SHOCKWAVE
DISINFECTANT & CLEANER

CONCENTRATED FORMULA

EPA REGISTERED WITH OVER 130 ORGANISM KILL CLAIMS

EPA Registration # 61178-1-73884
Revised Date: October 11, 2005

1. Acinetobacter calcoaceticus var anitratus — Gram negative clinical isolate
2. Acinetobacter calcoaceticus var lwoffii — Gram negative clinical isolate
3. Actinobacillus pleuropneumoniae — ATCC 27088
4. Actinomyces pyogenes — ATCC 19411
5. Adenovirus type 2 — ATCC VR846
6. Aspergillus candidus — Environmental fungus
7. Aspergillus niger — Environmental fungus
8. Aspergillus niger — AIDS patient isolate
9. Avian Influenza/Turkey Wisconsin Virus — ATCC VR798
10. Bacillus cereus — ATCC 11778
11. Bacteroides fragilis — ATCC 43859
12. Bordetella bronchiseptica — Gram negative clinical isolate
13. Bordetella bronchiseptica — ATCC 19395
14. Bovine viral diarrhoea virus (BVDV) — X800 strain
15. Brevibacterium ammoniagenes — GBL strain
16. Brevundimonas diminuta — Gram negative clinical isolate
17. Burkholderia cepacia — Gram negative clinical isolate
18. Burkholderia pickettii — ATCC 49729
19. Campylobacter jejuni — ATCC 29428
20. Candida albicans — AIDS patient isolate
21. Canine Coronavirus — ATCC VR809, Strain 17
22. Canine Distemper Virus — Onderstepoort strain
23. Canine Herpesvirus — ATCC VR522
24. Chryseomonas luteola — ATCC 43273
25. Corynebacterium ammoniagenes (Brevibacterium ammoniagenes) — ATCC 6871
26. Corynebacterium pseudotuberculosis — ATCC 19410
27. Cryptococcus neoformans — AIDS patient isolate
28. Cytomegalovirus — ATCC VR284
29. Enterobacter aerogenes*** — ATCC 13048
30. Enterobacter agglomerans — Gram negative clinical isolate
31. Enterobacter agglomerans — Antibiotic resistant gram negative rod
32. Enterobacter cloacae — Gram negative clinical isolate
33. Enterobacter gergoviae — Gram negative clinical isolate
34. Enterobacter liquefaciens — Gram negative clinical isolate
35. Enterococcus aerogenes — GBL strain
36. Enterococcus faecalis — ATCC 17862 VANCOMYCIN resistant VRE Antibiotic resistant gram positive rod
37. Enterococcus faecalis — Gram positive clinical isolate
38. Enterococcus faecium — ATCC 6569
39. Enterococcus hirae — ATCC 10541
40. Equine Herpesvirus — ATCC VR700
41. Equine Influenza Virus A — ATCC VR297
42. Escherichia vulneris — Wildtype isolate
43. Escherichia coli — GBL 101 strains
44. Escherichia coli — Antibiotic resistant gram negative rod
45. Escherichia coli (Urinary) — Gram negative clinical isolate
46. Escherichia coli (Wound) — Gram negative clinical isolate
47. Escherichia coli 0157:H7 — ATCC 35150
48. Feline Calicivirus — Upjohn Company strain
49. Feline Infectious Peritonitis Virus — ATCC VR990
50. Flavobacterium meningosepticum — Gram negative clinical isolate
51. Haemophilus influenzae — ATCC 10211
52. Hafnia alvei — Gram negative clinical isolate
53. HCV (Hepatitis C Virus) — BVDV Surrogate
54. Herpes Simplex Virus type 1* — ATCC VR260
55. Herpes Simplex Virus type 2* — ATCC VR734
56. Human Coronavirus @ 98% Organic Soil Load Tolerance/400 ppm Hard Water — ATCC VR740, Strain 229E
57. Human Hepatitis B Virus (HHBV) — New York Blood Center: Dr. Fred Prince's laboratory
58. Human Immunodeficiency Virus* — (HIV–1) AIDS Virus UMDNJ: Dr. James Oleske's laboratory
59. Infectious Bovine Rhinotracheitis (IBR) Virus — ATCC VR188
60. Influenza A/Brazil (H1N1) Virus — New Jersey Department of Health strain
61. Influenza A/Victoria (H3N2) Virus — ATCC VR822, HoffmanLaRoche, Pool # 28
62. Influenza A2/Japan/305 (H2N2) Virus — ATCC VR100
63. Influenza B Virus — Allen strain VR102
64. Influenza C Virus — Taylor strain VR104
65. Klebsiella oxytoca — Gram negative clinical isolate
66. Klebsiella oxytoca — Antibiotic resistant gram negative rod
67. Klebsiella pneumoniae — Antibiotic resistant gram negative rod
68. Klebsiella pneumoniae — Gram negative clinical isolate
69. Klebsiella Pneumoniae type 1 — ATCC 700603 Antibiotic resistant gram negative rod
70. Klebsiella pneumoniae — ATCC 4352
71. Listeria monocytogenes — ATCC 984
72. Malessezia pachydermatis (~100% soil) — AMMRL (canine origin)
73. Measles Virus* — ATCC VR24
74. Micrococcus luteus — Gram positive clinical isolate
75. Morganella morganii — Gram negative clinical isolate
76. Morganella morganii — Antibiotic resistant gram negative rod
77. Newcastle Disease Virus — ATCC VR109
78. Parainfluenza Virus type 1* — ATCC VR105
79. Pasteurella haemolyticus — ATCC 43823
80. Penicillium chermesinum ° — Environmental fungus
81. Penicillium oxalicum ° — Environmental fungus
82. Penicillium spinulosum — Environmental fungus
83. Poliovirus type 1°° — Chat strain
84. Porcine Parvovirus — ATCC VR742
85. Porcine Respiratory & Reproductive Syndrome Virus — GBL strain
86. Porcine Rotavirus — ATCC VR893
87. Proteus mirabilis — Gram negative clinical isolate
88. Proteus vulgaris — Gram negative clinical isolate
89. Pseudomonas aeruginosa — AIDS patient isolate
90. Pseudomonas aeruginosa — Gram negative clinical isolate
91. Pseudomonas aeruginosa — ATCC 15442
92. Pseudomonas aeruginosa Multiple (8) — Antibiotic resistant gram negative rods
93. Pseudomonas fluorescens — Gram negative clinical isolate
94. Pseudomonas pseudomallei — Gram negative clinical isolate
95. Pseudomonas putida — Gram negative clinical isolate
96. Pseudomonas stutzeri — Gram negative clinical isolate
97. Pseudorabies Virus* — ATCC VR135
98. Respiratory Syncytial Virus (RSV) — ATCC VR26, Strain Long
99. Rhodococcus equi — ATCC 6939
100. Rotavirus Strain — WA ,obtained from the University of Ottawa, Canada
101. Salmonella choleraesuis @ 98% Organic Soil Load Tolerance/791 ppm Hard Water — ATCC 10708
102. Salmonella choleraesuis — ATCC 19214 Antibiotic resistant gram negative rod
103. Salmonella typhi — ATCC 6539
104. Salomonella schottmuelleri — GBL strain
105. Serratia marcescens — Gram negative clinical isolate
106. Shigella dysenteriae — GBL strain
107. Sphingomonas paucimobilis — Gram negative clinical isolate
108. Staphylococcus aureus @ 98% Organic Soil Load Tolerance/791 ppm Hard Water — Gram positive clinical isolate
109. Staphylococcus aureus — Toxic shock strain
110. Staphylococcus aureus — AIDS patient isolate
111. Staphylococcus aureus — ATCC 33591 METHICILLIN resistant
112. Staphylococcus aureus — ATCC 6338
113. Staphylococcus auricularis — ATCC 33753
114. Staphylococcus capitis — Clinical isolate
115. Staphylococcus epidermidis — Gram positive clinical isolate
116. Staphylococcus epidermidis — Antibiotic resistant gram positive isolate
117. Staphylococcus hominis — ATCC 29885
118. Staphylococcus saprophyticus — Gram positive clinical isolate
119. Staphylococcus simulans — ATCC 11631
120. Stenotrophonas maltophilia — Clinical isolate
121. Streptococcus hemolyticus — Gram positive clinical isolate
122. Streptococcus equi var equi — ATCC 33398
123. Streptococcus equi var zooepidermicus — ATCC 43079
124. Streptococcus pneumoniae — AIDS patient isolate
125. Streptococcus pneumoniae (PRSP) — ATCC 51915
126. Streptococcus pyogenes — ATCC 19615
127. Streptococcus pyogenes Bird M3 — Clinical Isolate
128. Streptococcus salivarius — GBL strain
129. T1 bacteriophage — ATCC 11303B1
130. T4 bacteriophage — ATCC 11303B4
131. Transmissible Gastroenteritis (TGE) Virus= — ATCC VR763
132. Trichophyton mentagrophytes @ ~100 % Organic Soil Load Tolerance/395 ppm Hard Water — ATCC 9533
133. Ulocladium sp.°° — Environmental fungus
134. Vaccinia Virus — Hoffmann LaRoche, Pool 57
135. Vesicular Stomatitis Virus — GBL strain
136. Yersinia enterocolitica — ATCC 23715

