



hdq[®]C2 2 Neutral Disinfectant Cleaner

PRODUCT DESCRIPTION:

hdq[®]C2 is a neutral pH, quaternary disinfectant cleaner formulated to kill a broad spectrum of microorganisms on high gloss floors, walls and other hard, non-porous surfaces.

MILD ENOUGH TO USE ON THE SHINIEST FLOORS:

Mild, neutral pH. hdq[®]C2 quickly penetrates and removes typical floor soils...it disinfects without damaging or dulling floor finish even with repeated use. Floor finish gloss is often enhanced.

400 PPM HARD WATER AND 5% BLOOD SERUM CLAIMS:

The biocidal activity of hdq[®]C2 has been proven in adverse conditions of hard water and organic soil. (See test data beginning on page 2.)

KILLS MANY ANTIBIOTIC RESISTANT BACTERIA:

hdq[®]C2 is effective against antibiotic-resistant bacteria like methicillin resistant Staphylococcus aureus (MRSA) and Vancomycin resistant Enterococcus faecalis (VRE). For further information and test data, refer to pages 4, 5 and 6.

MULTI SURFACE USES:

Versatile, hdq[®]C2 disinfects hard, non-porous inanimate environmental surfaces such as floors, walls, metal surfaces, stainless steel surfaces, porcelain, glazed ceramic tile, plastic surfaces, bathrooms, shower stalls, bathtubs, and cabinets. It's also designed for general cleaning and disinfecting, hdq[®]C2 is excellent for use in larger areas such as operating rooms and patient care facilities.

EXCELLENT DEODORIZER!

hdq[®]C2 deodorizes hard-to-keep-fresh-smelling areas such as garbage storage areas, empty garbage bins and cans, toilet bowls, and other areas which are prone to odors caused by microorganisms.

EPA Reg. No. 1839-169-5741

EPA Est. No. 5741-OH-1

DIRECTIONS FOR USE:

It is a violation of Federal Law to use this product in a manner inconsistent with its labeling.

General Cleaning:

Apply product to soiled area with a mop, cloth, sponge, hand-pump trigger sprayer or low pressure coarse sprayer. hdq[®]C2 can be diluted at 2 ounces per gallon or applied at full strength. Thoroughly wet soiled surface and scrub as necessary.

Disinfection:

To disinfect inanimate, hard, non-porous surfaces add 2 ounces hdq[®]C2 per gallon of water. Apply solution with a mop, cloth, sponge, hand-pump trigger sprayer or low pressure coarse sprayer so as to wet all surfaces thoroughly. Allow to remain wet for 10 minutes, then remove excess liquid. For sprayer applications, spray 6-8 inches from surface, rub with brush, sponge or cloth. Do not breathe spray mist. For heavily soiled areas, a pre-cleaning step is required. Prepare a fresh solution for each use.

EFFICACY TESTS HAVE DEMONSTRATED THAT THIS PRODUCT IS AN EFFECTIVE BACTERICIDE AND *VIRUCIDE AGAINST THE LISTED ORGANISMS IN WATER UP TO 400 PPM HARDNESS (AS CaCO₃) IN THE PRESENCE OF ORGANIC SOIL (5% BLOOD SERUM). THIS PRODUCT IS AN EFFECTIVE FUNGICIDE AGAINST THE LISTED FUNGI IN WATER UP TO 200 PPM HARDNESS (AS CaCO₃) IN THE PRESENCE OF ORGANIC SOIL (5% BLOOD SERUM).

Deodorization:

To deodorize, apply this product as indicated under the heading DISINFECTION.

MILDEWSTAT:

To control mold and mildew (such as Aspergillus niger) and the odors they cause on pre-cleaned, hard, non-porous inanimate surfaces, add 2 ounces of this product per gallon of water. Apply solution with a cloth, mop, sponge or hand pump trigger sprayer 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 appears.

BACTERICIDAL ACTIVITY:

At the 2 oz. per gallon dilution, hdqC 2 demonstrates effective disinfectant activity against the following bacteria:

<u>Gram Positive Organisms:</u>	<u>Gram Negative Organisms:</u>
Corynebacterium ammoniagenes	Bordetella bronchiseptica
Lactobacillus casei subsp. rhamnosus	Enterobacter cloacae
Listeria monocytogenes	Enterobacter aerogenes
Methicillin resistant Staphylococcus aureus (MRSA)	Enterobacter cloacae (clinical isolate)
Staphylococcus aureus	Enterococcus faecalis
Staphylococcus epidermidis (clinical isolate)	Enterococcus faecalis (clinical isolate)
Staphylococcus epidermidis	Escherichia coli (clinical isolate)
Staphylococcus aureus (clinical isolate)	Escherichia coli
Staphylococcus aureus subsp. aureus	Fusobacterium necrophorum
Streptococcus pyogenes (clinical isolate- flesh eating strain)	Klebsiella pneumoniae subsp. pneumoniae
	Pasteurella multocida
	Proteus mirabilis

