TECHNICAL REPORT & EFFICACY STATEMENT
**PURE HARD SURFACE: TECHNICAL REPORT**

**PRODUCT DESCRIPTION:**
PURE Hard Surface is a colorless, odorless, ready-to-use disinfectant and sanitizer for use on hard non-porous, environmental surfaces, including food contact surfaces.

**INGREDIENTS:**

<table>
<thead>
<tr>
<th>ACTIVE INGREDIENTS:</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Silver†</td>
<td>0.003 %</td>
<td></td>
</tr>
<tr>
<td>Citric Acid</td>
<td>4.846 %</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>OTHER INGREDIENTS:</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>95.151 %</td>
</tr>
</tbody>
</table>

**TOTAL:**

|                  | 100.000 % |

† Electrolytically generated silver ions stabilized in citric acid as Silver Dihydrogen Citrate

**REGISTRATION:**

PURE Hard Surface is registered with the U.S. Environmental Protection Agency.

EPA REG. NO.: 72977-5-73912
EPA EST. NO.: 72977-CA-001
U.S. Patent(s) 6,197,814; 6,583,176
Other patents pending
**PURE HARD SURFACE: TECHNICAL REPORT**

**DIRECTION FOR USE:**
It is a violation of Federal Law to use this product in a manner inconsistent with its labeling.

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**DISINFECTION:**

**AREAS OF APPLICATION:**
Homes, offices, hospitals, restaurants, schools, hotels, restrooms, recreational facilities, public transport vehicles.

Use on painted, glazed tile, plastic, metal, glass and glazed porcelain.

For other areas, test in an inconspicuous area before use.

**TO DISINFECT HARD, NON-POROUS SURFACES:**
Pre-clean surfaces prior to disinfecting.
Apply PURE Hard Surface to the surface until thoroughly wet for the contact time as listed.
Wipe dry with a clean towel.

**RESIDUAL PROTECTION:** When used as directed, this product provides residual protection from *Pseudomonas aeruginosa*, *Staphylococcus aureus* and *Salmonella enterica* up to 24 hours after initial application. Do not touch treated surface after application if residual protection is to be maintained.

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**BACTERIA:**

<table>
<thead>
<tr>
<th>ORGANISM</th>
<th>CONTACT TIME*</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>Pseudomonas aeruginosa</em></td>
<td>30 seconds</td>
</tr>
<tr>
<td><em>Salmonella enterica</em></td>
<td>30 seconds</td>
</tr>
<tr>
<td><em>Staphylococcus aureus</em></td>
<td>2 minutes</td>
</tr>
<tr>
<td><em>Listeria monocytogenes</em></td>
<td>2 minutes</td>
</tr>
<tr>
<td>Vancomycin resistant <em>Enterococcus faecium</em> (VRE)</td>
<td>2 minutes</td>
</tr>
<tr>
<td>Methicillin resistant <em>Staphylococcus aureus</em> (MRSA)</td>
<td>2 minutes</td>
</tr>
<tr>
<td>Community Associated MRSA (CA-MRSA)</td>
<td>2 minutes</td>
</tr>
<tr>
<td>Community Associated MRSA (CA-MRSA-PVL)</td>
<td>2 minutes</td>
</tr>
<tr>
<td><em>Escherichia coli</em> O157:H7</td>
<td>2 minutes</td>
</tr>
<tr>
<td><em>Acinetobacter baumannii</em></td>
<td>2 minutes</td>
</tr>
<tr>
<td><em>Campylobacter jejuni</em></td>
<td>2 minutes</td>
</tr>
<tr>
<td>Carbapenem resistant <em>Escherichia coli</em></td>
<td>2 minutes</td>
</tr>
<tr>
<td>Carbapenem resistant <em>Klebsiella pneumoniae</em></td>
<td>2 minutes</td>
</tr>
<tr>
<td>Carbapenem resistant <em>Klebsiella pneumonia, NDM-1</em></td>
<td>2 minutes</td>
</tr>
</tbody>
</table>

**VIRUSES:**

<table>
<thead>
<tr>
<th>ORGANISM</th>
<th>CONTACT TIME*</th>
</tr>
</thead>
<tbody>
<tr>
<td>HIV type 1</td>
<td>30 seconds</td>
</tr>
<tr>
<td>Rotavirus</td>
<td>30 seconds</td>
</tr>
<tr>
<td>Human Coronavirus</td>
<td>30 seconds</td>
</tr>
<tr>
<td>Avian Influenza A</td>
<td>30 seconds</td>
</tr>
<tr>
<td>Influenza A</td>
<td>30 seconds</td>
</tr>
<tr>
<td>Influenza A (H1N1)</td>
<td>30 seconds</td>
</tr>
<tr>
<td>Swine Influenza A (H1N1)</td>
<td>30 seconds</td>
</tr>
<tr>
<td>Respiratory Syncytial Virus</td>
<td>30 seconds</td>
</tr>
<tr>
<td>Adenovirus Type 2</td>
<td>30 seconds</td>
</tr>
<tr>
<td>Herpes Simplex Type 1</td>
<td>60 seconds</td>
</tr>
<tr>
<td>Murine Norovirus</td>
<td>60 seconds</td>
</tr>
<tr>
<td>Norovirus</td>
<td>60 seconds</td>
</tr>
<tr>
<td>Rhinovirus</td>
<td>60 seconds</td>
</tr>
<tr>
<td>Polio Type 2</td>
<td>60 seconds</td>
</tr>
<tr>
<td>Hepatitis B Virus (HBV)</td>
<td>60 seconds</td>
</tr>
<tr>
<td>Hepatitis C Virus (HCV)</td>
<td>60 seconds</td>
</tr>
</tbody>
</table>

**FUNGUS:**

<table>
<thead>
<tr>
<th>ORGANISM</th>
<th>CONTACT TIME*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Trichophyton mentagrophytes (Athlete’s Foot Fungus)</td>
<td>5 minutes</td>
</tr>
</tbody>
</table>

*Contact times based upon EPA Stamped label dated August 3, 2011*
SANITIZATION OF FOOD CONTACT SURFACES

AREAS OF APPLICATION:
Restaurants, homes, food processing plants, food storage areas, supermarkets, kitchens, schools, hotels and dining halls. Use on painted, glazed tile, plastic, metal, glass and glazed porcelain. For other areas, test in an inconspicuous area before use.

TO SANITIZE FOOD CONTACT SURFACES:
Pre-clean surfaces prior to using this product. Do not use this product on utensils, dishes or glassware.

CONSUMER APPLICATIONS:
Spray, pour or spread PURE Hard Surface on surface until thoroughly wet. Let stand for 60 seconds and wipe with a clean towel or allow to air dry. No rinsing is required. This product kills 99.999% of Escherichia coli and Staphylococcus aureus.

COMMERCIAL APPLICATIONS:
To sanitize food processing equipment and other hard surfaces in food processing locations, dairies, restaurants and bars:

CLEAN, RINSE SANITIZE:
Prior to application, remove gross food particles and soil by pre-flush or pre-scrape and when necessary, pre-soak. Thoroughly wash objects to be sanitized with a good detergent or cleaner followed by a potable water rinse prior to applying sanitizer. No potable water rinse is allowed after application as a sanitizer.

Apply this product by spraying or by total immersion. Surfaces must remain wet for 60 seconds. If the surface cannot be washed and rinsed, clean thoroughly in an appropriate fashion prior to sanitizing.

This product is a ready to use sanitizer that eliminates 99.999% of the following bacteria in 60 seconds:
Escherichia coli, Staphylococcus aureus.

FEDERALLY INSPECTED FACILITIES:
Prior to use in a federally inspected meat and poultry plants and dairies, food products and packaging materials must be removed from the room or carefully protected. A potable water rinse is not permitted following the use of this product as a sanitizer on previously cleaned hard, non-porous surfaces, provided that the surfaces are adequately drained before contact with food so that little or no residue remains.

Apply product to pre-cleaned hard surfaces thoroughly wetting surfaces with a cloth, mop, sponge, sprayer or by immersion. Surfaces should remain wet for 1 minute followed by adequate draining and air drying.

This product is a ready to use sanitizer that eliminates 99.999% of the following bacteria in 60 seconds:
Escherichia coli, Staphylococcus aureus.

BEVERAGE DISPENSING EQUIPMENT SANITIZER DIRECTIONS:
For sanitizing of bottling or pre-mixed dispensing equipment after cleaning thoroughly rinse equipment with a potable water rinse. Fill equipment with this product and allow it to remain in the equipment for at least 60 seconds. Sanitizing solution should be drained from the system. To insure the removal of flavors, it is suggested that during changeover between products the system should be cleaned, rinsed and flushed with the sanitizing solution for at least 1 minute. Drain thoroughly and allow to air dry before reuse. No potable water rinse is allowed.

FOR SANITIZING IN FISHERIES, MILK, WINE, CITRUS, POTATO & ICE CREAM PROCESSING PLANTS:
For use as a sanitizer on conveyor belts and equipment to reduce or eliminate odors in the processing area. Also for use on filling equipment to reduce bacteria. Follow directions for sanitizing food contact surfaces.
MECHANISM OF ACTION

BACTERICIDAL/FUNGICIDAL ACTION:
The active ingredient in PURE Hard Surface is Silver Dihydrogen Citrate (SDC), a worldwide patented technology. SDC provides silver ions stabilized in citric acid.