10 minute contact time unless otherwise indicated
* 30 seconds ** 50 Seconds *** 1 minute °5 minutes °°30 Minutes

Fiberlock ShockWave 8310
ICP Building Solutions Group / Fiberlock

Version No: **7.8**
Safety Data Sheet according to OSHA HazCom Standard (2012) requirements

Issue Date: **08/26/2020**
Print Date: **08/26/2020**
S.GHS.USA.EN

SECTION 1 Identification

Product Identifier

Product name	Fiberlock ShockWave 8310
Synonyms	Not Available
Other means of identification	Not Available

Recommended use of the chemical and restrictions on use

Relevant identified uses	Disinfectant, Virucide, Fungicide

Name, address, and telephone number of the chemical manufacturer, importer, or other responsible party

Registered company name	**ICP Building Solutions Group / Fiberlock**
Address	150 Dascomb Road Andover MA United States
Telephone	978 623 9980|866 667 5119
Fax	Not Available
Website	www.icpgroup.com
Email	sds@icpgroup.com

Emergency phone number

Association / Organisation	**ChemTel**
Emergency telephone numbers	800-255-3924
Other emergency telephone numbers	813-248-0585

SECTION 2 Hazard(s) identification

Classification of the substance or mixture

Note: The hazard category numbers found in GHS classification in section 2 of this SDSs are NOT to be used to fill in the NFPA 704 diamond. Blue = Health Red = Fire Yellow = Reactivity White = Special (Oxidizer or water reactive substances)

Classification	Skin Corrosion/Irritation Category 1C, Acute Aquatic Hazard Category 1, Serious Eye Damage Category 1, Acute Toxicity (Oral) Category 4, Skin Sensitizer Category 1, Chronic Aquatic Hazard Category 3

Label elements

Hazard pictogram(s)	
Signal word	**Danger**

Hazard statement(s)

H314	Causes severe skin burns and eye damage.
H400	Very toxic to aquatic life.
H302	Harmful if swallowed.
H317	May cause an allergic skin reaction.
H412	Harmful to aquatic life with long lasting effects.

Page 1 continued...

Hazard(s) not otherwise classified

Not Applicable

Precautionary statement(s) Prevention

P260	Do not breathe mist/vapours/spray.
P280	Wear protective gloves/protective clothing/eye protection/face protection.
P270	Do not eat, drink or smoke when using this product.

Precautionary statement(s) Response

P301+P330+P331	IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
P303+P361+P353	IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.
P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

Precautionary statement(s) Storage

P405	Store locked up.

Precautionary statement(s) Disposal

P501	Dispose of contents/container to authorised hazardous or special waste collection point in accordance with any local regulation.

SECTION 3 Composition / information on ingredients

Substances

See section below for composition of Mixtures

Mixtures

CAS No	%[weight]	Name
68391-01-5	2.37	benzyl-C12-18-alkyldimethylammonium chloride
68956-79-6	2.37	(C12-18)alkyldimethyl(ethylbenzyl)ammonium chloride
64-02-8	0-5	EDTA tetrasodium salt
497-19-8	0-5	sodium carbonate
84133-50-6	0-5	alcohols C12-14 secondary ethoxylated
7732-18-5	85-95	water

SECTION 4 First-aid measures

Description of first aid measures

Eye Contact	If this product comes in contact with the eyes: ▸ Immediately hold eyelids apart and flush the eye continuously with running water. ▸ Ensure complete irrigation of the eye by keeping eyelids apart and away from eye and moving the eyelids by occasionally lifting the upper and lower lids. ▸ Continue flushing until advised to stop by the Poisons Information Centre or a doctor, or for at least 15 minutes. ▸ Transport to hospital or doctor without delay. ▸ Removal of contact lenses after an eye injury should only be undertaken by skilled personnel.
Skin Contact	If skin or hair contact occurs: ▸ Immediately flush body and clothes with large amounts of water, using safety shower if available. ▸ Quickly remove all contaminated clothing, including footwear. ▸ Wash skin and hair with running water. Continue flushing with water until advised to stop by the Poisons Information Centre. ▸ Transport to hospital, or doctor.
Inhalation	▸ If fumes or combustion products are inhaled remove from contaminated area. ▸ Lay patient down. Keep warm and rested. ▸ Prostheses such as false teeth, which may block airway, should be removed, where possible, prior to initiating first aid procedures. ▸ Apply artificial respiration if not breathing, preferably with a demand valve resuscitator, bag-valve mask device, or pocket mask as trained. Perform CPR if necessary. ▸ Transport to hospital, or doctor, without delay.
Ingestion	▸ For advice, contact a Poisons Information Centre or a doctor at once. ▸ Urgent hospital treatment is likely to be needed. ▸ If swallowed do **NOT** induce vomiting. ▸ If vomiting occurs, lean patient forward or place on left side (head-down position, if possible) to maintain open airway and prevent aspiration. ▸ Observe the patient carefully. ▸ Never give liquid to a person showing signs of being sleepy or with reduced awareness; i.e. becoming unconscious. ▸ Give water to rinse out mouth, then provide liquid slowly and as much as casualty can comfortably drink. ▸ Transport to hospital or doctor without delay.

Most important symptoms and effects, both acute and delayed

See Section 11

Indication of any immediate medical attention and special treatment needed

Continued...

Treat symptomatically.