<p>Streptococcus pyogenes Group A Vancomycin resistant Enterococcus faecalis (VRE) Vancomycin intermediate resistant Staphylococcus aureus (VISA)</p>	<p>Proteus mirabilis Proteus vulgaris Pseudomonas aeruginosa PRD-10 Salmonella choleraesuis Salmonella choleraesuis subsp. choleraesuis serotype pullorum Salmonella choleraesuis subsp. choleraesuis serotype paratyphi B Salmonella choleraesuis subsp. choleraesuis serotype typhi Salmonella choleraesuis subsp. choleraesuis serotype typhimurium Serratia marcescens Shigella dysenteriae Shigella sonnei Shigella flexneri Type 2b Xanthamonas maltophilia (clinical isolate)</p>
---	--

FUNGICIDAL ACTIVITY:

At the 2 ounce per gallon dilution, hdq[®]C2 is fungicidal against the pathogenic fungi, Trichophyton mentagrophytes (Athlete’s foot fungus) and Candida albicans. Apply solution with a cloth, sponge or hand-pump trigger sprayer to hard, non-porous surfaces found in bathrooms, shower stalls, locker rooms, exercise facilities or other clean, hard non-porous surfaces commonly contacted by bare feet. Allow the surface to remain wet for 10 minutes, then remove excess liquid. Diluted product should be applied daily or more frequently with heavy facility use.

*** VIRUCIDAL ACTIVITY:**

This product when used on environmental, inanimate, hard, non-porous surfaces exhibits effective virucidal activity against HIV-1, HIV-2, Hepatitis B virus (HBV), Hepatitis C virus (HCV), Herpes Simplex Type 1 (causative agent of fever blisters), Herpes Simplex Type 2 (genital), Influenza A₂/Hong Kong, Vaccinia, Rotavirus, Human Coronavirus (ATCC VR-740, Strain 229E), Bovine Viral Diarrhea Virus (BVDV), Pseudorabies, Bovine Rhinotracheitis, Feline Leukemia, Feline Picornavirus, and Canine Distemper. Add 2 ounces of the product per gallon of water. For heavily soiled areas, a pre-cleaning step is required. Apply solution with a cloth, mop, sponge, hand-pump trigger sprayer or low pressure coarse sprayer so as to wet all surfaces thoroughly. Allow the surface to remain wet for 10 minutes, then remove excess liquid.

KILLS HIV-1, HIV-2, HBV, AND HCV 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 for transmission of Human Immunodeficiency Virus Type 1 or Type 2 (HIV-1 or HIV-2) (associated with AIDS), Hepatitis B virus (HBV), and Hepatitis C virus (HCV).

SPECIAL INSTRUCTIONS FOR CLEANING AND DECONTAMINATION AGAINST HIV-1, HIV-2, HBV, AND HCV OF SURFACES/OBJECTS SOILED WITH BLOOD/ 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 and other body fluids must be thoroughly cleaned from surfaces and objects before application of this product.

CONTACT TIME: Allow surface to remain wet for 10 minutes.

DISPOSAL OF INFECTIOUS MATERIALS: Blood and other body fluids should be autoclaved and disposed of according to local regulations for infectious waste disposal.

BACTERICIDAL DATA:

Test Method: AOAC Use Dilution

Test Conditions: 5% serum, 10 minute contact time, stainless steel carrier substrates, 400 ppm hard water, 20EC exposure temperature.

Results:

TEST ORGANISM	SAMPLE	NO OF CARRIERS EXPOSED	POSITIVE	DILUTION	Phenol Resistance Exposure Time (minutes vs. growth)		
					5	10	15
Staphylococcus aureus (ATCC 6538)	A	60	1	1:60	+	0	0
	B	60	1	1:70	+	+	0(+)
	C	60	1				
Salmonella choleraesuis (ATCC 10708)	A	60	0	1:90	+	0	0
	B	60	0	1:100	+	+	0(+)
	C	60	1				
Pseudomonas aeruginosa (ATCC 15442)	A	60	0	1:80	+	0	0
	B	60	0	1:90	+	+	0(+)
	C	60	1				
Bordetella bronchiseptica (ATCC 31437)	A	10	0	Not determined; published information not available			
	B	10	0				
Corynebacterium ammoniagenes (ATCC 68871)	A	10	0	Not determined; published information not available			
	B	10	0				
Enterobacter aerogenes (ATCC 13048)	A	10	0	Not determined; published information not available			
	B	10	0				
Enterobacter cloacae (ATCC 23355)	A	10	0	Not determined; published information not available			
	B	10	0				
Enterobacter cloacae (clinical isolate)	A	10	0	Not determined; published information not available			
	B	10	0				
Enterococcus faecalis (ATCC 19433)	A	10	0	Not determined; published information not available			
	B	10	0				
Enterococcus faecalis (clinical isolate)	A	10	0	Not determined; published information not available			
	B	10	0				
					Phenol Resistance Exposure Time (minutes vs. growth)		
TEST ORGANISM	SAMPLE	NO OF CARRIERS EXPOSED	POSITIVE	DILUTION	5	10	15
Enterococcus faecalis (Vancomycin resistant) (ATCC 51575)	A	10	0	Not determined; published information not available			
	B	10	0				