The bacterial outer membrane is called the cell wall. Bacterial cell walls are made of peptidoglycan which provides protection and rigidity to the organism. The exact membrane constitution depends on the type of bacteria. SDC utilizes a multiple prong attack against microorganisms. SDC targets an organism’s cell wall. Silver ions are highly attracted to sulfur-containing thiol groups found in metabolic and structural proteins bound to the membrane surface. SDC targets these critical proteins and destroys their structure. This disruption of the organism’s membrane function and integrity lyses the membrane and the organism dies.

Unlike traditional antimicrobials, bacteria are actually attracted to SDC because they recognize citric acid as a food source. This “Trojan Horse” attack allows SDC to easily enter the microorganism through membrane transport proteins. Once inside the organism, SDC binds to DNA and intracellular proteins causing irreversible damage to the DNA and protein structure. Metabolic and reproductive functions halt, and the organism dies.

VIRUCIDAL ACTION:
Viruses are much smaller than bacterial and fungal cells and do not have metabolic activity. Viruses present fewer targets sites on which a biocide can act. Silver targets the viral envelope or capsid and the viral nucleic acid. Silver not only destroys the viral envelope or capsid, preventing the virus from attaching to a host cell, it also destroys the infectious component of the virus, the nucleic acid.

MICROBIOLOGICAL TEST DATA

BACTERIAL TEST METHODS:
For registration with the US Environmental Protection Agency (US EPA), disinfection efficacy is tested following either the AOAC Use Dilution Test Method or the AOAC Germicidal Spray Products Test Method. In each method, cultures of bacteria are dried onto a number of small carriers (stainless steel penicylinders in the Use-Dilution test or glass slides in the AOAC Germicidal Spray Products Test). Once dried, the carriers must contain a bacteria concentration of at least 10⁴. These carriers are exposed to the disinfectant for a specified contact time and then transferred to test tubes containing growth medium and a neutralizing agent to stop the action of the disinfectant. The carriers are incubated for 48 hours. The tubes are then examined for growth or no growth. To pass a 60 carrier test, three batches are tested and 59 out of 60 carriers must show no growth for each product batch. To pass a 10 carrier test, two batches are tested and all 10 carriers must show no growth.

To make general broad spectrum claims a disinfectant must show efficacy against a Staphylococcus aureus (Gram positive bacteria) and Salmonella enterica (Gram negative bacteria). To make claim for use in and hospital/medical environments a disinfectant must show efficacy against Pseudomonas aeruginosa (nosocomial bacteria). Other bacteria may be tested to obtain additional claims.

<table>
<thead>
<tr>
<th>ORGANISM</th>
<th># OF CARRIERS EXPOSED</th>
<th># OF CARRIERS SHOWING GROWTH</th>
<th>CONTACT TIME</th>
<th>CARRIER POPULATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pseudomonas aeruginosa (ATCC#15442)</td>
<td>180</td>
<td>0</td>
<td>30 seconds</td>
<td>10⁵</td>
</tr>
<tr>
<td>Staphylococcus aureus (ATCC#6538)</td>
<td>180</td>
<td>2</td>
<td>2 minutes</td>
<td>10⁵</td>
</tr>
<tr>
<td>Salmonella enterica (ATCC#10708)</td>
<td>180</td>
<td>0</td>
<td>30 seconds</td>
<td>10⁵</td>
</tr>
<tr>
<td>Listeria monocytogenes (ATCC#19111)</td>
<td>20</td>
<td>0</td>
<td>2 minutes</td>
<td>10⁵</td>
</tr>
<tr>
<td>Vancomycin resistant Enterococcus faecium (VRE) (ATCC#700221)</td>
<td>20</td>
<td>0</td>
<td>2 minutes</td>
<td>10⁴.5</td>
</tr>
<tr>
<td>Methicillin resistant Staphylococcus aureus (MRSA) (ATCC#700698)</td>
<td>20</td>
<td>0</td>
<td>2 minutes</td>
<td>10⁵</td>
</tr>
<tr>
<td>Community Associated MRSA (CA-MRSA) (NRS123, USA 400)</td>
<td>20</td>
<td>0</td>
<td>2 minutes</td>
<td>10⁵</td>
</tr>
<tr>
<td>Community Associated MRSA (CA-MRSA-PVL) (NRS 192)</td>
<td>20</td>
<td>0</td>
<td>2 minutes</td>
<td>10⁵</td>
</tr>
<tr>
<td>Escherichia coli O157:H7 (ATCC#43888)</td>
<td>20</td>
<td>0</td>
<td>2 minutes</td>
<td>10⁴.5</td>
</tr>
<tr>
<td>Acinetobacter baumannii (ATCC#19606)</td>
<td>20</td>
<td>0</td>
<td>2 minutes</td>
<td>10⁵</td>
</tr>
<tr>
<td>Campylobacter jejuni (ATCC#29428)</td>
<td>20</td>
<td>0</td>
<td>2 minutes</td>
<td>10⁵</td>
</tr>
<tr>
<td>Carbapenem resistant Escherichia coli</td>
<td>20</td>
<td>0</td>
<td>2 minutes</td>
<td>10⁵</td>
</tr>
<tr>
<td>Carbapenem resistant Klebsiella pneumoniae</td>
<td>20</td>
<td>0</td>
<td>2 minutes</td>
<td>10⁵</td>
</tr>
<tr>
<td>Carbapenem resistant Klebsiella pneumonia, NDM-1</td>
<td>20</td>
<td>0</td>
<td>2 minutes</td>
<td>10⁵</td>
</tr>
</tbody>
</table>

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MICROBIOLOGICAL TEST DATA (CONT.)

VIRAL TEST METHODS:
The US EPA accepts carrier based virucidal test methods to support virucidal activity of a disinfectant which are modifications of the AOAC Use Dilution Test or the AOAC Germicidal Spray Products Test. Each virus claimed must be tested in an appropriate test system using a cell line which supports the growth of the virus.

The method as outlined in the EPA Disinfectant Technical Science section (DIS-TSS 07) states:

To simulate in-use conditions, the specific virus to be treated must be inoculated onto hard surfaces, allowed to dry, and then treated with the product according to the directions for use on the product label. One surface for each of two different batches of disinfectant must be tested against a recoverable virus titer of at least $10^4$ from the test surface (petri dish, glass slide, steel cylinder, etc.) for a specified exposure period at room temperature. The virus is then assayed by an appropriate virological technique.

In order for the data to be considered valid, the following criteria must be met:
1: Virus concentration after drying must be at least $10^4$.
2: Complete inactivation of the viruses at all dilutions is required. If cytotoxicity is evident, at least a 3 log reduction of virus concentration must be demonstrated beyond the cytopathic effect.
3: Cell controls must be negative for infectivity.

<table>
<thead>
<tr>
<th>ORGANISM</th>
<th>DRIED VIRUS CONTROL</th>
<th>LOG REDUCTION</th>
<th>CONTACT TIME</th>
</tr>
</thead>
<tbody>
<tr>
<td>HIV type 1- Strain HTLV IIIB</td>
<td>$10^{5.25}$</td>
<td>$\geq 3.75$</td>
<td>30 seconds</td>
</tr>
<tr>
<td>Herpes Simplex Type 1 VR-733 F(1) Strain (ATCC VR-733)</td>
<td>$10^6$</td>
<td>$\geq 5.5$</td>
<td>60 seconds</td>
</tr>
<tr>
<td>Rotavirus (Strain WA, Ottawa)</td>
<td>$10^{4.5}$</td>
<td>$\geq 4.0$</td>
<td>30 seconds</td>
</tr>
<tr>
<td>Human Coronavirus (ATCC VR-740)</td>
<td>$10^{6.5}$</td>
<td>$\geq 4.0$</td>
<td>30 seconds</td>
</tr>
<tr>
<td>Influenza A (H1N1) (ATCC VR-1469)</td>
<td>$10^{6.5}$</td>
<td>$\geq 6.0$</td>
<td>30 seconds</td>
</tr>
<tr>
<td>Swine Influenza A (H1N1) (ATCC VR-333)</td>
<td>$10^{6.75}$</td>
<td>$\geq 6.25$</td>
<td>30 seconds</td>
</tr>
<tr>
<td>Respiratory Syncytial Virus (ATCC VR-26)</td>
<td>$10^{6.75}$</td>
<td>$\geq 4.25$</td>
<td>30 seconds</td>
</tr>
<tr>
<td>Adenovirus Type 2 (ATCC VR-846)</td>
<td>$10^{6.5}$</td>
<td>$\geq 5.5$</td>
<td>30 seconds</td>
</tr>
<tr>
<td>Murine Norovirus (MNV-1.CW1)</td>
<td>$10^{6.5}$</td>
<td>$\geq 6.0$</td>
<td>60 seconds</td>
</tr>
<tr>
<td>Norovirus -as Feline Calicivirus (ATCC VR-782)</td>
<td>$10^{6.5}$</td>
<td>$\geq 5.88$</td>
<td>60 seconds</td>
</tr>
<tr>
<td>Avian Influenza A (ATCC VR-2072)</td>
<td>$10^{6.25}$</td>
<td>$\geq 4.25$</td>
<td>30 seconds</td>
</tr>
<tr>
<td>Influenza A (ATCC VR-544)</td>
<td>$10^{6.5}$</td>
<td>$\geq 6.0$</td>
<td>30 seconds</td>
</tr>
<tr>
<td>Rhinovirus (ATCC VR-1147)</td>
<td>$10^{6.5}$</td>
<td>$\geq 4.0$</td>
<td>60 seconds</td>
</tr>
<tr>
<td>Polio Type 2 (ATCC VR-1002)</td>
<td>$10^{6.5}$</td>
<td>$\geq 3.0$</td>
<td>60 seconds</td>
</tr>
<tr>
<td>Hepatitis B Virus (HBV)</td>
<td>$10^4$</td>
<td>$\geq 5.79$</td>
<td>60 seconds</td>
</tr>
<tr>
<td>Hepatitis C Virus (HCV)</td>
<td>$10^{3.25}$</td>
<td>$\geq 4.93$</td>
<td>60 seconds</td>
</tr>
</tbody>
</table>

FUNGAL TEST METHODS:
For registration with the US EPA, efficacy against pathogenic fungi is determined by following the AOAC Fungicidal Test Method or modifications of either the AOAC Use Dilution Test Method modified or the AOAC Germicidal Spray Products Test Method which meet the criteria of the AOAC Fungicidal Test Method. The carrier method is outlined below.