SECTION 5 Fire-fighting measures

Extinguishing media

The product contains a substantial proportion of water, therefore there are no restrictions on the type of extinguishing media which may be used. Choice of extinguishing media should take into account surrounding areas.
Though the material is non-combustible, evaporation of water from the mixture, caused by the heat of nearby fire, may produce floating layers of combustible substances.

Special hazards arising from the substrate or mixture

Fire Incompatibility	None known.

Special protective equipment and precautions for fire-fighters

Fire Fighting	▸ Alert Fire Brigade and tell them location and nature of hazard. ▸ Wear breathing apparatus plus protective gloves in the event of a fire. ▸ Prevent, by any means available, spillage from entering drains or water courses.
Fire/Explosion Hazard	▸ The material is not readily combustible under normal conditions. ▸ However, it will break down under fire conditions and the organic component may burn. ▸ Not considered to be a significant fire risk. Decomposes on heating and produces toxic fumes of: carbon dioxide (CO_2) other pyrolysis products typical of burning organic material. May emit poisonous fumes. May emit corrosive fumes.

SECTION 6 Accidental release measures

Personal precautions, protective equipment and emergency procedures

See section 8

Environmental precautions

See section 12

Methods and material for containment and cleaning up

Minor Spills	Environmental hazard - contain spillage. ▸ Clean up all spills immediately. ▸ Avoid breathing vapours and contact with skin and eyes. ▸ Control personal contact with the substance, by using protective equipment.
Major Spills	Environmental hazard - contain spillage. Moderate hazard. ▸ Clear area of personnel and move upwind. ▸ Alert Fire Brigade and tell them location and nature of hazard.

Personal Protective Equipment advice is contained in Section 8 of the SDS.

SECTION 7 Handling and storage

Precautions for safe handling

Safe handling	▸ Avoid all personal contact, including inhalation. ▸ Wear protective clothing when risk of exposure occurs. ▸ Use in a well-ventilated area. ▸ **DO NOT** allow clothing wet with material to stay in contact with skin
Other information	

Conditions for safe storage, including any incompatibilities

Suitable container	▸ Polyethylene or polypropylene container. ▸ Packing as recommended by manufacturer. ▸ Check all containers are clearly labelled and free from leaks.
Storage incompatibility	None known

SECTION 8 Exposure controls / personal protection

Control parameters

Occupational Exposure Limits (OEL)

INGREDIENT DATA

Not Available

Continued...

Emergency Limits

Ingredient	Material name	TEEL-1	TEEL-2	TEEL-3
benzyl-C12-18-alkyldimethylammonium chloride	Alkylbenzyldimethyl ammonium chloride, (C12-C18)	0.61 mg/m3	6.8 mg/m3	60 mg/m3
EDTA tetrasodium salt	Ethylenediaminetetraacetic acid, tetrasodium salt, dihydrate	82 mg/m3	900 mg/m3	5,500 mg/m3
EDTA tetrasodium salt	Ethylenediaminetetraacetic acid, tetrasodiumn salt; (Tetrasodium EDTA)	75 mg/m3	830 mg/m3	5,000 mg/m3
sodium carbonate	Sodium carbonate	7.6 mg/m3	83 mg/m3	500 mg/m3

Ingredient	Original IDLH	Revised IDLH
benzyl-C12-18-alkyldimethylammonium chloride	Not Available	Not Available
(C12-18)alkyldimethyl(ethylbenzyl)ammonium chloride	Not Available	Not Available
EDTA tetrasodium salt	Not Available	Not Available
sodium carbonate	Not Available	Not Available
alcohols C12-14 secondary ethoxylated	Not Available	Not Available
water	Not Available	Not Available

Occupational Exposure Banding

Ingredient	Occupational Exposure Band Rating	Occupational Exposure Band Limit
benzyl-C12-18-alkyldimethylammonium chloride	E	≤ 0.01 mg/m³
EDTA tetrasodium salt	E	≤ 0.01 mg/m³
sodium carbonate	E	≤ 0.01 mg/m³
Notes:	*Occupational exposure banding is a process of assigning chemicals into specific categories or bands based on a chemical's potency and the adverse health outcomes associated with exposure. The output of this process is an occupational exposure band (OEB), which corresponds to a range of exposure concentrations that are expected to protect worker health.*	

Exposure controls

Appropriate engineering controls	Engineering controls are used to remove a hazard or place a barrier between the worker and the hazard. Well-designed engineering controls can be highly effective in protecting workers and will typically be independent of worker interactions to provide this high level of protection. The basic types of engineering controls are: Process controls which involve changing the way a job activity or process is done to reduce the risk.
Personal protection	
Eye and face protection	‣ Chemical goggles. ‣ Full face shield may be required for supplementary but never for primary protection of eyes. ‣ Contact lenses may pose a special hazard; soft contact lenses may absorb and concentrate irritants.
Skin protection	See Hand protection below
Hands/feet protection	‣ Wear chemical protective gloves, e.g. PVC. ‣ Wear safety footwear or safety gumboots, e.g. Rubber ‣ When handling corrosive liquids, wear trousers or overalls outside of boots, to avoid spills entering boots. **NOTE:** ‣ The material may produce skin sensitisation in predisposed individuals. Care must be taken, when removing gloves and other protective equipment, to avoid all possible skin contact. ‣ Contaminated leather items, such as shoes, belts and watch-bands should be removed and destroyed. The selection of suitable gloves does not only depend on the material, but also on further marks of quality which vary from manufacturer to manufacturer. Where the chemical is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application. The exact break through time for substances has to be obtained from the manufacturer of the protective gloves and has to be observed when making a final choice.
Body protection	See Other protection below
Other protection	‣ Overalls. ‣ P.V.C apron. ‣ Barrier cream.

Respiratory protection

Type A Filter of sufficient capacity. (AS/NZS 1716 & 1715, EN 143:2000 & 149:2001, ANSI Z88 or national equivalent)

- **Cartridge respirators should never be used for emergency ingress or in areas of unknown vapour concentrations or oxygen content.**
- **The wearer must be warned to leave the contaminated area immediately on detecting any odours through the respirator. The odour may indicate that the mask is not functioning properly, that the vapour concentration is too high, or that the mask is not properly fitted. Because of these limitations, only restricted use of cartridge respirators is considered appropriate.**
- **Cartridge performance is affected by humidity. Cartridges should be changed after 2 hr of continuous use unless it is determined that the humidity is less than 75%, in which case, cartridges can be used for 4 hr. Used cartridges should be discarded daily, regardless of the length of time used**

SECTION 9 Physical and chemical properties

Continued...

