



# Microclean

**Disinfectant - Cleaner - Deodorizer  
Detergent - \*Virucide - Fungicide  
(against Pathogenic fungi) - Mildewstat  
(on hard, non-porous, inanimate surfaces)**

## DESCRIPTION

**Microclean** is a phosphate-free formulation designed to provide effective cleaning, deodorizing and disinfection in hospitals, nursing homes, hotels, schools, food processing plants, restaurants, athletic/recreation facilities, sports stadiums, amphitheatres, convention centers and other institutions where house keeping is of prime importance in controlling cross-contamination from treated surfaces. Formulated with a soft lavender scent, pink colour and neutral pH, **Microclean** will not dull high-gloss floor finishes with repeated use. **Microclean**, when used as directed, is formulated to disinfect hard, non-porous, inanimate environmental surfaces such as floors, walls, metal surfaces, bathrooms, shower stalls, bathtubs, cabinets and artificial turf surfaces. For larger areas such as operating rooms and patient care facilities, this product is designed to provide both general cleaning and disinfecting.

**Microclean** deodorizes those areas which generally are hard to keep fresh smelling, such as garbage storage areas, empty garbage bins and cans, toilet bowls and other areas prone to odors caused by microorganisms. **Microclean** controls mold, mildew and the odors they cause on hard surfaces. **Microclean** is also an effective bactericide, fungicide and virucide in the presence of organic soil (5% blood serum). **Microclean** kills HIV-1 and HIV-2 (associated with AIDS) on pre-cleaned environmental surfaces previously soiled with blood or body fluids.

## SPECIAL INFORMATION

Canadian DIN #: 02247845

### Guarantee

Octyl decyl dimethyl ammonium chloride	3.225%
Dioctyl dimethyl ammonium chloride	1.628%
Didecyl dimethyl ammonium chloride	1.628%
Alkyl (50% C <sub>14</sub> , 40% C <sub>12</sub> , 10% C <sub>16</sub> ) dimethyl benzyl ammonium chloride	4.339%

## DIRECTIONS

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

Dilute 8 ml of **Microclean** per litre of water. Before using **Microclean**, food products and packaging must be removed from the area and carefully protected. Apply this solution with a mop, cloth, sponge or trigger sprayer so as to wet all surfaces thoroughly. Allow to remain wet for a period of 10 minutes, then remove all excess liquid. Prepare a fresh solution for each use. All food processing surfaces require rinsing with potable water. For heavily soiled areas, a pre-cleaning step is required.

### **Disinfection of toilet bowls:**

Remove gross filth or soils from surfaces with bowl brush. Add 8 mL of **Microclean** to the bowl water and brush or swab the bowl completely using a scrub brush or toilet mop, making sure to get under the rim. Let stand 10 minutes and flush.

### **Deodorization of garbage storage areas, empty garbage bins and cans and pet areas:**

To deodorize, apply **Microclean** as indicated under the Disinfection heading.



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## ***Fungicidal Activity:***

At the 8 ml per litre dilution, **Microclean** demonstrates effective fungicidal activity against the pathogenic fungi *Trichophyton mentagrophytes* and *Candida albicans*.

## ***Mildewstat:***

To control mold and mildew (such as *Aspergillus niger*) and the odours they cause on pre-cleaned, hard, non-porous surfaces add 8 ml **Microclean** per litre of water. Apply solution with a cloth, mop or sponge making sure to wet all surfaces completely. Let air dry. Prepare a fresh solution for each use. Repeat application at weekly intervals or when mildew growth reappears.

**Microclean KILLS HIV-1 AND HIV-2 ON PRE-CLEANED ENVIRONMENTAL SURFACES/OBJECTS PREVIOUSLY SOILED WITH BLOOD/BODY FLUIDS** in health care settings (Hospitals, Nursing Homes) or other settings in which there is an expected likelihood of soiling of inanimate surfaces/objects with blood or body fluids, and in which the surfaces/objects likely to be soiled with blood or body fluids can be associated with the potential transmission of Human Immunodeficiency Virus Type 1 and Type 2 (HIV-1 and HIV-2).