The disinfectant is placed in a water bath and allowed to equilibrate to a temperature of 20.0 °C ± 0.5°C. Carriers will be inoculated with test culture. Carriers must have a minimum concentration of $10^4$ after drying. Each contaminated and dried carrier is placed into a test tube containing test substance for the specified contact time and then transferred to test tubes containing growth medium and a neutralizing agent to stop the action of the disinfectant. The carriers are incubated for an appropriate time based upon the test organism. The tubes are examined for growth or no growth. To pass a 60 carrier test, two batches are tested and 59 out of 60 carriers must show no growth for each product batch. To pass a 10 carrier test, two batches are tested and all 10 carriers must show no growth.

<table>
<thead>
<tr>
<th>ORGANISM</th>
<th># OF CARRIERS EXPOSED</th>
<th># OF CARRIERS SHOWING GROWTH</th>
<th>CONTACT TIME</th>
</tr>
</thead>
<tbody>
<tr>
<td>Trichophyton mentagrophytes (Athlete's Foot Fungus) ATCC#9533</td>
<td>10</td>
<td>0</td>
<td>5 minutes</td>
</tr>
</tbody>
</table>
MICROBIOLOGICAL TEST DATA (CONT.)

FOOD CONTACT SURFACE SANITIZER TEST METHODS:
Sanitizers applied to food contact surfaces are defined as incidental food additives under the Federal Food, Drug, and Cosmetic Act, as amended (21 U.S.C. 201 et seq.), and require establishment of a food additive tolerance or an exemption for the need for a tolerance. In addition, to support registration with the US EPA, the product must show efficacy following the AOAC Germicidal and Detergent Sanitizing Action of Disinfectants (AOAC 960.09) test method.

In this method, cultures of each test organism are grown in an appropriate broth and grown to an acceptable concentration. In duplicate for each test organism, 1 mL of the concentrated culture is inoculated into a flask containing 99 mL of the test product for the contact time of 30 seconds. After the contact time has elapsed, aliquots of the organism/test substance are neutralized and plated to analyze for surviving microorganisms as compared to the untreated control. Acceptable results must demonstrate a 99.999% reduction in the number of microorganisms within 30 seconds. The EPA requires that labels directions state a minimum contact time of 1 minute for sanitization of food contact surfaces.

<table>
<thead>
<tr>
<th>ORGANISM</th>
<th>DRIED VIRUS CONTROL</th>
<th>LOG REDUCTION</th>
<th>CONTACT TIME</th>
<th>% REDUCTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>Staphylococcus aureus</td>
<td>8.0 x 10⁷</td>
<td>≥10⁷</td>
<td>30 seconds</td>
<td>&gt;99.999</td>
</tr>
<tr>
<td>Escherichia coli</td>
<td>9.4 x 10⁷</td>
<td>≥10⁷</td>
<td>30 seconds</td>
<td>&gt;99.999</td>
</tr>
</tbody>
</table>

Note: No surviving organisms were detected for all three lots in all replicates for both test organisms.

All efficacy studies performed on the product to substantiate the efficacy claims are performed at third party laboratories which are recognized for their expertise in AOAC test methods. The test labs include:

- ATS Labs (formerly AppTec Laboratories), Minnesota USA
- Nelson Laboratories, Utah USA
- Bioscience Laboratories, Inc., Montana USA

Studies are available for review upon request.
SAFETY DATA:

FROM THE EPA LABEL REVIEW MANUAL:
The EPA determines the Toxicity Category based on the Acute Toxicity Data provided by the registrant. Here is the rating system utilized by the EPA:

<table>
<thead>
<tr>
<th>STUDY</th>
<th>CATEGORY I</th>
<th>CATEGORY II</th>
<th>CATEGORY III</th>
<th>CATEGORY IV</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acute Oral</td>
<td>Up to and including 50 mg/kg</td>
<td>&gt; 50 thru 500 mg/kg</td>
<td>&gt; 500 thru 5000 mg/kg</td>
<td>&gt; 5000 mg/kg</td>
</tr>
<tr>
<td>Acute Dermal</td>
<td>Up to and including 200 mg/kg</td>
<td>&gt; 200 thru 2000 mg/kg</td>
<td>&gt; 2000 thru 5000 mg/kg</td>
<td>&gt; 5000 mg/kg</td>
</tr>
<tr>
<td>Acute Inhalation(^1)</td>
<td>Up to and including 0.05 mg/liter</td>
<td>&gt; 0.05 thru 0.5 mg/liter</td>
<td>&gt; 0.5 thru 2 mg/liter</td>
<td>&gt; 2 mg/liter</td>
</tr>
<tr>
<td>Primary Eye Irritation</td>
<td>Corrosive (irreversible destruction of ocular tissue) or corneal involvement or irritation persisting for more than 21 days</td>
<td>Corneal involvement or other eye irritation clearing in 8-21 days</td>
<td>Corneal involvement or other eye irritation clearing in 7 days or less</td>
<td>Minimal effects clearing in less than 24 hours</td>
</tr>
<tr>
<td>Primary Skin Irritation</td>
<td>Corrosive (tissue destruction into the dermis and/or scarring)</td>
<td>Severe irritation at 72 hours (severe erythema or edema)</td>
<td>Moderate irritation at 72 hours (moderate erythema)</td>
<td>Mild or slight irritation at 72 hours (no irritation or slight erythema)</td>
</tr>
</tbody>
</table>

SIGNAL WORD

DANGER | WARNING | CAUTION | NONE REQUIRED

\(^1\) 4 hr exposure

A Signal Word is required based on the Toxicity category assigned to a pesticide by the EPA. For Category IV products, no Signal Word is required and no first aid statements are required. The Signal Word is determined by the most severe toxicity category assigned to the five acute toxicity studies or by the presence of methanol in concentrations of 4% or more.

PURE Hard Surface falls into US EPA Category IV based on all of the toxicity data. The product does not require a Signal Word or First Aid statements to be listed on the label.

HMIS RATING:
Hazardous Material Identification System

<table>
<thead>
<tr>
<th>Health</th>
<th>Flammability</th>
<th>Reactivity</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

NFPA:
National Fire Protection Association

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PHYSICAL DATA:

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appearance</td>
<td>Clear, colorless liquid</td>
</tr>
<tr>
<td>Odor</td>
<td>Practically odorless</td>
</tr>
<tr>
<td>pH</td>
<td>2</td>
</tr>
<tr>
<td>Specific Gravity (H2O=1)</td>
<td>1</td>
</tr>
<tr>
<td>Solubility</td>
<td>Water soluble</td>
</tr>
<tr>
<td>VOC Content (% Wt.)</td>
<td>0.00% (0.000 lbs/gallon)</td>
</tr>
<tr>
<td>Flash Point</td>
<td>&gt; 212°F</td>
</tr>
</tbody>
</table>

STORAGE AND DISPOSAL:

Do not contaminate water, food or feed by storage or disposal.

**PESTICIDE STORAGE:** Store in a cool, dry area away from direct sunlight at temperatures above freezing.

**PESTICIDE DISPOSAL:** Nonrefillable Container*. Refill only with this product. Do not reuse or refill except as described in the directions for use. If empty: Place in trash or offer for recycling if available. Rinse thoroughly before discarding in trash or recycling.

*As defined by the EPA, a Nonrefillable Container is one that is not intended to be refilled with pesticide for sale. This term applies to bottles which are intended to refilled with the same product more than once for use but not for sale or distribution.

QUESTIONS?

For Customer Service please call: (619) 596-8600
Customer Service Hours of Operation Mon-Fri 8am-5pm PST
Distributed by PURE Bioscience, Inc.

NASDAQ: PURE
COMMERCIAL PRODUCT LABEL
A NEW GENERATION OF PROTECTION

HARD SURFACE

ACTIVE INGREDIENTS
- SILVER† 0.003%
- CITRIC ACID 4.846%
- OTHER INGREDIENTS 95.151%
TOTAL 100.000%

†Electrolytically generated silver ions stabilized in citric acid as silver dihydrogen citrate

EPA REG. No. 72977-5-73912
EPA EST. No. 72977-CA-001

KILLS GERMS IN 30 SECONDS‡

COMMERCIAL LINE
For use in
Healthcare | Education | Institutions | Food Service

EFFECTIVE AGAINST MRSA & MULTIPLE DRUG RESISTANT BACTERIA
Kills 99.999% of bacteria that cause food borne illness.**

NO RINSE FORMULA | ODORLESS | READY TO USE

KEEP OUT OF REACH OF CHILDREN

Net Contents 1 QT
(32 FL OZ) 946 ML

‡Electrolytically generated silver ions stabilized in citric acid as silver dihydrogen citrate
**DIRECTIONS FOR USE:**

IT IS A VIOLATION OF FEDERAL LAW TO USE THIS PRODUCT IN A MANNER INCONSISTENT WITH ITS LABELING.