Information on basic physical and chemical properties

Appearance	Text

Physical state	Liquid	**Relative density (Water = 1)**	Not Available
Odour	Not Available	**Partition coefficient n-octanol / water**	Not Available
Odour threshold	Not Available	**Auto-ignition temperature (°C)**	Not Available
pH (as supplied)	11.0-12.0	**Decomposition temperature**	Not Available
Melting point / freezing point (°C)	Not Available	**Viscosity (cSt)**	Not Available
Initial boiling point and boiling range (°C)	Not Available	**Molecular weight (g/mol)**	Not Available
Flash point (°C)	Not Available	**Taste**	Not Available
Evaporation rate	Not Available	**Explosive properties**	Not Available
Flammability	Not Available	**Oxidising properties**	Not Available
Upper Explosive Limit (%)	Not Available	**Surface Tension (dyn/cm or mN/m)**	Not Available
Lower Explosive Limit (%)	Not Available	**Volatile Component (%vol)**	Not Available
Vapour pressure (kPa)	Not Available	**Gas group**	Not Available
Solubility in water	Immiscible	**pH as a solution (1%)**	Not Available
Vapour density (Air = 1)	Not Available	**VOC g/L**	Not Available

SECTION 10 Stability and reactivity

Reactivity	See section 7
Chemical stability	▸ Unstable in the presence of incompatible materials. ▸ Product is considered stable. ▸ Hazardous polymerisation will not occur.
Possibility of hazardous reactions	See section 7
Conditions to avoid	See section 7
Incompatible materials	See section 7.Fiberlock Products and CPVC Compatibility: Manufacturers of chlorinated polyvinyl chloride (CPVC) pipe believe that it can be sensitive to or incompatible with chemicals found in many commonly used household and industrial cleaning products, coatings, adhesives and other compounds, and that those chemicals can cause stress cracks or pipe failure. Fiberlock recommends that users contact the pipe manufacturer directly before applying any Fiberlock products to the CPVC pipe.
Hazardous decomposition products	See section 5

SECTION 11 Toxicological information

Information on toxicological effects

Inhaled	The material can cause respiratory irritation in some persons. The body's response to such irritation can cause further lung damage. Not normally a hazard due to non-volatile nature of product The material has **NOT** been classified by EC Directives or other classification systems as 'harmful by inhalation'. This is because of the lack of corroborating animal or human evidence.
Ingestion	The material can produce chemical burns within the oral cavity and gastrointestinal tract following ingestion. The material has **NOT** been classified by EC Directives or other classification systems as 'harmful by ingestion'. This is because of the lack of corroborating animal or human evidence.
Skin Contact	The material can produce chemical burns following direct contact with the skin. Skin contact is not thought to have harmful health effects (as classified under EC Directives); the material may still produce health damage following entry through wounds, lesions or abrasions. Open cuts, abraded or irritated skin should not be exposed to this material Entry into the blood-stream, through, for example, cuts, abrasions or lesions, may produce systemic injury with harmful effects. Examine the skin prior to the use of the material and ensure that any external damage is suitably protected.
Eye	The material can produce chemical burns to the eye following direct contact. Vapours or mists may be extremely irritating. If applied to the eyes, this material causes severe eye damage.
Chronic	Repeated or prolonged exposure to corrosives may result in the erosion of teeth, inflammatory and ulcerative changes in the mouth and necrosis (rarely) of the jaw. Bronchial irritation, with cough, and frequent attacks of bronchial pneumonia may ensue. Long-term exposure to respiratory irritants may result in airways disease, involving difficulty breathing and related whole-body problems. Skin contact with the material is more likely to cause a sensitisation reaction in some persons compared to the general population. Substance accumulation, in the human body, may occur and may cause some concern following repeated or long-term occupational exposure.

Fiberlock ShockWave 8310	**TOXICITY**	**IRRITATION**

Continued...

	Not Available	Not Available

benzyl-C12-18-alkyldimethylammonium chloride

TOXICITY	IRRITATION
Oral (rat) LD50: 447 mg/kg[2]	Not Available
Oral (rat) LD50: 650 mg/kg[2]	

(C12-18)alkyldimethyl(ethylbenzyl)ammonium chloride

TOXICITY	IRRITATION
Not Available	Not Available

EDTA tetrasodium salt

TOXICITY	IRRITATION
Oral (mouse) LD50: 30 mg/kg[2]	Eyes (rabbit): 1.9 mg
Oral (rat) LD50: 1260 mg/kg[2]	Eyes (rabbit):100 mg/24h-moderate
Oral (rat) LD50: 2000-2200 mg/kg[2]	Skin (rabbit):500 mg/24h-moderate
Oral (rat) LD50: 630 mg/kg[2]	

sodium carbonate

TOXICITY	IRRITATION
714 mg/kg[2]	Eye (rabbit): 100 mg/24h moderate
dermal (rat) LD50: >2000 mg/kg[2]	Eye (rabbit): 100 mg/30s mild
Inhalation (guinea pig) LC50: 0.4 mg/l/2h[2]	Eye (rabbit): 50 mg SEVERE
Inhalation (rat) LC50: 1.15 mg/l/2he[2]	Eye: adverse effect observed (irritating)[1]
Oral (mouse) LD50: 6600 mg/kg[2]	Skin (rabbit): 500 mg/24h mild
Oral (rat) LD50: =4090 mg/kg[2]	Skin: no adverse effect observed (not irritating)[1]
Oral (rat) LD50: 2800 mg/kg[2]	

alcohols C12-14 secondary ethoxylated

TOXICITY	IRRITATION
Not Available	Not Available

water

TOXICITY	IRRITATION
Oral (rat) LD50: >90000 mg/kg[2]	Not Available

Legend: *1. Value obtained from Europe ECHA Registered Substances - Acute toxicity 2.* Value obtained from manufacturer's SDS. Unless otherwise specified data extracted from RTECS - Register of Toxic Effect of chemical Substances*

EDTA TETRASODIUM SALT	* Sigma Aldrich - for the dihydrate For ethylendiaminetetraacetic acid (EDTA) and its salts: EDTA is a strong organic acid, with a high affinity for alkaline-earth ions (for example, calcium and magnesium) and heavy-metal ions (such as lad and mercury), resulting in highly stable chelate complexes. The ability of EDTA to complex is used commercially to either promote or inhibit chemical reactions, depending on application. EDTA and its salts are expected to be absorbed by the lungs and the gastrointestinal tract; absorption through skin is unlikely. They cause mild skin irritation, and severe eye irritation.
SODIUM CARBONATE	For sodium carbonate: Sodium carbonate has little potential for skin irritation, but is irritating to the eyes. Due to its alkaline properties, irritation of the airways is also possible. There is no data available for animal studies regarding the repeated dose toxicity of sodium carbonate by any route. There is no evidence that sodium carbonate causes whole-body effects under normal handling and use. Sodium carbonate does not reach the foetus or the reproductive organs, which shows that there is no risk for developmental or reproductive toxicity. The material may cause skin irritation after prolonged or repeated exposure and may produce on contact skin redness, swelling, the production of vesicles, scaling and thickening of the skin.
ALCOHOLS C12-14 SECONDARY ETHOXYLATED	Polyethers (such as ethoxylated surfactants and polyethylene glycols) are highly susceptible to being oxidized in the air. They then form complex mixtures of oxidation products. Animal testing reveals that whole the pure, non-oxidised surfactant is non-sensitizing, many of the oxidation products are sensitisers. The oxidization products also cause irritation. Humans have regular contact with alcohol ethoxylates through a variety of industrial and consumer products such as soaps, detergents and other cleaning products. Exposure to these chemicals can occur through swallowing, inhalation, or contact with the skin or eyes. Studies of acute toxicity show that relatively high volumes would have to occur to produce any toxic response. Both laboratory and animal testing has shown that there is no evidence for alcohol ethoxylates (AEs) causing genetic damage, mutations or cancer. No adverse reproductive or developmental effects were observed. Tri-ethylene glycol ethers undergo enzymatic oxidation to toxic alkoxy acids. They may irritate the skin and the eyes. At high oral doses, they may cause depressed reflexes, flaccid muscle tone, breathing difficulty and coma.
Fiberlock ShockWave 8310 & BENZYL-C12-18-ALKYLDIMETHYLAMMONIUM CHLORIDE & (C12-18)ALKYLDIMETHYL(ETHYLBENZYL)AMMONIUM CHLORIDE & EDTA TETRASODIUM SALT & SODIUM CARBONATE	Asthma-like symptoms may continue for months or even years after exposure to the material ends. This may be due to a non-allergic condition known as reactive airways dysfunction syndrome (RADS) which can occur after exposure to high levels of highly irritating compound. Main criteria for diagnosing RADS include the absence of previous airways disease in a non-atopic individual, with sudden onset of persistent asthma-like symptoms within minutes to hours of a documented exposure to the irritant.

