

# PURE Hard Surface Disinfectant Competitive Advantages

- **A Broad-spectrum *Antibacterial, Antifungal and Antiviral***
  - *No rinse disinfectant and food contact surface sanitizer*
  - *Faster kill times*
  - *Broad-spectrum efficacy including drug-resistant organisms*
  - *Residual antimicrobial activity*
  - *Safe, non-toxic*
  - *GRAS status as a food contact biocide*
  - *Does not induce bacterial resistance*
  - *Odorless, colorless*
  - *Non-corrosive, non-flammable*
  - *Stable in solution*
  - *Doesn't stain or bleach fabric*



# EPA Hard Surface Disinfectant/Food Contact Surface Sanitizer

## Antibacterial—Complete Kill <sup>1</sup>

- *Pseudomonas aeruginosa* 30 seconds with **24 hour protection**
- *Salmonella enterica* 30 seconds with **24 hour protection**
- *Staphylococcus aureus* 2 minutes with **24 hour protection**
- **Resistant strains of *Staphylococcus aureus*:  
Methicillin resistant (MRSA) and CA-MRSA / PVL-MRSA** 2 minutes
- *Vancomycin resistant Enterococcus (VRE)* 2 minutes
- *Carbapenem Resistant Escherichia coli* 2 minutes
- *Carbapenem Resistant Klebsiella pneumoniae (NDM-1)* 2 minutes
- *Listeria monocytogenes* 2 minutes
- ***Escherichia coli (E. coli O157:H7)*** 2 minutes
- *Campylobacter jejuni* 2 minutes
- *Acinetobacter baumannii* 2 minutes

**Food Contact Surface Sanitizer <sup>1</sup>** (*E. coli* and *Staphylococcus aureus*) 30 seconds

## Antiviral—Complete Inactivation <sup>1</sup>

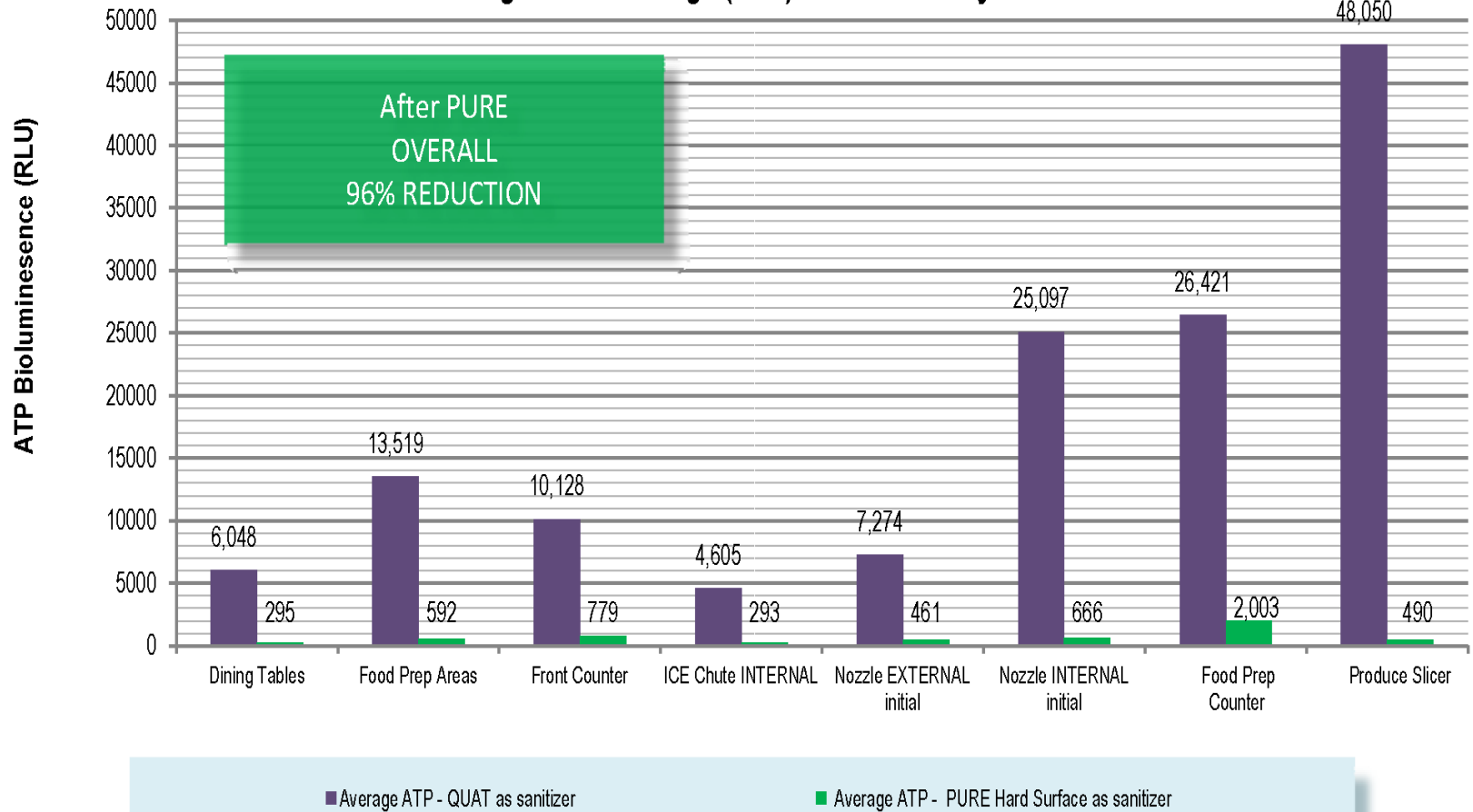
- **HIV 1** 30 seconds
- *Influenza A* 30 seconds
- *Avian Influenza* 30 seconds
- *H1N1 (Human and Swine)* 30 seconds
- *Hepatitis B and Hepatitis C* 60 seconds
- **Herpes Simplex Type 1** 60 seconds
- *Polio Type 2* 60 seconds
- **Norovirus and Murine Norovirus** 60 seconds
- *Rhinovirus* 60 seconds
- *Human Coronavirus (SARS Surrogate)/Rotavirus/RSV/Adenovirus* 30 seconds