## ***Special Instructions for Cleaning and Decontamination against HIV-1 and HIV-2 on Surfaces/Objects Soiled with Blood or Body Fluids:***

**Personal Protection:** When handling items soiled with blood or body fluids, use disposable latex gloves, gowns, masks, or eye coverings.

**Cleaning Procedures:** Blood or body fluids must be thoroughly cleaned from surfaces and objects before application of this product.

**Contact Time/Dilution:** at 8 mL per litre of water, **Microclean** is effective against HIV-1 and HIV-2 in the presence of 5% blood serum with a 10 minute contact time.

**Disposal of Infectious Materials:** Blood or other body fluids should be autoclaved and disposed of according to local regulations for infectious waste disposal.

**Efficacy tests have demonstrated that this product is an effective Bactericide and Virucide in water up to 400 ppm hardness (as CaCO<sub>3</sub>) in the presence of organic soil (5% blood serum). Efficacy tests have demonstrated that this product is an effective fungicide in water up to 200 ppm hardness (as CaCO<sub>3</sub>) in the presence of organic soil (5% blood serum).**

## **EFFICACY DATA**

### **DISINFECTION DATA:**

Test Method: AOAC Use Dilution

Test Conditions: 5% serum, 10 minute contact time, stainless steel carrier substrates, 400 ppm hard water, 20°C exposure temperature, 1 oz/US gallon dilution.



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**DISINFECTION DATA continued:**

**Results:**

<b>Test Organism</b>	<b>Sample</b>	<b>No. of Carriers</b>	
		<b>Exposed</b>	<b>Positive</b>
<i>Staphylococcus aureus</i> (ATCC 6538)	A&B&C	60	1
<b>Salmonella choleraesuis (ATCC 10708)</b>	<b>A&amp;B&amp;C</b>	<b>60</b>	<b>0</b>
<i>Pseudomonas aeruginosa</i> PRD-10 (ATCC 15442)	A&B&C	60	0
<b>Bordetella bronchiseptica (ATCC 31437)</b>	<b>A&amp;B</b>	<b>10</b>	<b>0</b>
<i>Corynebacterium ammoniagenes</i> (ATCC 6871)	A&B	10	0
<b>Enterobacter aerogenes (ATCC 13048)</b>	<b>A&amp;B</b>	<b>10</b>	<b>0</b>
<i>Enterobacter cloacae</i> (ATCC 23355)	A&B	10	0
<b>Enterobacter cloacae (clinical isolate)</b>	<b>A&amp;B</b>	<b>10</b>	<b>0</b>
<i>Enterococcus faecalis</i> (ATCC 19433)	A&B	10	0
<b>Enterococcus faecalis (clinical isolate)</b>	<b>A&amp;B</b>	<b>10</b>	<b>0</b>
<i>Enterococcus faecalis</i> (Vancomycin Resistant) (VRE) (ATCC 51575)	A B	10 10	0 0
<b>Escherichia coli (ATCC 11229)</b>	<b>A&amp;B</b>	<b>60</b>	<b>0</b>
<i>Escherichia coli</i> (clinical isolate)	A&B	60	0
<b>Fusobacterium necrophorum (ATCC 27852)</b>	<b>A</b> <b>B</b>	<b>10</b> <b>10</b>	<b>0</b> <b>0</b>
<i>Klebsiella pneumoniae</i> subsp. <i>pneumoniae</i> (ATCC 13883)	A B	10 10	0 0
<b>Lactobacillus casei subsp. rhamnosus(ATCC 7469)</b>	<b>A</b> <b>B</b>	<b>10</b> <b>10</b>	<b>0</b> <b>0</b>
<i>Listeria monocytogenes</i> (ATCC 35152)	A&B	10	0
<b>Pasteurella multocida (ATCC 7707)</b>	<b>A&amp;B</b>	<b>10</b>	<b>0</b>
<i>Proteus mirabilis</i> (ATCC 9921)	A&B	10	0
<b>Proteus mirabilis (ATCC 25933)</b>	<b>A&amp;B</b>	<b>10</b>	<b>0</b>
<i>Proteus vulgaris</i> (ATCC 13315)	A&B	10	0
<b>Salmonella enterica subsp. enterica serotype paratyphi B (ATCC 8759)</b>	<b>A</b> <b>B</b>	<b>10</b> <b>10</b>	<b>0</b> <b>0</b>
<i>Salmonella enterica</i> subsp. <i>enterica</i> serotype pullorum (ATCC 9120)	A B	10 10	0 0
<b>Salmonella enterica subsp. enterica serotype typhi (ATCC 6539)</b>	<b>A</b> <b>B</b>	<b>10</b> <b>10</b>	<b>0</b> <b>0</b>
<i>Salmonella enterica</i> subsp. <i>enterica</i> serotype typhimurium (ATCC 14028)	A B	10 10	0 0
<b>Serratia marcescens (ATCC 8100)</b>	<b>A&amp;B</b>	<b>10</b>	<b>0</b>
<i>Shigella dysenteriae</i> (ATCC 12180)	A&B	10	0
<b>Shigella flexneri Type 2b (ATCC 12022)</b>	<b>A&amp;B</b>	<b>10</b>	<b>0</b>
<i>Shigella sonnei</i> (ATCC 25931)	A&B	10	0
<b>Staphylococcus aureus subsp. aureus (ATCC 33592)</b>	<b>A</b> <b>B</b>	<b>60</b> <b>60</b>	<b>0</b> <b>0</b>