Continued...

Fiberlock ShockWave 8310 & EDTA TETRASODIUM SALT	The following information refers to contact allergens as a group and may not be specific to this product. Contact allergies quickly manifest themselves as contact eczema, more rarely as urticaria or Quincke's oedema. The pathogenesis of contact eczema involves a cell-mediated (T lymphocytes) immune reaction of the delayed type. Other allergic skin reactions, e.g. contact urticaria, involve antibody-mediated immune reactions.
BENZYL-C12-18-ALKYLDIMETHYLAMMONIUM CHLORIDE & (C12-18)ALKYLDIMETHYL(ETHYLBENZYL)AMMONIUM CHLORIDE	The material may cause severe skin irritation after prolonged or repeated exposure and may produce on contact skin redness, swelling, the production of vesicles, scaling and thickening of the skin. Repeated exposures may produce severe ulceration. Alkyldimethylbenzylammonium chlorides are in the list of dangerous substances of council directive, classified as 'harmful in contact with skin and on ingestion', and 'corrosive and very toxic to aquatic organisms'. It can cause dose dependent skin and eye irritation with possible deterioration of vision, possible sensitisation in those with pre-existing eczema. It does not cause cancer, genetic defect, foetal or developmental abnormality.
(C12-18)ALKYLDIMETHYL(ETHYLBENZYL)AMMONIUM CHLORIDE & ALCOHOLS C12-14 SECONDARY ETHOXYLATED & WATER	No significant acute toxicological data identified in literature search.

Acute Toxicity	✔	**Carcinogenicity**	✘
Skin Irritation/Corrosion	✔	**Reproductivity**	✘
Serious Eye Damage/Irritation	✔	**STOT - Single Exposure**	✘
Respiratory or Skin sensitisation	✔	**STOT - Repeated Exposure**	✘
Mutagenicity	✘	**Aspiration Hazard**	✘

Legend: ✘ *– Data either not available or does not fill the criteria for classification*
✔ *– Data available to make classification*

SECTION 12 Ecological information

Toxicity

Fiberlock ShockWave 8310

Endpoint	Test Duration (hr)	Species	Value	Source
Not Available	Not Available	Not Available	Not Available	Not Available

benzyl-C12-18-alkyldimethylammonium chloride

Endpoint	Test Duration (hr)	Species	Value	Source
Not Available	Not Available	Not Available	Not Available	Not Available

(C12-18)alkyldimethyl(ethylbenzyl)ammonium chloride

Endpoint	Test Duration (hr)	Species	Value	Source
Not Available	Not Available	Not Available	Not Available	Not Available

EDTA tetrasodium salt

Endpoint	Test Duration (hr)	Species	Value	Source
LC50	96	Fish	1-592mg/L	2
EC50	48	Crustacea	140mg/L	2
EC50	72	Algae or other aquatic plants	=1.01mg/L	1
EC10	72	Algae or other aquatic plants	=0.48mg/L	1
NOEC	72	Algae or other aquatic plants	=0.39mg/L	1

sodium carbonate

Endpoint	Test Duration (hr)	Species	Value	Source
LC50	96	Fish	300mg/L	2
EC50	48	Crustacea	265mg/L	2
NOEC	96	Fish	=550mg/L	1

alcohols C12-14 secondary ethoxylated

Endpoint	Test Duration (hr)	Species	Value	Source
Not Available	Not Available	Not Available	Not Available	Not Available

water

Endpoint	Test Duration (hr)	Species	Value	Source
Not Available	Not Available	Not Available	Not Available	Not Available

Legend: *Extracted from 1. IUCLID Toxicity Data 2. Europe ECHA Registered Substances - Ecotoxicological Information - Aquatic Toxicity 3. EPIWIN Suite V3.12 (QSAR) - Aquatic Toxicity Data (Estimated) 4. US EPA, Ecotox database - Aquatic Toxicity Data 5. ECETOC Aquatic Hazard Assessment Data 6. NITE (Japan) - Bioconcentration Data 7. METI (Japan) - Bioconcentration Data 8. Vendor Data*

Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
Do NOT allow product to come in contact with surface waters or to intertidal areas below the mean high water mark. Do not contaminate water when cleaning equipment or disposing of equipment wash-waters.
Wastes resulting from use of the product must be disposed of on site or at approved waste sites.
DO NOT discharge into sewer or waterways.

Persistence and degradability

Continued...

Ingredient	Persistence: Water/Soil	Persistence: Air
sodium carbonate	LOW	LOW
water	LOW	LOW

Bioaccumulative potential

Ingredient	Bioaccumulation
sodium carbonate	LOW (LogKOW = -0.4605)
water	LOW (LogKOW = -1.38)

Mobility in soil

Ingredient	Mobility
sodium carbonate	HIGH (KOC = 1)
water	LOW (KOC = 14.3)

SECTION 13 Disposal considerations

Waste treatment methods

Product / Packaging disposal	▸ Containers may still present a chemical hazard/ danger when empty. ▸ Return to supplier for reuse/ recycling if possible. Otherwise: ▸ If container can not be cleaned sufficiently well to ensure that residuals do not remain or if the container cannot be used to store the same product, then puncture containers, to prevent re-use, and bury at an authorised landfill. Legislation addressing waste disposal requirements may differ by country, state and/ or territory. Each user must refer to laws operating in their area. In some areas, certain wastes must be tracked. ▸ **DO NOT** allow wash water from cleaning or process equipment to enter drains. ▸ It may be necessary to collect all wash water for treatment before disposal. ▸ In all cases disposal to sewer may be subject to local laws and regulations and these should be considered first. ▸ Recycle wherever possible. ▸ Consult manufacturer for recycling options or consult local or regional waste management authority for disposal if no suitable treatment or disposal facility can be identified. ▸ Dispose of by: burial in a land-fill specifically licensed to accept chemical and / or pharmaceutical wastes or incineration in a licensed apparatus (after admixture with suitable combustible material).

