good general ventilation or local exhaust ventilation for spraying and misting in confined areas.

**Protective Gloves:** Use impervious gloves (rubber or neoprene).

**Eye Protection:** Wear chemical goggles. Use a face shield if splashing is possible.

**Other Protective Equipment:** Wear suitable protective clothing. Eye wash fountain and emergency showers are recommended.

HMIS Protection  
Group B



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**SECTION IX PHYSICAL DATA**

<b>Appearance:</b>	Clear, orange coloured liquid
<b>Odor:</b>	Characteristic odor; no added fragrance
<b>pH:</b>	6.0-8.0
<b>Boiling Point:</b>	N/D
<b>Melting Point:</b>	N/D
<b>Flash Point:</b>	None when heated to 105°C - Tag Closed Group
<b>Explosive Properties:</b>	None
<b>Oxidizing Properties:</b>	None
<b>Vapor Pressure:</b>	N/D
<b>Vapor Density (Water Vapor=1):</b>	N/D
<b>Specific Gravity (Water=1):</b>	0.999 @ 20°C
<b>Evaporation Rate (Water=1):</b>	N/D
<b>Solubility in Water:</b>	Soluble

**SECTION X STABILITY AND REACTIVITY INFORMATION**

<b>Stability:</b>	Stable under normal storage conditions.
<b>Incompatibility:</b>	Strong oxidizing agents (may result in fire.), reducing agents. Keep away from heat and strong oxidizing agents.
<b>Hazardous Polymerization:</b>	Will not occur.
<b>Hazardous Decomposition Products:</b>	Carbon monoxide, carbon dioxide and toxic hydrogen chloride vapors.

**SECTION XI ECOLOGICAL INFORMATION**

<b>Ecotoxicity:</b>	Very Toxic to aquatic organisms
<b>Environmental Fate:</b>	This product is biodegradable

**SECTION XII TOXICOLOGICAL PROPERTIES**

<b>Carcinogenicity:</b>	No Carcinogenicity data available for this product. No ingredients listed as potential or known carcinogens.
<b>Acute Oral LD50:</b>	N/D
<b>Acute Dermal LD50:</b>	N/D
<b>Primary Skin:</b>	Corrosive. Category I
<b>Primary Eye:</b>	Corrosive. Category I

**SECTION XIII DISPOSAL CONSIDERATIONS**

**Recommended Waste Disposal Methods:** Although not considered a hazardous waste, the discarding or disposal of this material should be done at a properly permitted facility in accordance with the regulations of 40 CFR 262, 263, 264, and 268. Additionally, the discarding or disposal of this material may be further regulated by state, regional, or local regulations. Chemical additions, processing or otherwise altering this material may make the waste management information presented in this MSDS incomplete, inaccurate or otherwise inappropriate. The transportation, storage, treatment and disposal of this waste material must be conducted in compliance with all applicable Federal, state, and local regulations.

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**SECTION XIV    TRANSPORT INFORMATION**

This product is classified as "Non-flammable, Non-hazardous, Not Restricted" for Transport purposes.

**United Nations Number:** UN 1903  
**DOT Hazard Class:** 8 Corrosive  
**DOT Proper Shipping Name:** Disinfectant Liquid, Corrosive, NOS (Quaternary Ammonium Compound), 8, UN 1903, PGIII  
**IMO Class:**  
**49 CFR §173.154 (Exemption):** This product can ship as a "Consumer Commodity" and reclassified as "ORM-D" if packaged in < 1.3 gallons (5.0 Liter) containers. (Non Hazardous)

**SECTION XV    REGULATORY INFORMATION**

**HAZARD RATING INFORMATION**

4=Extreme  
3=High  
2=Moderate  
1=Slight  
0=Insignificant

**HMS**

3	Health
0	Flammability
0	Reactivity
B	Personal

A=Gloves, B=Goggles & Gloves  
C=Goggles, Gloves and Apron

**SECTION XV    REGULATORY INFORMATION – CONTINUED**

Canada

E, D2B

**SECTION XVI    OTHER INFORMATION**

**SARA: (USA)**      Section 302 – NA  
                          Sections 311/312 – Materials listed in 29 CFR 1910, Subpart Z are identified in Section III. None are known or suspected carcinogens listed by the National Toxicology Program, International Agency for Research on Cancer, or OSHA.  
                          Section 313 – No ingredients listed.

**USER'S RESPONSIBILITY**

It is the responsibility of the user to provide a safe workplace, using the health and safety information contained herein as a guide. **Maxim Technologies Inc.** will accept no liability for damages or loss incurred from the improper handling and use of this product.

**PREPARATION INFORMATION**

The information provided in the Material Safety Data Sheet has been obtained from current sources and is believed to be reliable.

PREPARED BY: Technical Service/Regulatory Division

LAST UPDATE: Jan. 2, 2015