This product is a colorless, odorless, broad spectrum antimicrobial sanitizer, disinfectant and deodorizer. Proven to kill bacteria, fungus and viruses*, this product should be used on non-porous environmental hard surfaces in hospitals, restaurants, food processing plants, food storage areas, supermarkets, kitchens, dining halls, offices, hotel s, schools, recreational facilities, gyms, prisons and military installations. This product has been formulated to treat hard, non-porous environmental surfaces (painted, glazed life, plastic, non-porous vinyl, metal, glass) and objects including counters, exam tables, desks, doorknobs, handrails, kitchen surfaces, food processing and cooking equipment, food cases, sinks, ice machines and non-porous athletic mats.

**GENERAL INFORMATION:** This product successfully killed the following organisms under AOAC protocols. (In order to ensure that all organisms listed are killed, you must use the contact times as directed in the Application Instructions):

<table>
<thead>
<tr>
<th>ORGANISM</th>
<th>KILL TIME</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>Pseudomonas aeruginosa</em></td>
<td>30 seconds</td>
</tr>
<tr>
<td><em>Salmonella enterica</em></td>
<td>30 seconds</td>
</tr>
<tr>
<td><em>Staphylococcus aureus</em></td>
<td>2 minutes</td>
</tr>
<tr>
<td>Listeria monocytogenes</td>
<td>2 minutes</td>
</tr>
<tr>
<td>Vancomycin resistant Enterococcus faecium (VRE)</td>
<td>2 minutes</td>
</tr>
<tr>
<td>Methicillin resistant Staphylococcus aureus (MRSA)</td>
<td>2 minutes</td>
</tr>
<tr>
<td>Community Associated Methicillin resistant Staphylococcus aureus (CA-MRSA)</td>
<td>2 minutes</td>
</tr>
<tr>
<td>Community Associated Methicillin resistant Staphylococcus aureus (CA-MRSA-PVL)</td>
<td>2 minutes</td>
</tr>
<tr>
<td><em>Escherichia coli O157:H7</em></td>
<td>2 minutes</td>
</tr>
<tr>
<td>Acinetobacter baumannii</td>
<td>2 minutes</td>
</tr>
<tr>
<td>Campylobacter jejuni</td>
<td>2 minutes</td>
</tr>
<tr>
<td>Carbapenem resistant <em>Escherichia coli</em></td>
<td>2 minutes</td>
</tr>
<tr>
<td>Carbapenem resistant Klebsiella pneumoniae</td>
<td>2 minutes</td>
</tr>
<tr>
<td>Carbapenem resistant Klebsiella pneumoniae, NDM-1 +</td>
<td>2 minutes</td>
</tr>
<tr>
<td><em>Staphylococcus montagutii</em></td>
<td>5 minutes</td>
</tr>
<tr>
<td>3* HIV type 1</td>
<td>30 seconds</td>
</tr>
<tr>
<td>3* Rotavirus</td>
<td>30 seconds</td>
</tr>
<tr>
<td>3* Influenza A (H1N1) + 3* Swine Influenza A (H1N1)</td>
<td>30 seconds</td>
</tr>
<tr>
<td>3* Respiratory Syncyrial Virus</td>
<td>30 seconds</td>
</tr>
<tr>
<td>3* Adenovirus type 2</td>
<td>30 seconds</td>
</tr>
<tr>
<td>3* Influenza A + 3* Asian Influenza A</td>
<td>30 seconds</td>
</tr>
<tr>
<td>Hepatitis B Virus (HBV)</td>
<td>60 seconds</td>
</tr>
<tr>
<td>Hepatitis C Virus (HCV)</td>
<td>60 seconds</td>
</tr>
<tr>
<td>*Norovirus</td>
<td>60 seconds</td>
</tr>
<tr>
<td>*Murine Norovirus</td>
<td>60 seconds</td>
</tr>
<tr>
<td>*Herpes Simplex type 1</td>
<td>60 seconds</td>
</tr>
<tr>
<td>*Herpes Simplex type 2</td>
<td>60 seconds</td>
</tr>
<tr>
<td>*Varicella</td>
<td>60 seconds</td>
</tr>
<tr>
<td>*Rhinovirus</td>
<td>60 seconds</td>
</tr>
</tbody>
</table>

*For complete information, please refer to the product label or contact the manufacturer.**
APPLICATION INSTRUCTIONS:

Pre-clean surfaces prior to using this product. You may use this product for pre-cleaning. General Cleaning: Apply to surface until thoroughly wet, then wipe the surface clean.

GENERAL DISINFECTION: To kill bacteria, apply this product to the surface until thoroughly wet for 2 minutes. The surface may then be wiped dry with a clean towel. When used as directed, this product provides residual protection from *Pseudomonas aeruginosa*, *Staphylococcus aureus* and *Salmonella enterica* up to 24 hours after initial application. Do not touch treated surface after application if residual protection is to be maintained.

FUNGUS CONTROL: To kill fungus, apply this product to the surface until thoroughly wet for 5 minutes. The surface may then be wiped dry with a clean towel. Re-apply when cleaning or when new growth appears.

*VIRAL CONTROL:* To kill viruses, apply this product to the surface until thoroughly wet for 1 minute. The surface may then be wiped dry with a clean towel.

This product has demonstrated effectiveness against Influenza A virus and is expected to inactivate all Influenza A viruses including Pandemic 2009 H1N1 Influenza A virus.

Kills HIV-1, HBV and HCV on pre-cleaned environmental surfaces/objects previously soiled with blood/body fluids in health care settings 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 for transmission of HIV, HBV or HCV: Instructions for Cleaning and Decontamination Against HIV, HBV and HCV on pre-cleaned environmental surfaces/objects previously soiled with blood/body fluids: Personal Protection: When handling items soiled with blood or body fluids, use appropriate barrier protection such as latex gloves, gowns, masks and eye coverings.

Cleaning Procedure: Blood and other body fluids must be thoroughly cleaned from surfaces and objects before application of this disinfectant. Contact Time: Apply to area to be treated. Allow the surface to remain wet for 30 seconds to kill HIV-1. Use 1 minute for HBV and HCV. The surface may then be wiped dry with a clean towel.

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

SANITIZATION OF FOOD CONTACT SURFACES: Do not use this product on utensils, dishes or glassware.

To sanitize food processing equipment and other hard surfaces in food processing locations, dairies, restaurants and bars: Prior to use in federally inspected meat and poultry plants and dairies, food products and packaging materials must be removed from the room or carefully protected. A potable water rinse is not permitted following the use of this product as a sanitizer on previously cleaned hard, non-porous surfaces, provided that the surfaces are adequately drained before contact with food so that little or no residue remains. Apply product to pre-cleaned hard surfaces by thoroughly wetting surfaces with a cloth, mop, sponge, sprayer or by immersion. Surfaces should remain wet for 1 minute followed by adequate draining and air drying.

**This product is a ready to use sanitizer that eliminates 99.999% of the following bacteria in 60 seconds: Escherichia coli, Staphylococcus aureus.**
APPLICATION INSTRUCTIONS (CONT'D):
U.S. PUBLIC HEALTH SERVICE FOOD SERVICE
SANITIZATION RECOMMENDATIONS CLEANING AND SANITIZING:
Equipment shall be thoroughly pre-flushed or pre-scraped and
pre-soaked when necessary to remove gross food particles and soil.
1. Thoroughly wash equipment in a hot detergent solution.
   Rinse equipment thoroughly with potable water.
2. Sanitize equipment by immersion for 60 seconds at a temperature of 75°.
3. For equipment that is too large to immerse, apply by rinsing, spraying or swabbing
   until thoroughly wetted.
4. Allow sanitized surfaces to drain and air dry. No potable water rinse is allowed.

WISCONSIN STATE DIVISION OF HEALTH DIRECTIONS FOR EATING ESTABLISHMENTS
1. Scrape and pre-wash articles whenever possible.
2. Wash with a good detergent or compatible cleaner.
3. Rinse with potable water.
4. Sanitize in this product without diluting. Immerse all articles for at least one minute or for
   contact time specified by governing sanitary code.
5. Place sanitized articles on a rack or drain board to air dry.
NOTE: A clean potable water rinse following sanitization is not permitted under Section h FS
196.13 of the Wisconsin Administrative Code.

To refill spray bottles:
1. Remove trigger sprayer from empty bottle.
2. Remove cap from refill and pour contents directly into empty bottle.
3. Replace trigger sprayer and use as you normally would.

This product is not to be used as a terminal sterilant/high level disinfectant on any surface or instrument
that (1) is introduced directly into the human body, whether into or in contact with the bloodstream, or normally
sterile areas of the body, or (2) contacts intact mucous membranes but which does not ordinarily penetrate
the blood barrier or otherwise enter normally sterile areas of the body. This product may be used to pre-
clean or decontaminate critical or semi-critical medical devices prior to sterilization or high level disinfection.

STORAGE AND DISPOSAL:
Do not contaminate water, food or feed by storage or disposal.

PESTICIDE STORAGE:
Store in a cool, dry area away from direct sunlight at temperatures above freezing.

PESTICIDE DISPOSAL:
Nonrefillable Container. Reuse only with this product. Do not reuse or refill except as
described in the directions for use. If empty: Place in trash or offer for recycling if available. Rinse thoroughly
before discarding in trash or recycling.

IN CASE OF EMERGENCY:
Have the product container or label with you when calling a poison control center
or doctor, or going for treatment. You may also contact CHEMTREC 1-800-424-9300 for emergency medical
treatment information.