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**DISINFECTION DATA continued:**

**Results:**

No. of Carriers

<b>Test Organism</b>	<b>Sample</b>	<b>Exposed</b>	<b>Positive</b>
<i>Staphylococcus aureus</i> (clinical isolate)	A&B	60	0
<b>Cefazolin resistant <i>Acinetobacter baumannii</i></b> (Fairfax Hospital CI 02001)	<b>A</b>	<b>10</b>	<b>0</b>
Ceftriaxone resistant <i>Acinetobacter baumannii</i> (Fairfax Hospital CI 02001)	<b>B</b>	<b>10</b>	<b>0</b>
<i>Acinetobacter baumannii</i> (Fairfax Hospital CI 02001)	A	10	0
<b>Tobramycin resistant <i>Acinetobacter baumannii</i></b> (Fairfax Hospital CI 02001)	<b>A</b>	<b>10</b>	<b>0</b>
Levofloxacin resistant <i>Acinetobacter baumannii</i> (Fairfax Hospital CI 02001)	<b>B</b>	<b>10</b>	<b>0</b>
<i>Acinetobacter baumannii</i> (Fairfax Hospital CI 02001)	A	10	0
<b>Ampicillin resistant <i>Acinetobacter baumannii</i></b> (Fairfax Hospital CI 02001)	<b>A</b>	<b>10</b>	<b>0</b>
Ceftriaxone resistant <i>Acinetobacter baumannii</i> (Fairfax Hospital CI 02001)	<b>B</b>	<b>10</b>	<b>0</b>
<i>Acinetobacter baumannii</i> (Fairfax Hospital CI 02001)	A	10	0
<b>Gentamicin resistant <i>Acinetobacter baumannii</i></b> (Fairfax Hospital CI 02001)	<b>A</b>	<b>10</b>	<b>0</b>
Ciprofloxacin resistant <i>Acinetobacter baumannii</i> (Fairfax Hospital CI 02001)	<b>B</b>	<b>10</b>	<b>0</b>
<i>Acinetobacter baumannii</i> (Fairfax Hospital CI 02001)	A	10	0
<b>Bactrim resistant <i>Acinetobacter baumannii</i></b> (Fairfax Hospital CI 02001)	<b>A</b>	<b>10</b>	<b>0</b>
<i>Staphylococcus aureus</i> (Methicillin Resistant)(MRSA) (ATCC 33592)	<b>B</b>	<b>10</b>	<b>0</b>
<b><i>Staphylococcus aureus</i> (Vancomycin Intermediate Resistant (VISA) (HIP 5863)</b>	<b>A</b>	<b>10</b>	<b>0</b>
<i>Staphylococcus epidermidis</i> (ATCC 29641)	<b>B</b>	<b>10</b>	<b>0</b>
<b><i>Staphylococcus epidermidis</i> (clinical isolate)</b>	<b>A</b>	<b>10</b>	<b>0</b>
<i>Streptococcus pyogenes</i> Group A (ATCC 19615)	<b>B</b>	<b>10</b>	<b>0</b>
<b><i>Streptococcus pyogenes</i> (clinical-flesh eating strain, BIRD M3)</b>	<b>A</b>	<b>10</b>	<b>0</b>
<i>Xanthomonas maltophilia</i> (clinical isolate)	<b>B</b>	<b>10</b>	<b>0</b>
<b><i>Salmonella enteritidis</i></b>	<b>A&amp;B</b>	<b>10</b>	<b>0</b>
Community Associated Methicillin Resistant <i>Staphylococcus aureus</i> (CA-MRSA)(NRS 384, Genotype USA300)	A	10	0
Community Associated Methicillin Resistant <i>Staphylococcus aureus</i> (CA-MRSA)(NRS 123, Genotype USA400)	B	10	0
	C	10	0