Escherichia coli (ATCC 11229)	A	10	0	1:90	+	+	0
	B	10	0	1:100	+	+	+
Escherichia coli (clinical isolate)	A	10	0	1:90	+	+	0
	B	10	0	1:100	+	+	+
Fusobacterium necrophorum (ATCC 27852)	A	10	0	Not determined; published information not available			
	B	10	0				
Klebsiella pneumoniae subsp. pneumoniae (ATCC 13883)	A	10	0	Not determined; published information not available.			
	B	10	0				
Lactobacillus casei subsp. rhamnosus (ATCC 7469)	A	10	0	Not determined; published information not available.			
	B	10	0				
Listeria monocytogenes (ATCC 35152)	A	10	0	Not determined; published information not available.			
	B	10	0				
Pasteurella multocida (ATCC 7707)	A	10	0	Not determined; published information not available.			
	B	10	0				
Proteus mirabilis (ATCC 9921)	A	10	0	Not determined; published information not available.			
	B	10	0				
Proteus mirabilis (ATCC 25933)	A	10	0	Not determined; published information not available.			
	B	10	0				
Proteus vulgaris (ATCC 13315)	A	10	0	Not determined; published information not available.			
	B	10	0				
Salmonella choleraesuis subsp. choleraesuis serotype paratyphi B (ATCC 8759)	A	10	0	Not determined; published information not available.			
	B	10	0				
Salmonella choleraesuis subsp. choleraesuis serotype pullorum (ATCC 9120)	A	10	0	Not determined; published information not available.			
	B	10	0				
Salmonella choleraesuis subsp. choleraesuis serotype typhi (ATCC 6539)	A	10	0	Not determined; published information not available.			
	B	10	0				
Salmonella choleraesuis subsp. choleraesuis serotype typhimurium (ATCC 14028)	A	10	0	Not determined; published information not available.			
	B	10	0				
Serratia marcescens (ATCC 8100)	A	10	0	Not determined; published information not available.			
	B	10	0				
Shigella dysenteriae (ATCC 12180)	A	10	0	Not determined; published information not available.			
	B	10	0				
Shigella flexneri Type 2b (ATCC 12022)	A	10	0	Not determined; published information not available.			
	B	10	0				
Shigella sonnei (ATCC 25931)	A	10	0	Not determined; published information not available.			
	B	10	0				

**Phenol Resistance Exposure Time
(minutes vs. growth)**

TEST ORGANISM	SAMPLE	NO OF CARRIERS EXPOSED	POSITIVE	DILUTION	5	10	15
Staphylococcus aureus (clinical isolate)	A	10	0	1:60	+	0	0
	B	10	0	1:70	+	+	+
Staphylococcus aureus (Methicillin Resistant) (MRSA) (ATCC 33592)	A	10	0	1:60	+	0	0
	B	10	0	1:70	+	+	+

Staphylococcus aureus (Vancomycin Intermediate Resistant (VISA) (HIP 5863)	A B	10 10	0 0	Not determined; published information not available.
Staphylococcus epidermidis (ATCC 29641)	A B	10 10	0 0	Not determined; published information not available.
Staphylococcus epidermidis (clinical isolate)	A B	10 10	0 0	Not determined; published information not available.
Streptococcus pyogenes Group A (ATCC 19615)	A B	10 10	0 0	Not determined; published information not available.
Streptococcus pyogenes (clinical-flesh eating strain, BIRD M3)	A B	10 10	0 0	Not determined; published information not available.
Xanthomonas maltophilia (clinical isolate)	A B	10 10	0 0	Not determined; published information not available.

+ = growth 0 = no growth

CONCLUSION:

Under the conditions of these investigations, hdq[®]C2 Neutral Disinfectant Cleaner demonstrated disinfectant activity against the listed bacteria according to criteria established by the U.S. Environmental Protection Agency for registration and labeling of a disinfectant product as a bactericide.

VIRUCIDAL EFFICACY:

hdq[®]C2 has been shown to be effective against a broad spectrum of pathogenic viruses.