**Antifungal—Complete kill <sup>1</sup>** *Athlete's Foot (Trichophyton mentagrophytes)* 5 minutes




1. Performed per EPA required AOAC testing protocols

### Average ATP Readings (RLU) from 8 Test Cycles at 6 Restaurants



# PURE Hard Surface Comparison

DESCRIPTION	 <b>HARD SURFACE</b>	QUAT	CHLORINE DIOXIDE	BLEACH	PERACETIC ACID	IODOPHORE
ACTIVE INGREDIENT:	<b>Silver ions (0.003%) as silver dihydrogen citrate stabilized with citric acid (4.846%) RTU</b>	Quaternary Ammonium Chloride Concentrate (4-10%) or RTU (0.02%)	Chlorine Dioxide (2%) Concentrate [concentrate contains 3.35% sodium chlorite]	Sodium hypochlorite (5-20%) Concentrate	Peroxyacetic Acid (15%) Concentrate	Iodine (1-5%) Concentrate
SIGNAL WORD:	<b>None</b>	Concentrate: Danger; RTU: Caution	Concentrate: Warning	Concentrate: Danger	Concentrate: Danger	Concentrate: Danger
HMIS	<b>0,0,0</b>	Concentrate: 3,0,0; RTU: 1,0,0	Concentrate: 1,0,1	Concentrate: 3,0,0;	Concentrate: 3,0,0	Concentrate: 3,0,0
PRECAUTIONARY STATEMENTS:	<b>Not required</b>	Corrosive: Hazard to humans and domestic animals. Causes irreversible eye damage and burns. Harmful if inhaled, swallowed or absorbed through the skin. Avoid contact with eyes, skin or clothing. Avoid breathing spray mist.	Corrosive: Hazard to humans and domestic animals. Harmful if swallowed. May cause irritation. Avoid contact with eyes	Corrosive: Hazard to humans and domestic animals. Harmful or fatal if swallowed. Contact can cause severe irritation, burns, eye or lung damage, blindness, death. Avoid contact with eyes, skin, and clothing, inhalation of vapors, mist or gas.	Corrosive: Hazard to humans and domestic animals. Causes irreversible eye damage and burns. Avoid contact with eyes, skin or clothing.	Corrosive: Hazard to humans and domestic animals. Causes eye or skin damage. Harmful or fatal if swallowed. Causes skin and eye burns. Avoid contact with eyes, skin or clothing.
COMMENTS	<b>GRAS</b>		Requires activation prior to use	Corrosive to metal surfaces	Strong oxidizing agent	Staining on some surfaces.
RESIDUAL PROTECTION	<b>24 hours</b>	None	None	None	None	None
VARIOUS END USE DILUTION OPTIONS AND INSTRUCTIONS - SANITIZATION	<b>Sanitize Hard, Non-Porous, Food Contact Surfaces</b> <ul style="list-style-type: none"> <li>• <b>Use Dilution: 30 ppm Silver ion (RTU)</b></li> <li>• <b>Contact Time: Thoroughly Wet for 1 minute</b></li> </ul>	Sanitize Hard, Non-Porous, Food Contact Surfaces <ul style="list-style-type: none"> <li>• Use Dilution: 200 ppm available active quaternary ammonium chloride</li> <li>• <b>Contact Time: Thoroughly Wet for 1 minute</b></li> </ul>	Sanitize Hard, Non-Porous, Food Contact Surfaces <ul style="list-style-type: none"> <li>• Use Dilution: 50 - 200 ppm available chlorine dioxide</li> <li>• <b>Contact Time: Thoroughly Wet for 1 minute</b></li> </ul>	Sanitize Hard, Non-Porous, Food Contact Surfaces <ul