U.S. Patents: 6,197,814; 6,583,176; 7,261,905; 7,763,297; 7,803,407. Other patents pending.
PURE HARD SURFACE: HOSPITAL DISINFECTION

© PURE Bioscience, Inc. 2011
Pure Hard Surface™ is a colorless, odorless, ready-to-use disinfectant and sanitizer for use on hard, non-porous environmental surfaces, including food contact surfaces. Registered with the EPA as a hospital disinfectant, Pure Hard Surface is effective against a broad spectrum of bacteria, viruses, and fungi. Use to disinfect noncrITICAL and environmental surfaces and for sanitizing food contact surfaces in a variety of healthcare settings.

The CDC recommends that noncritical items and surfaces be disinfected using an EPA registered hospital disinfectant. Any item or surface visibly contaminated with blood should be treated with an EPA registered disinfectant with TB claims or with specific HIV and HBV label claims, according to the OSHA Bloodborne Pathogen Standard. Pure Hard Surface meets the CDC recommendations for use in healthcare settings.

In its 2008 Guideline for Disinfection and Sterilization in Healthcare Facilities, the CDC presents a table of properties of the ideal disinfectant.

<table>
<thead>
<tr>
<th>Property</th>
<th>Description</th>
<th>Pure Hard Surface</th>
</tr>
</thead>
<tbody>
<tr>
<td>Broad spectrum</td>
<td>Should have a wide antimicrobial spectrum</td>
<td>✓</td>
</tr>
<tr>
<td>Fast acting</td>
<td>Should produce a rapid kill</td>
<td>✓</td>
</tr>
<tr>
<td>Not affected by environmental factors</td>
<td>Should be active in the presence of organic matter (e.g., blood, sputum, feces) and compatible with soaps, detergents, and other chemicals encountered in use</td>
<td>✓</td>
</tr>
<tr>
<td>Nontoxic</td>
<td>Should not be harmful to the user or patient</td>
<td>✓</td>
</tr>
<tr>
<td>Surface compatibility</td>
<td>Should not corrode instruments and metallic surfaces and should not cause the deterioration of cloth, rubber, plastics, and other materials</td>
<td>✓</td>
</tr>
<tr>
<td>Residual effect on treated surfaces</td>
<td>Should leave an antimicrobial film on the treated surface</td>
<td>✓</td>
</tr>
<tr>
<td>Easy to use</td>
<td>Should have clear label directions</td>
<td>✓</td>
</tr>
<tr>
<td>Odorless</td>
<td>Should have a pleasant odor or no odor to facilitate its routine use</td>
<td>✓</td>
</tr>
<tr>
<td>Economical</td>
<td>Should not be prohibitively high in cost</td>
<td>✓</td>
</tr>
<tr>
<td>Solubility</td>
<td>Should be soluble in water</td>
<td>✓</td>
</tr>
<tr>
<td>Stability</td>
<td>Should be stable in concentrate and use-dilution</td>
<td>✓</td>
</tr>
<tr>
<td>Cleaner</td>
<td>Should have good cleaning properties</td>
<td>✓</td>
</tr>
<tr>
<td>Environmentally friendly</td>
<td>Should not damage the environment on disposal</td>
<td>✓</td>
</tr>
</tbody>
</table>
Designed for Practical Use

An important issue concerning use of disinfectants for noncritical environmental surfaces in healthcare settings is that the contact time specified on the label of the product is often too long to be practically followed. The labels of most products registered by EPA for use against HBV, HIV, or *M. tuberculosis* specify a contact time of 10 minutes. Such a long contact time is not practical for disinfection of environmental surfaces in a health-care setting. PURE Hard Surface is effective against bacteria in 2 minutes or less and a wide range of viruses in 30–60 seconds. PURE Hard Surface provided residual protection up to 24 hours after application, further reducing the potential for cross contamination.

No adverse effects to users or substrates are associated with the use of PURE Hard Surface and no toxicity is associated with the active ingredients, silver ions and citric acid. PURE has conducted acute dermal and oral testing as well as primary skin and eye irritation studies and dermal sensitization studies on the SDC concentrate used to formulate PURE products. Based on these test results, the EPA has assigned PURE Hard Surface a toxicity rating of Category IV, the lowest toxicity category rating given by the EPA. A Category IV rating by the EPA means they consider PURE Hard Surface relatively non-toxic and do not require any signal word, first aid instructions or a precautionary statement on the label.

PURE Hard Surface is ideal for use around patients including children. The formula is odorless and non-irritating, so use even when patients are present is not a concern.

PURE Hard Surface contains no Volatile Organic Compounds (VOC). VOCs contain significant vapor pressures that can be harmful to humans and the environment. Additionally, PURE Hard Surface does not contain bleach, alcohol, ammonia, phosphates, or phenols. None of the ingredients in this product are considered hazardous by OSHA and none are listed on the California Proposition 65 list.

PURE Hard Surface is an environmentally preferable formula. The active ingredients, silver and citric acid, are found naturally in the environment and the processes employed to manufacture PURE products result in no waste by-products.

**Designed for Practical Use - Part of Your Healthcare Infection Prevention Program**

**Product and Contact Information**

EPA Registration Number: 72977-5-73912

Manufactured by: PURE Bioscience, 1725 Gillespie Way, El Cajon, CA 92020 • 619-596-8600 • www.purebio.com
Guidelines for Environmental Infection Control in Health-Care Facilities
Recommendations of CDC and the Healthcare Infection Control Practices Advisory Committee (HICPAC)
Recommendations ---Environmental Services
http://www.cdc.gov/mmwr/preview/mmwrhtml/rr5210a1.htm

Cleaning and Disinfecting Strategies for Environmental Surfaces in Patient-Care Areas

A. Select EPA-registered disinfectants, if available, and use them in accordance with the manufacturer's instructions (270--272). Category IC (EPA: 7 United States Code [USC] § 136 et seq.)

B. Do not use high-level disinfectants/liquid chemical sterilants for disinfection of either noncritical instruments and devices or any environmental surfaces; such use is counter to label instructions for these toxic chemicals (273--278). Category IC (Food and Drug Administration [FDA]: 21 CFR 801.5, 807.87.e)

C. Follow manufacturers' instructions for cleaning and maintaining noncritical medical equipment. Category II

D. In the absence of a manufacturer's cleaning instructions, follow certain procedures.
   1. Clean noncritical medical equipment surfaces with a detergent/disinfectant. This may be followed by an application of an EPA-registered hospital disinfectant with or without a tuberculocidal claim (depending on the nature of the surface and the degree of contamination), in accordance with germicide label instructions (274). Category II
   2. Do not use alcohol to disinfect large environmental surfaces (273). Category II
   3. Use barrier protective coverings as appropriate for noncritical surfaces that are 1) touched frequently with gloved hands during the delivery of patient care; 2) likely to become contaminated with blood or body substances; or 3) difficult to clean (e.g., computer keyboards) (265). Category II

E. Keep housekeeping surfaces (e.g., floors, walls, tabletops) visibly clean on a regular basis and clean up spills promptly (279). Category II
   1. Use a one-step process and an EPA-registered hospital detergent/disinfectant designed for general housekeeping purposes in patient-care areas where 1) uncertainty exists as to the nature of the soil on the surfaces (e.g., blood or body fluid contamination versus routine dust or dirt); or 2) uncertainty exists regarding the presence of multidrug resistant organisms on such surfaces (272,274,280,281). Category II
   2. Detergent and water are adequate for cleaning surfaces in nonpatient-care areas (e.g., administrative offices). Category II
   3. Clean and disinfect high-touch surfaces (e.g., doorknobs, bed rails, light switches, and surfaces in and around toilets in patients' rooms) on a more frequent schedule than minimal touch housekeeping surfaces. Category II
   4. Clean walls, blinds, and window curtains in patient-care areas when they are visibly dusty or soiled (270,282--284). Category II

F. Do not perform disinfectant fogging in patient-care areas (270,285). Category IB

G. Avoid large-surface cleaning methods that produce mists or aerosols, or disperse dust in patient-care areas (37,48,51,73). Category IB

H. Follow proper procedures for effective uses of mops, cloths, and solutions. Category II
   1. Prepare cleaning solutions daily or as needed, and replace with fresh solution frequently according to facility policies and procedures (280,281). Category II
   2. Change the mop head at the beginning of each day and also as required by facility policy, or after cleaning up large spills of blood or other body substances. Category II
   3. Clean mops and cloths after use and allow to dry before reuse; or use single-use, disposable mop heads and cloths (282,286--288). Category II

I. After the last surgical procedure of the day or night, wet vacuum or mop operating room floors with a single-use mop and an EPA-registered hospital disinfectant (114). Category IB

J. Do not use mats with tacky surfaces at the entrances to operating rooms or infection-control suites (114). Category IB
K. Use appropriate dusting methods for patient-care areas designated for immunocompromised patients (e.g., HSCT patients) \((37,40,280)\). Category IB
   1. Wet-dust horizontal surfaces daily by moistening a cloth with a small amount of an EPA-registered hospital detergent/disinfectant \((37,40,280)\). Category IB
   2. Avoid dusting methods that disperse dust (e.g., feather-dusting) \((40)\). Category IB
L. Keep vacuums in good repair and equip vacuums with HEPA filters for use areas with patients at risk \((37,40,280,289)\). Category IB
M. Close the doors of immunocompromised patients' rooms when vacuuming, waxing, or buffing corridor floors to minimize exposure to airborne dust \((37,40,289)\). Category IB
N. When performing low- or intermediate-level disinfection of environmental surfaces in nurseries and neonatal units, avoid unnecessary exposure of neonates to disinfectant residues on these surfaces by using EPA-registered germicides in accordance with manufacturers' instructions and safety advisories \((271,290\text{--}292)\). Category IB, IC (EPA: 7 USC § 136 et seq.)
   1. Do not use phenolics or any other chemical germicide to disinfect bassinets or incubators during an infant's stay \((271,290\text{--}292)\). Category IB
   2. Rinse disinfectant-treated surfaces, especially those treated with phenolics, with water \((290\text{--}292)\). Category IB
O. When using phenolic disinfectants in neonatal units, prepare solutions to correct concentrations in accordance with manufacturers' instructions, or use premixed formulations \((271,290\text{--}292)\). Category IB, IC (EPA: 7 USC § 136 et seq.)