To simulate in-use conditions, 5% horse serum was added to the specific virus, the mixture inoculated onto a hard surface, allowed to dry, and then treated with hdq[®]C2 diluted 1:64 in 400 ppm hard water for 10 minutes at 21-24°C. At least a 3 log reduction in virus titer is required for a virucidal claim.

Test Method: U.S. EPA 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 Petri dishes, 400 ppm hard water, 21-24°C exposure temperature

Test Organism	Sample	Titer Reduction (after 10 min. contact)
Herpes simplex type 1 (ATCC VR-260)	A	≥5.0 log
	B	≥5.0 log
Herpes simplex type 2 (ATCC VR-734)	A	≥6.0 log
	B	≥6.0 log
Influenza A ₂ , strain Hong Kong (ATCC VR-544)	A	≥4.25 log
	B	≥4.25 log
Human immunodeficiency virus, HTLV-III _{RF} , strain of HIV-1 (associated with AIDS)	A	≥3.5 log
	B	≥3.5 log
Human immunodeficiency virus type 2 (HIV-2), strain CBL-20	A	≥3.25 log
	B	≥3.25 log

Infectious bovine rhinotracheitis, strain LA (ATCC VR-188)	A	≥5.0 log
	B	≥5.0 log
Canine distemper, strain Lederle (ATCC VR-128)	A	≥6.25 log
	B	≥6.25 log
Feline picornavirus, strain FRV (ATCC VR-649)	A	≥4.25 log
	B	≥4.25 log
Pseudorabies, strain Aujeszky ATCC VR-135)	A	≥5.25 log
	B	≥5.25 log
Hepatitis B Virus (HBV) (Duck Hepatitis B Virus-DHBV)	A	4.5 log
	B	4.7 log
Hepatitis C Virus (HCV) (Bovine Viral Diarrhea Virus-BVDV)	A	5.9 log
	B	5.9 log
Rotavirus, Strain SA-11 (ATCC VR-899)	A	4.5 log
	B	4.5 log
Vaccinia, strain WR (ATCC VR-119)	A	≥5.5 log
	B	≥5.5 log

CONCLUSION:

Under the conditions of this investigation, hdq®C2 Neutral Disinfectant Cleaner was virucidal for the listed viruses according to criteria established by the U.S. Environmental Protection Agency for registration and labeling of a disinfectant product as a virucide.

FUNGICIDAL DATA:

Test Method: AOAC Fungicidal Activity of Disinfectants

Organism: *Candida albicans* (ATCC 10231)

Test Conditions: 5% blood serum, 20EC exposure temperature, 400 ppm hard water, 2 oz./gal. dilution

Test Organism	Sample	Exposure Time			Phenol Resistance		
		5 min.	10 min.	15 min.	Dilution	Exposure Time	
						5 min.	10 min.
<i>Candida albicans</i> (ATCC 10231)	A	0	0	0	Not determined; published information not available.		
	B	0	0	0			

(+ = growth, 0 = no growth)

CONCLUSIONS:

Under the conditions of this investigation, hdq®C2 2 was fungicidal for the above named fungi according to criteria established by the U.S. Environmental Protection Agency for registration and labeling of a disinfectant product as a fungicide.

ACTIVE INGREDIENTS:

Octyl decyl dimethyl ammonium chloride	1.627%
Dioctyl dimethyl ammonium chloride	0.814%
Didecyl dimethyl ammonium chloride	0.814%
Alkyl (50% C ₁₄ , 40% C ₁₂ , 10% C ₁₆) dimethyl benzyl ammonium chloride	2.170%

INERT INGREDIENTS:	94.575%
TOTAL	<u>100.000%</u>

SPECIFICATION DATA:

Specific Gravity -- 0.997 @ 24°C/75°F
Density -- 8.32 lbs./gal. @ 24°C/75°F
pH (Concentrate) -- 7.2-8.2
Flash Point -- None
Cloud Point -- None to boiling
Viscosity -- Water thin
Color -- Red
Fragrance -- Citrus/Floral
Stability --
 a. Shelf @ 24°C/75°F -- One year minimum
 b. Freeze/Thaw -- 3 cycles
Contains biodegradable surfactants
Phosphate free
Kosher certification not required.

PACKAGING:

hdq[®]C2 is packaged in attractively labeled 2-liter containers, 4 per case. Label copy is available in English, Spanish and French. Secondary labels are also available. Silkscreened 32 oz. spray bottles are also available. For use only with the Clean On the Go Dispenser.

Be sure to read all Directions, Precautionary and First Aid Statements on product labels before use of this or any Spartan product. If questions remain, consult your employer or a physician. Material Safety Data Sheets for all Spartan products are available from your authorized Spartan distributor or by visiting www.spartanchemical.com.

GUARANTEE:

Spartan's modern manufacturing and laboratory control insure uniform quality. If dissatisfied with performance of product, any unused portion may be returned for credit within one year of the date of manufacture.