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## DISINFECTION DATA continued:

### **Conclusion:**

Under the conditions of these investigations, **Microclean** demonstrated disinfectant activity against *Staphylococcus aureus*, *Salmonella choleraesuis*, *Pseudomonas aeruginosa*, *Bordetella bronchiseptica*, *Corynebacterium ammoniagenes*, *Enterobacter aerogenes*, *Enterobacter cloacae*, *Enterococcus faecalis*, *Enterococcus faecalis* (Vancomycin Resistant)(VRE), *Escherichia coli*, *Fusobacterium necrophorum*, *Klebsiella pneumoniae subsp. pneumoniae*, *Lactobacillus casei subsp. rhamnosus*, *Listeria monocytogenes*, *Pasteurella multocida*, *Proteus mirabilis* (ATCC 9921), *Proteus mirabilis* (ATCC 25933), *Proteus vulgaris*, *Salmonella enterica subsp. enterica serotype paratyphi B*, *Salmonella enterica subsp. enterica serotype pullorum*, *Salmonella enterica subsp. enterica serotype typhi*, *Salmonella enterica subsp. enterica serotype typhimurium*, *Serratia marcescens*, *Shigella dysenteriae*, *Shigella flexneri Type 2b*, *Shigella sonnei*, *Staphylococcus aureus subsp. aureus*, *Staphylococcus aureus* (Methicillin Resistant)(MRSA), *Staphylococcus aureus* (Vancomycin Intermediate Resistant (VISA), *Staphylococcus epidermidis*, *Streptococcus pyogenes* Group A, *Streptococcus pyogenes* (clinical-flesh eating strain, BIRD M3), Cefazolin resistant *Acinetobacter baumannii*, Ceftriaxone resistant *Acinetobacter baumannii*, Tobramycin resistant *Acinetobacter baumannii*, Levofloxacin resistant *Acinetobacter baumannii*, Ampicillin resistant *Acinetobacter baumannii*, Ceftazidime resistant *Acinetobacter baumannii*, Gentamicin resistant *Acinetobacter baumannii*, Ciprofloxacin resistant *Acinetobacter baumannii*, Bactrim resistant *Acinetobacter baumannii*, Community Associated Methicillin resistant *Staphylococcus aureus* (CA-MRSA) (NRS 123 Genotype USA400), Community Associated Methicillin resistant *Staphylococcus aureus* (CA-MRSA) (NRS 384 Genotype USA300), and *Salmonella enterica subsp. enterica serotype enteritidis* according to criteria established by the U.S. Environmental Protection Agency for registration and labeling of a disinfectant product as a bactericide.

**Microclean** also demonstrated disinfectant activity against the following antibiotic resistant clinical isolates: *Enterobacter cloacae*, *Enterococcus faecalis*, *Escherichia coli*, *Staphylococcus aureus*, *Staphylococcus epidermidis*, and *Xanthomonas maltophilia*.