II. Cleaning Spills of Blood and Body Substances
   A. Promptly clean and decontaminate spills of blood or other potentially infectious materials \((293\text{--}300)\). Category IB, IC (OSHA: 29 CFR 1910.1030 § d.4.i.A)
   B. Follow proper procedures for site decontamination of spills of blood or blood-containing body fluids \((293\text{--}300)\). Category IC (OSHA: 29 CFR 1910.1030 § d.4.i.A)
      1. Use protective gloves and other PPE appropriate for this task \((293)\). Category IC (OSHA: 29 CFR 1910.1030 § d.3.i, ii) Category IC (OSHA: 29 CFR 1910.1030 § d.4.i.B)
      2. If the spill contains large amounts of blood or body fluids, clean the visible matter with disposable absorbent material, and discard the used cleaning materials in appropriate, labeled containers \((293,298,299,301,302)\). Category IC (OSHA: 29 CFR 1910.1030 § d.4.iii.B)
      3. Swab the area with a cloth or paper towels moderately wetted with disinfectant, and allow the surface to dry \((293,301)\). Category IC (OSHA: 29 CFR 1910.1030 § d.4.ii.A)
   C. Use germicides registered by the EPA for use as hospital disinfectants and labeled tuberculocidal or registered germicides on the EPA Lists D and E (i.e., products with specific label claims for HIV or hepatitis B virus [HBV]) in accordance with label instructions to decontaminate spills of blood and other body fluids \((293,301,303)\). Category IC (OSHA 29 CFR 1910.1030 § d.4.i. A memorandum 2/28/97; compliance document [CPL] 2-2.44D [11/99])
   D. An EPA-registered sodium hypochlorite product is preferred, but if such products are not available, generic sodium hypochlorite solutions (e.g., household chlorine bleach) may be used.
      1. Use a 1:100 dilution (500–615 ppm available chlorine) to decontaminate nonporous surfaces after cleaning a spill of either blood or body fluids in patient-care settings \((301,304)\). Category IB
      2. If a spill involves large amounts of blood or body fluids, or if a blood or culture spill occurs in the laboratory, use a 1:10 dilution (5,000–6,150 ppm available chlorine) for the first application of germicide before cleaning \((279,301)\). Category IB
Glossary - Key Terms Used in the Healthcare Industry:

**Antimicrobial**: An agent that kills microorganisms (bacteria, viruses, fungi).

**Antiseptics**: Germicides applied to living tissue and skin.

**Bactericide (Bactericidal)**: An antimicrobial that kills bacteria.

**Bioburden (microbial load)**: Population of viable microorganisms on a raw material, component, a finished product and/or a package.

**Cleaning**: The removal of visible soil (e.g., organic and inorganic material) from objects and surfaces and normally is accomplished manually or mechanically using water with detergents or enzymatic products. Thorough cleaning is essential before disinfection and sterilization because inorganic and organic materials that remain on the surfaces interfere with the effectiveness of these processes.

- Prior cleaning is required. Hypochlorites and other germicides are substantially inactivated in the presence of blood, large spills of blood require that the surface be cleaned before an EPA-registered disinfectant is applied.

**Critical items**: Critical items (also known as Critical device) make contact with normally sterile tissue or body spaces during use. Confer a high risk for infection if they are contaminated with any microorganism. Thus, items that enter sterile tissue or the vascular system must be sterile because any microbial contamination could transmit disease (e.g., surgical instruments, cardiac and urinary catheters, implants, and ultrasound probes used in sterile body cavities).

- Most of the items in this category should be purchased as sterile or be sterilized with steam if possible.
- A liquid chemical sterilant/high level disinfectant is a germicide that is intended for use as the terminal step in processing critical and semicritical medical devices prior to patient use.
- Liquid chemical sterilants reliably produce sterility only if cleaning precedes treatment and if proper guidelines are followed regarding concentration, contact time, temperature, and pH.

**Decontamination**: Removes pathogenic microorganisms from objects so they are safe to handle, use, or discard. Disinfection or sterilization of infected articles to make them suitable for use.

**Disinfectants**: An agent that destroys pathogenic and other kinds of microorganisms by chemical or physical means. A disinfectant destroys most recognized pathogenic microorganisms, but not necessarily all microbial forms, such as bacterial spores. Antimicrobials applied only to inanimate objects.

**Disinfection**: Describes a process that eliminates many or all pathogenic microorganisms, except bacterial spores, on inanimate objects. The destruction of pathogenic and other kinds of microorganisms by physical or chemical means. Disinfection is a less lethal process than sterilization, since it destroys most recognized pathogenic microorganisms, but not necessarily all microbial forms, such as bacterial spores. Disinfection processes do not ensure the margin of safety associated with sterilization processes.

- High-level disinfection: Complete elimination of all microorganisms in or on an instrument, except for small numbers of bacterial spores. The FDA definition of high-level disinfection is a sterilant used for a shorter contact time to achieve a 6-log10 kill of an appropriate *Mycobacterium* species. Cleaning followed by high-level disinfection should eliminate enough pathogens to prevent transmission of infection.

**Germicide**: An agent that can kill microorganisms, particularly pathogenic organisms (antimicrobial).
Inorganic and Organic Load: The naturally occurring or artificially placed inorganic (e.g., metal salts) or organic (e.g., proteins) contaminants present on a surface prior to exposure to a microbiocidal process.

Noncritical Items: Noncritical items (e.g., noncritical patient care items and noncritical environmental surfaces) are those that come in contact with intact skin but not mucous membranes (e.g., bedpans, blood pressure cuffs, crutches, computers, food utensils, bedside tables, patient furniture and floors). Intact skin acts as an effective barrier to most microorganisms; therefore, the sterility of items coming in contact with intact skin is "not critical."
- Frequently touched by hand potentially could contribute to secondary transmission by contaminating hands of health-care workers or by contacting medical equipment that subsequently contacts patients.
- May be decontaminated where they are used and do not need to be transported to a central processing area.
- Use EPA registered hospital level disinfectants.
- Federal law requires all applicable label instructions on EPA-registered products to be followed (e.g., use-dilution, shelf life, storage, material compatibility, safe use, and disposal). If the user selects exposure conditions (e.g., exposure time) that differ from those on the EPA-registered products label, the user assumes liability for any injuries resulting from off-label use and is potentially subject to enforcement action under Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA).

Semicritical Items: Contact mucous membranes or nonintact skin (e.g., respiratory therapy and anesthesia equipment, some endoscopes, laryngoscope blades, esophageal manometry probes, cystoscopes, anorectal manometry catheters, and diaphragm fitting rings). These medical devices should be free from all microorganisms; however, small numbers of bacterial spores are permissible. Intact mucous membranes, such as those of the lungs and the gastrointestinal tract, generally are resistant to infection by common bacterial spores but susceptible to other organisms, such as bacteria, mycobacteria, and viruses.
- Semicritical items minimally require high-level disinfection using chemical disinfectants.

Spore (or endospore): The dormant state of an organism, typically a bacterium or fungus which exhibits a lack of biosynthetic activity, reduced respiratory activity, and has resistance to heat, radiation, desiccation and various chemical agents.

Sterilant: An agent that destroys all viable forms of microbial life.

Sterile: State of being free from viable microorganisms.

Sterilization: Describes a process that destroys or eliminates all forms of microbial life and is carried out in health-care facilities by physical or chemical methods.
FREQUENTLY ASKED QUESTIONS
Frequently Asked Questions Regarding PURE Technology, Safety and the Environment

- **What is PURE Hard Surface™?**
  - PURE Hard Surface is a colorless, odorless, ready-to-use disinfectant and sanitizer for use on hard, non-porous environmental surfaces, including food contact surfaces. PURE Hard Surface offers broad spectrum efficacy coupled with 24 hour residual protection.

- **What does 24 hour residual protection mean?**
  - PURE Hard Surface has demonstrated effectiveness against *Staphylococcus aureus*, *Pseudomonas aeruginosa* and *Salmonella enterica* for up to 24 hours after initial application. Refer to the product labeling for specific use instructions. In our extensive research, we have found no other product on the market that the EPA has registered and allowed residual claims against specific pathogenic organisms.

- **What is the active ingredient in PURE Hard Surface?**
  - The active ingredients in PURE Hard Surface are ionic silver and citric acid as Silver Dihydrogen Citrate (SDC).

- **Why does PURE Hard Surface have no signal words like ‘Caution’, ‘Danger’, or ‘Warning’ on their label?**
  - PURE Hard Surface has been designated by the EPA as - Category IV. Category IV products do not require any signal words or First Aid instructions.

- **How safe is PURE Hard Surface to healthcare workers and for use around patients?**
  - No adverse effects to users or substrates are associated with the use of PURE Hard Surface and no toxicity is associated with silver ions and citric acid, particularly at the low concentrations found in PURE Hard Surface required to control microorganisms.
  - PURE has conducted acute dermal and oral testing as well as primary skin and eye irritation studies and dermal sensitization studies on the SDC concentrate used to formulate PURE products. Based on these test results, the EPA has assigned PURE Hard Surface a toxicity rating of Category IV, the lowest toxicity category rating given by the EPA. A Category IV rating by the EPA means they consider PURE Hard Surface relatively non-toxic and do not require any signal word, first aid instructions or a precautionary statement on the label.
  - PURE Hard Surface is ideal for use around patients. The formula is odorless and non-irritating, so use even when patients are present is not a concern.