SECTION 14 Transport information

Labels Required

Marine Pollutant	

Land transport (DOT): NOT REGULATED FOR TRANSPORT OF DANGEROUS GOODS

Air transport (ICAO-IATA / DGR): NOT REGULATED FOR TRANSPORT OF DANGEROUS GOODS

Sea transport (IMDG-Code / GGVSee): NOT REGULATED FOR TRANSPORT OF DANGEROUS GOODS

Transport in bulk according to Annex II of MARPOL and the IBC code

Not Applicable

SECTION 15 Regulatory information

Safety, health and environmental regulations / legislation specific for the substance or mixture

benzyl-C12-18-alkyldimethylammonium chloride is found on the following regulatory lists

US DOE Temporary Emergency Exposure Limits (TEELs) | US TSCA Chemical Substance Inventory - Interim List of Active Substances
US Toxic Substances Control Act (TSCA) - Chemical Substance Inventory

(C12-18)alkyldimethyl(ethylbenzyl)ammonium chloride is found on the following regulatory lists

US Toxic Substances Control Act (TSCA) - Chemical Substance Inventory | US TSCA Chemical Substance Inventory - Interim List of Active Substances

EDTA tetrasodium salt is found on the following regulatory lists

US DOE Temporary Emergency Exposure Limits (TEELs) | US TSCA Chemical Substance Inventory - Interim List of Active Substances
US Toxic Substances Control Act (TSCA) - Chemical Substance Inventory

sodium carbonate is found on the following regulatory lists

US DOE Temporary Emergency Exposure Limits (TEELs) | US TSCA Chemical Substance Inventory - Interim List of Active Substances
US Toxic Substances Control Act (TSCA) - Chemical Substance Inventory

alcohols C12-14 secondary ethoxylated is found on the following regulatory lists

US Toxic Substances Control Act (TSCA) - Chemical Substance Inventory | US TSCA Section 5(a)(2) - Significant New Use Rules (SNURs)
US TSCA Chemical Substance Inventory - Interim List of Active Substances

Continued...

water is found on the following regulatory lists

US Toxic Substances Control Act (TSCA) - Chemical Substance Inventory	US TSCA Chemical Substance Inventory - Interim List of Active Substances

Federal Regulations

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Section 311/312 hazard categories

Flammable (Gases, Aerosols, Liquids, or Solids)	No
Gas under pressure	No
Explosive	No
Self-heating	No
Pyrophoric (Liquid or Solid)	No
Pyrophoric Gas	No
Corrosive to metal	No
Oxidizer (Liquid, Solid or Gas)	No
Organic Peroxide	No
Self-reactive	No
In contact with water emits flammable gas	No
Combustible Dust	No
Carcinogenicity	No
Acute toxicity (any route of exposure)	Yes
Reproductive toxicity	No
Skin Corrosion or Irritation	Yes
Respiratory or Skin Sensitization	Yes
Serious eye damage or eye irritation	Yes
Specific target organ toxicity (single or repeated exposure)	No
Aspiration Hazard	No
Germ cell mutagenicity	No
Simple Asphyxiant	No
Hazards Not Otherwise Classified	No

US. EPA CERCLA Hazardous Substances and Reportable Quantities (40 CFR 302.4)

None Reported

State Regulations

US. California Proposition 65

None Reported

National Inventory Status

National Inventory	Status
Australia - AIIC	Yes
Australia Non-Industrial Use	No (benzyl-C12-18-alkyldimethylammonium chloride; (C12-18)alkyldimethyl(ethylbenzyl)ammonium chloride; EDTA tetrasodium salt; sodium carbonate; alcohols C12-14 secondary ethoxylated; water)
Canada - DSL	Yes
Canada - NDSL	No (benzyl-C12-18-alkyldimethylammonium chloride; (C12-18)alkyldimethyl(ethylbenzyl)ammonium chloride; EDTA tetrasodium salt; sodium carbonate; alcohols C12-14 secondary ethoxylated; water)
China - IECSC	Yes
Europe - EINEC / ELINCS / NLP	No (alcohols C12-14 secondary ethoxylated)
Japan - ENCS	No (benzyl-C12-18-alkyldimethylammonium chloride; (C12-18)alkyldimethyl(ethylbenzyl)ammonium chloride; alcohols C12-14 secondary ethoxylated)
Korea - KECI	Yes
New Zealand - NZIoC	Yes
Philippines - PICCS	Yes
USA - TSCA	Yes
Taiwan - TCSI	Yes
Mexico - INSQ	No ((C12-18)alkyldimethyl(ethylbenzyl)ammonium chloride)
Vietnam - NCI	No ((C12-18)alkyldimethyl(ethylbenzyl)ammonium chloride)
Russia - ARIPS	No ((C12-18)alkyldimethyl(ethylbenzyl)ammonium chloride; alcohols C12-14 secondary ethoxylated)
Legend:	*Yes = All CAS declared ingredients are on the inventory* *No = One or more of the CAS listed ingredients are not on the inventory and are not exempt from listing(see specific ingredients in brackets)*

SECTION 16 Other information

Revision Date	08/26/2020

Continued...

Initial Date	05/21/2017

CPVC Compatibility

Fiberlock Products and CPVC Compatibility: Manufacturers of chlorinated polyvinyl chloride (CPVC) pipe believe that it can be sensitive to or incompatible withchemicals found in many commonly used household and industrial cleaning products, coatings, adhesives and other compounds, and that those chemicals can cause stress cracks or pipe failure. Fiberlock recommends that users contact the pipe manufacturer directly before applying any Fiberlock products to the CPVC pipe.

SDS Version Summary

Version	Issue Date	Sections Updated
6.8.1.1.1	08/26/2020	Classification, Ingredients, Supplier Information

Other information

Classification of the preparation and its individual components has drawn on official and authoritative sources as well as independent review by the Chemwatch Classification committee using available literature references.
The SDS is a Hazard Communication tool and should be used to assist in the Risk Assessment. Many factors determine whether the reported Hazards are Risks in the workplace or other settings. Risks may be determined by reference to Exposures Scenarios.

Definitions and abbreviations

PC—TWA: Permissible Concentration-Time Weighted Average
PC—STEL: Permissible Concentration-Short Term Exposure Limit
IARC: International Agency for Research on Cancer
ACGIH: American Conference of Governmental Industrial Hygienists
STEL: Short Term Exposure Limit
TEEL: Temporary Emergency Exposure Limit。
IDLH: Immediately Dangerous to Life or Health Concentrations
OSF: Odour Safety Factor
NOAEL :No Observed Adverse Effect Level
LOAEL: Lowest Observed Adverse Effect Level
TLV: Threshold Limit Value
LOD: Limit Of Detection
OTV: Odour Threshold Value
BCF: BioConcentration Factors
BEI: Biological Exposure Index

Powered by AuthorITe, from Chemwatch.

FRONT Panel

Fiberlock TECHNOLOGIES

SHOCKWAVE

DISINFECTANT & CLEANER

CLEANS AS IT DISINFECTS CONCENTRATED FORMULA

HOSPITAL DISINFECTANT, BROAD SPECTRUM CLEANER & DISINFECTANT, CLEANER, DISINFECTANT, SANITIZER, DETERGENT FUNGICIDE, DEODORIZER, VIRUCIDE*, MILDEWSTAT

ACTIVE INGREDIENTS:	
Alkyl (C_{14} 60%, C_{16} 30%, C_{12} 5%, C_{18} 5%) dimethyl benzyl ammonium chloride	2.37%
Alkyl (C_{12} 68%, C_{14} 32%) dimethyl ethylbenzyl ammonium chloride	2.37%
OTHER INGREDIENTS:	95.26%
TOTAL:	100.00%

KEEP OUT OF REACH OF CHILDREN

DANGER

See back panel for additional precautionary statements

EPA Reg. No. 61178-1-73884 EPA Est. No. 8325-PA-01

NET CONTENTS: 1 Gallon (3.785 L)

BASE LABEL

FIRST AID

IF ON SKIN OR CLOTHING: Take off contaminated clothing. Rinse skin immediately with plenty of water for 15-20 minutes. Call a poison control center or doctor for treatment advice.