## VIRUCIDAL DATA:

### Test Methods:

**\*U.S. E.P.A. Pesticide Assessment Guidelines, Subdivision G:  
Product Performance, Section 91-2 (f), and Section 91-30, (d),  
(e), November 1982.**

### Test Conditions:

**10 minute contact time, 5% serum, sterile glass petri dishes,  
400 ppm hard water, 21-24°C exposure temperature, 1 oz/US  
gallon dilution.**



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**VIRUCIDAL DATA continued:**

**Results:**

<u>Test Organism</u>	<u>Sample</u>		<u>Titer Reduction</u>	
*Canine Distemper, strain Lederle (ATCC VR-128)	A	B	> 6.25 log	> 6.25 log
*Feline Picornavirus, strain FRV (ATCC VR-649)	A	B	> 4.25 log	> 4.25 log
*Herpes Simplex type 1 (ATCC VR-260)	A	B	> 5.0 log	> 5.0 log
*Human Immunodeficiency Virus, HTLV-III <sub>RF</sub> , strain of HIV-1 (associated with AIDS)	A	B	> 3.5 log	> 3.5 log
*Human Immunodeficiency Virus type 2 (HIV-2), strain CBL-20	A	B	> 3.25 log	> 3.25 log
*Bovine Rhinotracheitis, strain LA (ATCC VR-188)	A	B	> 5.0 log	> 5.0 log
*Influenza A <sub>2</sub> , strain Hong Kong (ATCC VR-544)	A	B	> 4.25 log	> 4.25 log
*Paramyxovirus	A	B	> 3.0 log	> 3.0 log
*Pseudorabies, strain Aujeszky (ATCC VR-135)	A	B	> 5.25 log	> 5.25 log
*Vaccinia, strain WR (ATCC VR-119)	A	B	> 5.5 log	> 5.5 log
*Avian Influenza A Virus (H3N2)(Avian Ressorant) (ATCC VR-20072)	A	B	> 4.25 log	> 4.25 log
*Avian Influenza Virus, Type A (Turkey/WIS/66) (H9N2)	A	B	> 4.0 log	> 4.0 log

**Conclusion:**

Under the conditions of this investigation, **Microclean** was virucidal for Canine Distemper, Feline Picornavirus, Herpes Simplex type 1, Herpes Simplex type 2, Human Immunodeficiency Virus (HIV-1), Human Immunodeficiency Virus type 2 (HIV-2), Infectious Bovine Rhinotracheitis, Influenza A<sub>2</sub>, Pseudorabies, Avian Influenza A Virus (H3N2) (Avian Ressorant), Avian Influenza Virus, Type A (Turkey/WIS/66), Vaccinia, and Paramyxovirus (Mumps) according to criteria established by the U.S. Environmental Protection Agency for registration and labeling of a disinfectant product as a virucide.

**Microclean** has demonstrated effectiveness against Vaccinia and Influenza A virus and is expected to inactivate all Influenza A viruses including 2009 (H1N1) pandemic Influenza A virus.



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## MILDEW FUNGISTATIC DATA:

Test Method: Hard Surface Mildew Fungistatic Test  
Test Organism: *Aspergillus niger* (ATCC 6275)  
Test Conditions: 400 ppm hard water, ceramic tile carriers, 1 oz/US gallon dilution

### **Results:**

<u>Sample</u>	<u>No. of Exposed Tiles</u>	<u>No. of Tiles Showing Growth</u>
A	10	0
B	10	0
Control	10	10

### **Conclusion:**

Under the conditions of this investigation, **Microclean**, was fungistatic for *Aspergillus niger* according to criteria established by the U.S. Environmental Protection Agency for registration and labeling of a disinfectant product as a fungistat. *Note:* The **Hard Surface Mildew Fungistatic Test** is accepted in Canada.

## FUNGICIDAL DATA:

Test Method: AOAC Fungicidal Activity of Disinfectants  
Test Conditions: 5% blood serum, 20°C exposure temperature, 200 ppm hard water, 1 oz/US gallon dilution

### **Results:**

<u>Test Organism</u>	<u>Exposure Time (min.) vs. Growth</u>			
	<u>Sample</u>	<u>5</u>	<u>10</u>	<u>15</u>
<i>Trichophyton mentagrophytes</i> (ATCC 9533)	A	+	0	0
	B	+	0	0
<i>Candida albicans</i> (ATCC 10231)	A	0	0	0
	B	0	0	0

### **Conclusion:**

Under the conditions of this investigation, **Microclean** was fungicidal for *Trichophyton mentagrophytes* and *Candida albicans* according to criteria established by the U.S. Environmental Protection Agency for registration and labeling of a disinfectant product as a fungicide. *Note:* The AOAC Fungicidal Activity of Disinfectants test method is accepted in Canada.