style="list-style-type: none"> <li>• Use Dilution: 200 – 600 ppm available chlorine</li> <li>• <b>Contact Time: Thoroughly Wet for 2 minutes</b></li> </ul>	Sanitize Hard, Non-Porous, Food Contact Surfaces <ul style="list-style-type: none"> <li>• Use Dilution: 200 ppm peroxyacetic acid</li> <li>• <b>Contact Time: Thoroughly Wet for 1-2 minutes</b></li> </ul>	Sanitize Hard, Non-Porous, Food Contact Surfaces <ul style="list-style-type: none"> <li>• <b>Use Dilution: 12.5 - 25 ppm titratable iodine</b></li> <li>• <b>Contact Time: Thoroughly Wet for 2 minutes</b></li> </ul>
VARIOUS END USE DILUTION OPTIONS AND INSTRUCTIONS - DISINFECTION	<b>Disinfect Hard, Non-Porous Surfaces</b> <ul style="list-style-type: none"> <li>• <b>Use Dilution: 30 ppm silver ion (RTU)</b></li> <li>• <b>Contact Time: Thoroughly Wet for 30 seconds - 5 minutes</b></li> </ul>	Disinfect Hard, Non-Porous Surfaces <ul style="list-style-type: none"> <li>• Use Dilution: 660 – 1000 ppm active quaternary</li> <li>• <b>Contact Time: Thoroughly Wet for 10 minutes</b></li> </ul>	Disinfect Hard, Non-Porous Surfaces <ul style="list-style-type: none"> <li>• Use Dilution: 500 ppm available chlorine dioxide</li> <li>• <b>Contact Time: Thoroughly Wet for 10 minutes</b></li> </ul>	Disinfect Hard, Non-Porous Surfaces <ul style="list-style-type: none"> <li>• Use Dilution: 600 ppm available chlorine</li> <li>• <b>Contact Time: Thoroughly Wet for 10 minutes</b></li> </ul>	Disinfect Hard, Non-Porous Surfaces <ul style="list-style-type: none"> <li>• Use Dilution: 800 ppm peroxyacetic acid</li> <li>• <b>Contact Time: Thoroughly Wet for 10 minutes</b></li> </ul>	Disinfect Hard, Non-Porous Surfaces Use Dilution: Not specified on Master Label Contact Time: Not specified on Master Label

# Safety Data Sheet

## SECTION 1 -- IDENTIFICATION

**Product Name:** PURE Hard Surface  
**Issue Date:** 01/09/2015  
**Date Revised:** NA  
**Distributed By:** PURE Bioscience, Inc.  
1725 Gillespie Way  
El Cajon, CA 92020  
Telephone: 619-596-8600  
Email: technicalinfo@purebio.com



**Recommended Uses:** Ready To Use Hard Surface Disinfectant and Food Contact Surface Sanitizer.  
**In Case of Emergency:** Have the product container or label with you when calling a poison control center or doctor. You may contact CHEMTREC 1-800-424-9300 for emergency medical treatment information.

## SECTION 2 -- HAZARDS IDENTIFICATION

### GHS Classification – Not Classified

**Unclassified Hazards:** May cause slight eye irritation  
**Precautionary Statements:** Avoid direct skin and eye contact. If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical attention.

### HMIS Rating

Health	0
Flammability	0
Reactivity	0

## SECTION 3 -- COMPOSITION / INFORMATION ON INGREDIENTS

**Components:** The specific chemical identities and exact percentages (concentrations) of composition have been withheld as a trade secret.