IF IN EYES: Hold eye open and rinse slowly and gently with water for 15-20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. Call a poison control center or doctor for treatment advice.

IF SWALLOWED: Call a poison control center or doctor immediately for treatment advice. Have person sip a glass of water if able to swallow. Do not induce vomiting unless told to do so by a poison control center or doctor. Do not give anything by mouth to an unconscious person.

IF INHALED: Move person to fresh air. If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably mouth-to-mouth, if possible. Call a poison control center or doctor for further treatment advice.

Have the product container or label with you when calling a poison control center or doctor, or going for treatment. For additional medical advice, call the following emergency phone number: 800-255-3924.

NOTE TO PHYSICIAN: Probable mucosal damage may contraindicate the use of gastric lavage.

PRECAUTIONARY STATEMENTS

HAZARDS TO HUMANS AND DOMESTIC ANIMALS.

DANGER. Corrosive. Causes irreversible eye damage and skin burns. Do not get in eyes, on skin, or on clothing. Harmful if swallowed. Wear protective eyewear (goggles, face shield or safety glasses). Wear protective clothing and rubber gloves. Avoid contamination of food. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco or using the toilet. Remove contaminated clothing and wash clothing before reuse.

PHYSICAL OR CHEMICAL HAZARDS

Combustible. Do not use or store near heat or open flame

STORAGE and DISPOSAL

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

STORAGE: Do not store on side. Avoid creasing or impacting of side walls. Store securely in closed original container. Avoid storage at temperature extremes or in sunlight. Avoid shipping or storing below freezing. If product freezes, thaw at room temperature and shake gently to remix components. Use locked storage in an area that will prevent cross-contamination of other pesticides, fertilizer, food and feed. Store in locked area inaccessible to children.

PESTICIDE DISPOSAL: Pesticide wastes are acutely hazardous. Improper disposal of excess pesticide, spray mixture or rinsate is a violation of Federal Law. If these wastes cannot be disposed of according to label instructions, contact your State Pesticide or Environmental Control Agency, or the Hazardous Waste representative at the nearest EPA Regional Office for guidance.

CONTAINER DISPOSAL:

Triple rinse container (or equivalent) promptly after emptying. Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank and drain for 10 seconds after the flow begins to drip. Fill the container ¼ full with water and recap. Shake for 10 seconds. Discard Rinsate. Drain for 10 seconds after the flow begins to drip. Repeat this procedure two more times. **Nonrefillable container. Do not reuse or refill this container. Offer for recycling if available.**

DIRECTIONS FOR USE

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

To be used in hospitals in the following areas as a disinfectant: operating rooms, patient care rooms & facilities, recovery, anesthesia, ER, radiology, X-ray cat labs, newborn nurseries, orthopedics, respiratory therapy, surgi-centers, labs, blood collection rooms, central supply, housekeeping & janitorial rooms, nursing homes, doctor's offices & labs, dentists offices & labs.

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, either 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 preclean or decontaminate critical or semi-critical medical devices prior to sterilization or high-level disinfection.

BACTERICIDAL STABILITY OF USE-DILUTION:

Tests confirm that this product, when diluted in 400 ppm hard water and in the presence of 5% soil load, remains *effective against Pseudomonas aeruginosa, Staphylococcus aureus, Salmonella enterica* for up to 64 days when stored in a sealed container at room temperature.

If the use-dilution product becomes visibly dirty or contaminated, the use-dilution must be discarded and a fresh product prepared. Always use clean, properly labeled dry containers when diluting the product. Bactericidal stability of the use-dilution does not apply to open containers such as buckets or pails. Use-dilution product in open containers must be prepared daily or more often if the solution becomes visibly dirty or diluted or contaminated.

WATER DAMAGE RESTORATION

SANITIZER AGAINST ODOR-CAUSING BACTERIA AND FUNGI FOR HOME, INSTITUTIONAL, INDUSTRIAL AND HOSPITAL USE

Effective against odor causing bacteria and fungi for home, institutional, industrial and hospital use. This product is particularly suitable for use in water damage restoration situations against odor causing bacteria on the following porous and semi-porous materials: carpets, carpet cushion, sub floors, drywall, trim, and frame lumber, tackless strip and paneling. Using solutions recommended, saturate affected materials with enough product to remain wet for at least 10 minutes. Use proper ventilation.

Refer to the instructions given in Table 1 and 2 prior to use of this product for water damage restoration.

Sewer backup & river flooding: During mitigation procedures, dilute 2 to 4 ounces of this product per gallon of water allowing for the diluting effect of absorbed water within saturated materials. Remove gross filth or heavy soil along with non-salvageable materials. Saturate all affective areas with a sprayer using a coarse spray tip, before and after cleaning and extraction.

Carpets, carpet cushions and other porous materials such as sub floors, drywall, trim and frame lumber, tackless strip and paneling: For water damage from a clean water source, extract excess water. Test hidden area for color fastness. Dilute 2 to 4 ounces of the product per gallon of water, allowing for the diluting effect of absorbed water within saturated materials. Remove gross filth or heavy soil. Apply directly with a sprayer using a coarse spray tip, to fully saturate affected materials. Roll, brush or agitate into materials and allow the materials to remain damp for 10 minutes. Follow with a through extraction. Dry rapidly and thoroughly.

Special Instructions for Cleaning Carpet Against Odor Causing Bacteria:

This product may be used in industrial and institutional areas such as homes, motels & hotel chains, nursing homes, schools and hospital. For use on wet, cleanable synthetic fibers. Do not use on wool. Vacuum carpet thoroughly prior to cleaning. Test fabric for color fastness.

For portable extraction units: Mix 1 ounce of this product per gallon of water.

For truck mounted extraction machines: Mix 24 ounces of the product per gallon of water and meter at 4 gallons per hour.

For rotary floor machines: Mix 2 ounces of this product per gallon of water and apply at the rate of 300-500 sq. ft. per gallon.

Do not mix this product with other cleaning products. Follow the cleaning procedures specified by the manufacturer of the cleaning equipment. After using this product, set the carpet pile and protect the carpet from furniture legs and bases while drying. Do not over wet. If applied to stain resistant nylon carpet, apply a fabric protector according to the carpet manufacturer's directions.

Table 1: Water Damage - Cleanup and Mold Prevention

Guidelines for Response to Clean Water Damage within 24-48 Hours to Prevent Mold Growth*

Water-Damaged Material†	Actions
Books and papers	For non-valuable items, discard books and papers. Photocopy valuable/important items, discard originals. Freeze (in frost-free freezer or meat locker) or freeze-dry.
Carpet and backing - dry within 24-48 hours§	Remove water with water extraction vacuum. Reduce ambient humidity levels with dehumidifier. Accelerate drying process with fans.
Ceiling tiles	Discard and replace.
Cellulose insulation	Discard and replace.
Concrete or cinder block surfaces	Remove water with water extraction vacuum. Accelerate drying process with dehumidifiers, fans, and/or heaters.
Fiberglass insulation	Discard and replace.
Hard surface, porous flooring§ (Linoleum, ceramic tile, vinyl)	Vacuum or damp wipe with water and mild detergent and allow to dry; scrub if necessary. Check to make sure underflooring is dry; dry underflooring if necessary.
Non-porous, hard surfaces (Plastics, metals)	Vacuum or damp wipe with water and mild detergent and allow to dry; scrub if necessary.
Upholstered furniture	Remove water with water extraction vacuum. Accelerate drying process with dehumidifiers, fans, and/or heaters. May be difficult to completely dry within 48 hours. If the piece is valuable, you may wish to consult a restoration/water damage professional who specializes in furniture.
Wallboard (Drywall and gypsum board)	May be dried in place if there is no obvious swelling and the seams are intact. If not, remove, discard, and replace. Ventilate the wall cavity, if possible.
Window drapes	Follow laundering or cleaning instructions recommended by the manufacturer.
Wood surfaces	Remove moisture immediately and use dehumidifiers, gentle heat, and fans for drying. (Use caution when applying heat to hardwood floors.) Treated or finished wood surfaces may be cleaned with mild detergent and clean water and allowed to dry. Wet paneling should be pried away from wall for drying.