- **Do I need to worry about dangerous chemical reactions if PURE Hard Surface is combined with other cleaning chemicals?**
  - PURE Hard Surface is a ‘Ready to Use’ formulation and should not be combined with any other chemicals. If accidental exposure to other chemicals occurs, no dangerous fumes or other reactions are anticipated.

- **Is PURE Hard Surface gentler on the environment than other disinfectant products?**
  - PURE Hard Surface contains no Volatile Organic Compounds (VOC). VOCs contain significant vapor pressures that can be harmful to humans and the environment. Both active ingredients; Silver and Citric Acid are found naturally in the environment. The processes employed to manufacture PURE products result in no waste by-products.

- **Is PURE Hard Surface a green disinfectant?**
  - The EPA regulates all hard surface disinfectants and sanitizers like PURE Hard Surface. As part of that regulation, the EPA has specifically stated that a product may not utilize the term ‘green’ under any circumstance to advertise their product.
  - Both active ingredients; Silver and Citric Acid are found naturally in the environment. The processes employed to manufacture PURE products result in no waste by-products.

- **Is the PURE technology the same as nanosilver?**
  - No, PURE products are not nanosilver. PURE products utilize a completely different, patented technology that is not found in any other silver product. Using exponentially less amounts of silver to create exponentially more effective products than any other silver technology, PURE products have none of the safety or environmental issues that are typically associated with nanosilver and other silver materials.
Frequently Asked Questions Regarding PURE Regulatory Status

- **Is PURE Hard Surface registered with the US EPA?**
  - Yes, PURE Hard Surface is registered with the EPA under The Federal Insecticide, Fungicide and Rodenticide Act (FIFRA) and with all 50 states, the District of Columbia and Puerto Rico. The PURE Hard Surface EPA registration number is 72977-5-73912.

- **Is PURE Hard Surface a “Hospital Disinfectant”?**
  - Yes. The EPA considers disinfectants that are effective against *Staphylococcus aureus*, *Salmonella enterica* AND *Pseudomonas aeruginosa* to be “hospital disinfectants”. PURE Hard Surface is effective against all three organisms and is registered for use on noncritical and environmental surfaces in a variety of healthcare settings.

- **Does it meet the OSHA Bloodborne Pathogen Standard?**
  - PURE Hard Surface is compliant with the most current OSHA policy stating that an EPA registered disinfectant, labeled as effective against HIV and HBV is an appropriate disinfectant for use in healthcare settings for disinfecting noncritical and environmental surfaces visibly contaminated with blood.

- **Is PURE Hard Surface a one step disinfectant?**
  - No. While there are hospital disinfectants labeled for use as a one step cleaner-disinfectant, industry best practices state that disinfection should always begin with pre-cleaning, even if using a one step cleaner disinfectant. Pre-cleaning prior to disinfecting is the only way to ensure that treated surfaces are properly decontaminated. All one step disinfectants require pre-cleaning when treating heavily soiled surfaces; however, even contamination that is not visible can reduce the effectiveness of a disinfectant. PURE Hard Surface was formulated to ensure best practices for infection control are met. By combining low toxicity and rapid kill times, PURE Hard Surface can be used to both pre-clean and disinfect, providing a more rapid turnaround time for your ICPs.

- **Can it be used on food contact surfaces?**
  - PURE Hard Surface is approved for use on surfaces which come in contact with food without the need for rinsing the surface.

- **What is the difference between disinfection and sanitization? Why is disinfection better?**
  - Contrary to popular belief, disinfection is better than sanitization for treatment of hard surfaces. Disinfection is a complete kill (greater than 99.9999%) of the organisms in question. Non-food surface sanitization is only a reduction (99.9%). Even though a product may ‘sanitize’, hundreds of pathogenic organisms may remain on a surface, exposing people to these disease causing organisms. Many products claim 30 second sanitization, but PURE Hard Surface is one of the few that can claim 30 second disinfection. In addition, PURE Hard Surface is EPA registered for use as a no rinse sanitizer on food contact surfaces, which requires a 99.999% reduction of the specified organisms within 30 seconds.

Frequently Asked Question Regarding PURE Antimicrobial Properties

- **Does PURE Hard Surface kill gram positive and gram negative bacteria?**
  - Yes. Please refer to the product label for a complete list of claimed organisms and kill times.

- **Does the 24 hour residual work if I wipe up PURE Hard Surface per the label instructions?**
  - Yes, residual protection will still be imparted to the surface even after wiping up PURE Hard Surface as directed by the EPA approved label instructions.

- **PURE Hard Surface has residual protection against bacteria, but does it have residual protection against viruses and fungi?**
  - PURE Hard Surface has only been approved by the EPA for residual protection against *Staphylococcus aureus*, *Pseudomonas aeruginosa* and *Salmonella enterica*. These are all bacteria. The EPA has not approved a protocol for testing residual efficacy against either viruses or fungi.
• **Does PURE Hard Surface kill C-Diff?**
  ✓ While PURE Hard Surface is effective against the vegetative form of *Clostridium difficile*, it does not kill the organism in the spore form. In order to make a claim against *C-diff* in the US, the EPA requires that the product must show sporicidal kill in a standardized AOAC test.
  ✓ The CDC recommends hand washing, proper barrier protection, meticulous environmental cleaning with an EPA registered disinfectant to help prevent spread of the organism. For patient rooms that have high *C. difficile* rates, the CDC recommends a 1:10 dilution of bleach be used for disinfecting surfaces.

• **Is PURE Hard Surface effective against drug resistant organisms like MRSA, NDM-1 and CRKP?**
  ✓ MRSA, or Methicillin resistant *Staphylococcus aureus* is a type of *Staph* bacteria that is resistant to beta lactam antibiotics, including Methicillin.
  ✓ NDM-1 is a gram-negative enterobacteria with resistance to carbapenem conferred by an enzyme known as New Delhi metallo-beta-lactamase 1 (NDM-1). CRKP Carbapenem-Resistant *Klebsiella pneumoniae* CRKP, is a gram negative bacteria resistant to the class of antibiotics known as carbapenems. CRKP produces an enzyme known as carbapenemase that confers this antibiotic specific resistance.
  ✓ PURE Hard Surface has been tested by independent 3rd party laboratories and demonstrated efficacy against these organisms as well as other drug resistant organism including Vancomycin resistant *Enterococcus* (VRE) and multiple strains of MRSA.

• **Does PURE Hard Surface kill Hepatitis B and C?**
  ✓ PURE Hard Surface is effective against both Hepatitis B virus and Hepatitis C virus on hard non-porous surfaces with a 60 second contact time.

• **Does PURE Hard Surface kill TB?**
  ✓ No, PURE Hard Surface does not kill TB. Tuberculocides will not prevent transmission of TB in healthcare settings because it is an airborne pathogen which is not transmitted from environmental surfaces. TB efficacy has historically been used as a benchmark for measuring the germicidal potency of disinfectants used in healthcare settings. EPA registered hospital disinfectants with TB claims are considered intermediate level disinfectants with broad spectrum efficacy. This broad spectrum efficacy, not the specific TB claim, has been the basis for historical recommendations for disinfection in healthcare settings.
  ✓ The **CDC recommends** that noncritical items and environmental surfaces be disinfected using an EPA registered hospital disinfectant. Any item or surface visibly contaminated with blood should be treated with an EPA registered disinfectant with TB claims or with specific HIV and HBV label claims, according to the OSHA Bloodborne Pathogen Standard. **PURE Hard Surface meets the CDC recommendations for use in healthcare settings.**

**Frequently Asked Questions Regarding PURE Hard Surface Storage, Handling and Use**

• **What is the shelf life of PURE Hard Surface?**
  ✓ PURE Hard Surface should be used within two years of the date of purchase.

• **At what temperatures can PURE Hard Surface be stored?**
  ✓ PURE Hard Surface should be stored in a cool dry area, away from sunlight at temperatures above freezing.

• **How much surface area will PURE Hard Surface disinfect?**
  ✓ A 32oz bottle of PURE Hard Surface will disinfect nearly 1,000 Sq Ft of surface area.

• **Is PURE Hard Surface also a cleaner?**
  ✓ PURE Hard Surface can be used for general cleaning and to help wipe up water soluble spills, but it has not been designed to be used for cleaning up oil or grease spills.

• **Can I use PURE Hard Surface to clean floors?**
  ✓ Yes, you can use PURE Hard Surface to pre-clean your floors prior to disinfection.
• Can I use PURE Hard Surface in a fogger, misters, and electrostatic sprayers?
  ✓ You may use PURE Hard Surface in fine misters and electrostatic sprayers which would allow the product to be applied as directed on the label.

• Does PURE Hard Surface need to be wiped off the surface after the required dwell time?
  ✓ Yes, PURE Hard Surface should be wiped up. It is important to always refer to the product label for proper use instructions. When PURE Hard Surface is used to sanitize food contact surfaces, the surface should be wiped or allowed to air dry, but it should not be rinsed.

• Can PURE Hard Surface be diluted with water to make it last longer?
  ✓ No, PURE Hard Surface cannot be diluted with water. PURE Hard Surface is a Ready to Use product which has been formulated to work without any need for further dilution. Diluting the product will alter the formulation and the efficacy of the product.

• Can PURE Hard Surface be used to control odors?
  ✓ Yes. Many odors are directly attributed to bacteria. Rather than masking odors caused by bacteria, PURE Hard Surface goes to the root of the problem and kills the odor at its source.