None of the ingredients is considered hazardous according to the criteria of 29CFR1910.1200 and DOT Reg 49 CFR 172. Ingredients are listed for informational purposes to assist emergency medical response personnel.	Wt%
Water (CAS No. 7732-18-5)	> 95
Citric Acid (CAS No. 77-92-9)	< 5.0
Silver Ions	0.0030

## 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. If irritation persists consult a physician.  
**Skin Contact:** Rinse with water. If irritation persists consult a physician.  
**Inhalation:** If breathing is affected, remove victim to fresh air and consult a physician.  
**Ingestion:** If irritation or discomfort occurs, call a physician. DO NOT INDUCE VOMITING.

## SECTION 5 -- FIRE-FIGHTING MEASURES

**Flammability:** Not flammable or 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, and rinse area with water. LARGE SPILLS: Dike or dam spill, pump to containers or soak up with inert absorbent, and prevent runoff to creeks and waterways. Personal Protective Equipment is not normally required. Avoid contact with eyes.

## SECTION 7 -- HANDLING AND STORAGE

**Handling Precautions:** Close container tightly 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 direct eye and skin contact. If irritation occurs, flush thoroughly with water. When product is applied to a floor surface, signage should be used to indicate slippery areas until they are dry.  
**Engineering Controls:** Use general ventilation to minimize exposure to mist. Eyewash station is suggested.  
**Personal Protective Equipment:** Not normally required. If contact is likely for prolonged or repeated contact, eye and hand protection is recommended.

**SECTION 9 -- PHYSICAL AND CHEMICAL PROPERTIES**

Appearance.....	Colorless liquid	Boiling Point.....	Not established
Odor.....	Practically Odorless	Freezing Point.....	Not established
pH.....	2	Evaporation Rate (Butyl Acetate=1).....	Not established
Specific Gravity (H <sub>2</sub> O=1).....	Similar to water	Vapor Density (Air=1).....	Not established
Solubility.....	Water soluble	Vapor Pressure (mmHg).....	Not established
VOC Content (% Wt.).....	0.00% (0.000 lbs/gallon)		

**SECTION 10 -- STABILITY AND REACTIVITY**

Chemical Stability:	Stable.
Incompatibility:	Not applicable.
Hazardous Decomposition:	None.
Polymerization:	None.
Conditions to Avoid:	Not applicable.

**SECTION 11 -- TOXICOLOGICAL INFORMATION**

THIS PRODUCT DOES NOT CONTAIN ANY KNOWN OR ANTICIPATED CARCINOGENS ACCORDING TO THE CRITERIA OF THE NTP ANNUAL REPORT ON CARCINOGENS, OSHA 29 CFR 1910.1000, SUBPART Z, OR THE IARC MONOGRAPHS.

Acute Oral, Rat .....	LD50>5000 mg/Kg	Epidemiology .....	None Known
Acute Dermal, Rat .....	LD50>5000 mg/Kg	Teratogenicity .....	None Known
Primary Eye Irritation .....	Rabbit - Category IV	Neurotoxicity .....	None Known
Primary Eye Irritation .....	Rabbit - Slightly Irritating	Dermal Sensitization.....	Guinea Pigs - Not a contact sensitizer

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 or insoluble silver complexes in the environment.

**SECTION 13 -- DISPOSAL CONSIDERATIONS**

Waste Disposal Method:	Dispose of in accordance with local, state, and federal regulations.
RCRA Classification:	Non-hazardous.

**SECTION 14 -- TRANSPORT INFORMATION**

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

**SECTION 15 -- REGULATORY INFORMATION**

TSCA:	TSCA Inventory: All components are listed.
	TSCA Health and Safety Reporting List: None of the components are listed.
	TSCA Chemical Test Rules: None of the components are listed.
	TSCA Section 12b: None of the components are listed.
	TSCA Significant New Use Rule: None of the components has a SNUR.
CERCLA:	No RQ was assigned to silver compounds. See 50FR13456 (April 4, 1985).
ARA 302/304:	None of the components has a RQ or a TPQ.
SARA 311/312:	None of the components are reportable.
Clean Air:	None of the components are a Hazardous Air Pollutant, Class 1 Ozone Depletor, or Class 2 Ozone Depletor.
Clean Water Act:	None of the components are a Hazardous Substance, Priority Pollutant, or Toxic Pollutant.
OSHA:	None of the components are considered hazardous.
California Proposition 65:	None of the components are listed.

**SECTION 16 -- OTHER INFORMATION**

ID: M5141  
Issue Date (Rev): 01/09/2015

Revision Summary: NA