• Can I use PURE Hard Surface on porous surfaces?
  ✓ PURE Hard Surface can be used on hard, non-porous surfaces. It is not currently registered for use on porous surfaces.

• Will PURE Hard Surface stain fabrics?
  ✓ No, PURE Hard Surface will not stain fabrics if contact should occur.

• Can PURE Hard Surface be used on vinyl and if so, will they stain material after multiple applications over time?
  ✓ PURE Hard Surface can be used on vinyl and should not stain after multiple applications over time. As for all applications, if you have concerns about staining, you should test PURE Hard Surface on an inconspicuous section of the surface before applying to the whole surface.

• Will PURE Hard Surface hurt the finish on wood furniture?
  ✓ There are many different types of wood finishes used depending on the applications. PURE Hard Surface should only be used on hard non-porous surfaces. As with all applications, if you have concerns about staining or compatibility, you should test PURE Hard Surface on an inconspicuous section of the surface before applying to the whole surface.

• Can I use PURE Hard Surface on physical therapy equipment and how often does it need to be applied?
  ✓ PURE Hard Surface was tested against the three primary bacterial organisms the EPA mandates testing against to make claims to be a disinfectant. The product demonstrated the ability to continue to kill these three organisms up to 24 hours after initial application. If surfaces are washed or heavily touched then the product can be reapplied. In a setting where the equipment is constantly exposed to germs based upon the use pattern, more frequent application would be expected.

• Should I be concerned about build-up of silver on surfaces I disinfect on a regular basis?
  ✓ Even at maximized use levels, there should be no concern for build-up of silver.

• Will PURE Hard Surface efficacy be reduced when it is used on stainless steel surfaces?
  ✓ No, PURE Hard Surface can be used effectively on stainless steel surfaces.

™ PURE Hard Surface is a trademark of PURE Bioscience
MATERIAL SAFETY DATA SHEET
Material Safety Data Sheet

SECTION 1 -- CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product Name: PURE Hard Surface
EPA Reg No: 72977-5-73912
Issue Date: 03/28/2011
Date Revised: NA
Distributed By: PURE Bioscience
1725 Gillespie Way
El Cajon, CA 92020
Telephone: 619-596-8600
Email: technicalinfo@purebio.com

SECTION 2 -- COMPOSITION / INFORMATION ON INGREDIENTS

<table>
<thead>
<tr>
<th>Components</th>
<th>Exposure Limits</th>
<th>Wt%</th>
<th>OSHA PEL</th>
<th>ACGIH TLV</th>
<th>NIOSH REL</th>
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</thead>
<tbody>
<tr>
<td>Water (CAS No. 7732-18-5)</td>
<td>&gt;95</td>
<td>None</td>
<td>None</td>
<td>None</td>
<td>None</td>
</tr>
<tr>
<td>Citric Acid (CAS No. 77-92-9)</td>
<td>4.85</td>
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<tr>
<td>Silver Ions</td>
<td>0.0030</td>
<td>None</td>
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</tr>
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</table>

SECTION 3 -- HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW

CAUTION: Direct contact may cause slight eye irritation. Avoid contact with eyes. If irritation occurs, flush thoroughly with large amounts of water for 15 minutes.

SECTION 4 -- FIRST AID MEASURES

Eye Contact: Hold eyelids open and flush thoroughly with a steady, gentle stream of water for at least 15 minutes. Get medical attention if irritation persists.

Skin Contact: If irritation occurs, rinse with water. Get medical attention if irritation persists. Does not stain skin.

Inhalation: If breathing is affected, remove victim to fresh air and call a physician.

Ingestion: Do not induce vomiting. If irritation occurs consult a physician.

SECTION 5 -- FIRE FIGHTING MEASURES

Flammability: Not flammable; Not combustible

Flammable Limits: Not applicable

Extinguishing Media: Not applicable

Fire and Explosion Hazards: None

SECTION 6 -- ACCIDENTAL RELEASE MEASURES

Response to Spills: Small spills: Contain spill. Flush to sanitary sewer. Rinse area thoroughly with water. Large spills: Dike or dam spill. Pump to containers or soak up with inert absorbent. Prevent runoff to creeks and waterways.

SECTION 7 -- HANDLING AND STORAGE

Handling Precautions: Rinse with water if any irritation occurs. Keep container tightly closed when not in use.

Storage Precautions: Store in a cool, dry place. Do not contaminate food, feed, or drinking water. Keep from freezing. Keep out of direct sunlight.

SECTION 8 -- EXPOSURE CONTROLS / PERSONAL PROTECTION

No special protection or precautions have been identified for using this product under directed consumer use conditions. The following recommendations are given for production facilities and for other conditions and situations where there is increased potential for accidental, large-scale or prolonged exposure.

Hygienic Practices: Avoid contact with eyes, skin and clothing. If irritation occurs, flush thoroughly with water after direct contact.

Engineering Controls: Use general ventilation to minimize exposure to vapor or mist. Eyewash station is suggested.

Personal Protective Equipment: None required by OSHA or NIOSH; however, to prevent irritation, wear safety glasses and use gloves if in direct contact with liquid for prolonged periods.
### SECTION 9 -- PHYSICAL AND CHEMICAL PROPERTIES

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
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<tbody>
<tr>
<td>Appearance</td>
<td>Clear, colorless liquid</td>
</tr>
<tr>
<td>Odor</td>
<td>Practically odorless</td>
</tr>
<tr>
<td>pH</td>
<td>2</td>
</tr>
<tr>
<td>Specific Gravity (H₂O=1)</td>
<td>1</td>
</tr>
<tr>
<td>Solubility</td>
<td>Water soluble</td>
</tr>
<tr>
<td>VOC Content (% Wt.)</td>
<td>0.00% (0.000 lbs/gallon)</td>
</tr>
<tr>
<td>Boiling Point</td>
<td>Not established</td>
</tr>
<tr>
<td>Freezing Point</td>
<td>Not established</td>
</tr>
<tr>
<td>Evaporation Rate (Butyl Acetate=1)</td>
<td>Not established</td>
</tr>
<tr>
<td>Vapor Density (Air=1)</td>
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</tr>
<tr>
<td>Vapor Pressure (mmHg)</td>
<td>Not established</td>
</tr>
</tbody>
</table>

### SECTION 10 -- STABILITY AND REACTIVITY

- **Chemical Stability:** Stable
- **Incompatibility:** Bases, such as bicarbonates, carbonates, hydroxides, ammonia and other amines. May be slightly incompatible with aluminum and copper metals after prolonged exposure. Product is compatible with most metals including stainless steels.
- **Hazardous Decomposition:** None
- **Polymerization:** None
- **Conditions to Avoid:** Not applicable

### SECTION 11 -- TOXICOLOGICAL INFORMATION

- **Acute Oral, Rat**:
  - LD₅₀ > 5000 mg/kg
- **Acute Dermal, Rat**:
  - LD₅₀ > 5000 mg/kg
- **Primary Eye Irritation**:
  - Rabbit - Category IV
- **Primary Eye Irritation**:
  - Slightly irritating
- **EPA Toxicity Rating**:
  - Category IV
- **Teratogenicity**:
  - N/A
- **Neurotoxicity**:
  - N/A
- **Subchronic/Chronic Toxicity**:
  - Does not contain any recognized carcinogens, mutagens or reproductive toxicants.

### SECTION 12 -- ECOLOGICAL INFORMATION

- **Ecotoxicity:** None
- **Environmental Fate:** Readily degraded. Ionic silver is degraded into inert elemental silver in the environment.

### SECTION 13 -- DISPOSAL CONSIDERATIONS

- **Waste Disposal Method:** Dispose of in accordance with local, state, and federal regulations.
- **RCRA Classification:** Non-hazardous if diluted and TCLP testing confirms waste does not exhibit the characteristic of toxicity as defined by 40 CFR 261.24 for silver content.

### SECTION 14 -- TRANSPORT INFORMATION

- **DOT Classification:** Non-hazardous
- **Exceptions:** None
- **Description:** Not applicable

### SECTION 15 -- REGULATORY INFORMATION

- **TSCA:** Health and Safety Reporting List: None of the chemicals are on the Health & Safety Reporting List. Chemical Test Rules: None of the chemicals are under a Chemical Test Rule. Section 12b: None of the chemicals are listed under TSCA 12b. TSCA Significant New Use Rule: None of the chemicals under TSCA.
- **CERCLA:** No RQ is assigned to the generic or broad class - silver compounds. See 50FR13456 (April 4, 1985).
- **ARA 302/304:** None of the chemicals in this product have an RQ or TPQ.
- **SARA 311/312:** Not reportable
- **Clean Air Act:** This material does not contain any hazardous air pollutants, Class 1 Ozone depletors, or Class 2 Ozone depletors.
- **Clean Water Act:** None of the chemicals in this product are listed as Hazardous Substances under the CWA, Priority Pollutants under the CWA, or Toxic Pollutants under the CWA.
- **OSHA:** None of the chemicals in this product are considered hazardous by OSHA.

### California Proposition 65

- No ingredients listed.

### SECTION 16 -- OTHER INFORMATION

- **ID:** 739125.2
- **Issue Date (Rev):** 03/28/2011
- **Revision Summary:** This updated MSDS includes changes to Sections 1, - 5, 7 - 15

The information provided herein is based on data considered accurate. However, it is furnished WITHOUT WARRANTY OF ANY KIND, EXPRESS OR IMPLIED. It is intended to assist in evaluating the suitability and proper use of the material and in the development of safety precautions and procedures. The user assumes all responsibility for personal injury or property damage caused by the misuse of this product.