* If mold growth has occurred or materials have been wet for more than 48 hours, consult Table 2 guidelines. Even if materials are dried within 48 hours, mold growth may have occurred. Items may be tested by professionals if there is doubt. Note that mold growth will not always occur after 48 hours; this is only a guideline.

These guidelines are for damage caused by clean water. If you know or suspect that the water source is contaminated with sewage, or chemical or biological pollutants, then Personal Protective Equipment and containment are required by OSHA. An experienced professional should be consulted if you and/or your remediators do not have expertise remediating in contaminated water situations. Do not use fans before determining that the water is clean or sanitary. † If a particular item(s) has high monetary or sentimental value, you may wish to consult a restoration/water damage specialist. § The subfloor under the carpet or other flooring material must also be cleaned and dried. See the appropriate section of this table for recommended actions depending on the composition of the subfloor.

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Andover, MA 01810
(800) 342-3755

Table 2: Guidelines for Remediating Building Materials with Mold Growth Caused by Clean Water*			
Material or Furnishing Affected	Cleanup Methods (see following page for descriptions)	Personal Protective Equipment	Containment
SMALL - Total Surface Area Affected Less Than 10 square feet (ft^2)			
Books and papers	3	Minimum N-95 respirator, gloves, and goggles	None required
Carpet and backing	1,3		
Concrete or cinder block	1,3		
Hard surface, porous flooring (linoleum, ceramic tile, vinyl)	1,2,3		
Non-porous, hard surfaces (plastics, metals)	1,2,3		
Upholstered furniture & drapes	1,3		
Wallboard (drywall and gypsum board)	3		
Wood surfaces	1,2,3		
MEDIUM - Total Surface Area Affected Between 10 and 100 (ft^2)			
Books and papers	3	Limited or Full Use professional judgment, consider potential for remediator exposure and size of contaminated area	Limited Use professional judgment, consider potential for remediator/occupant exposure and size of contaminated area
Carpet and backing	1,3,4		
Concrete or cinder block	1,3		
Hard surface, porous flooring (linoleum, ceramic tile, vinyl)	1,2,3		
Non-porous, hard surfaces (plastics, metals)	1,2,3		
Upholstered furniture & drapes	1,3,4		
Wallboard (drywall and gypsum board)	3,4		
Wood surfaces	1,2,3		
LARGE - Total Surface Area Affected Greater Than 100 (ft^2) or Potential for Increased Occupant or Remediator Exposure During Remediation Estimated to be Significant			
Books and papers	3	Full Use professional judgment, consider potential for remediator/ occupant exposure and size of contaminated area	Full Use professional judgment, consider potential for remediator exposure and size of contaminated area
Carpet and backing	1,3,4		
Concrete or cinder block	1,3		
Hard surface, porous flooring (linoleum, ceramic tile, vinyl)	1,2,3,4		
Non-porous, hard surfaces (plastics, metals)	1,2,3		
Upholstered furniture & drapes	1,2,4		
Wallboard (drywall and gypsum board)	3,4		
Wood surfaces	1,2,3,4		

*Use professional judgment to determine prudent levels of Personal Protective Equipment and containment for each situation, particularly as the remediation site size increases and the potential for exposure and health effects rises. Assess the need for increased Personal Protective Equipment, if, during the remediation, more extensive contamination is encountered than was expected. Consult Table 1 if materials have been wet for less than 48 hours, and mold growth is not apparent. These guidelines are for damage caused by clean water. If you know or suspect that the water source is contaminated with sewage, or chemical or biological pollutants, then the Occupational Safety and Health Administration (OSHA) requires PPE and containment. An experienced professional should be consulted if you and/or your remediators do not have expertise in remediating contaminated water situations.

Cleanup Methods for Table 2 given on previous page:

Method 1: Wet vacuum in the case of porous materials, some mold spores/ fragments will remain in the material but will not grow if the material is completely dried. Steam cleaning may be an alternative for carpets and some upholstered furniture.

Method 2: Damp-wipe surfaces with plain water or with water and detergent solution (except wood —use wood floor cleaner); scrub as needed.

Method 3: High-efficiency particulate air (HEPA) vacuum after the material has been thoroughly dried. Dispose of the contents of the HEPA vacuum in well-sealed plastic bags.

Method 4: Discard - remove water-damaged materials and seal in plastic bags while inside of containment, if present. Dispose of as normal waste. HEPA vacuum area after it is dried.

Personal Protective Equipment (PPE)

Minimum: Gloves, N-95 respirator, goggles/eye protection

Limited: Gloves, N-95 respirator or half-face respirator with HEPA filter, disposable overalls, goggles/eye protection

Full: Gloves, disposable full body clothing, head gear, foot coverings, full-face respirator with HEPA filter

Containment

Limited: Use polyethylene sheeting ceiling to floor around affected area with a slit entry and covering flap; maintain area under negative pressure with HEPA filtered fan unit. Block supply and return air vents within containment area.

Full: Use two layers of fire-retardant polyethylene sheeting with one airlock chamber. Maintain area under negative pressure with HEPA filtered fan exhausted outside of building. Block supply and return air vents within containment area.

SMOKE DAMAGE RESTORATION

Effective against odor causing bacteria and fungi for home, institutional, industrial and hospital use. This product is particularly suitable for use in smoke damage restoration situations against odor causing bacteria on the following porous and semi-porous materials: carpets, carpet cushion, sub floors, drywall, trim, and frame lumber, tackless strip and paneling. Follow directions as outlined in the Water Damage Restoration section. Using solutions recommended, saturate affected materials with enough product to remain wet for at least 10 minutes. Use proper ventilation.

Refer to the instructions given in Table 1 and 2 prior to use of this product for water damage restoration.

FUNGICIDAL: At 2 ounces per gallon use-level, is effective against the pathogenic fungus *Trichophyton mentagrophytes* (athlete's foot fongus - cause of Ringworm) on inanimate surfaces in the presence of 5% organic soil load and 300 ppm water hardness as CaCO3 in locker rooms, dressing rooms, shower and bath areas and exercise facilities. Contact time ~ 10 minutes.

This product, in the presence of a ~ 100% organic soil load, diluted 1:64 (2 ounces per gallon) in 395 ppm Hard Water, demonstrated efficacy within 10 minutes against the following pathogenic fungus: *Trichophyton mentagrophytes*. Note that the organism referenced in the previous statement is not associated with blood spills. For blood spills, the surface must be thoroughly cleaned before applying this product.

Mold and Mildew Control Directions: Add 2 ounces per gallon of water to control the growth of mold and mildew and their odors on hard, non-porous surfaces. Thoroughly wet all treated surfaces completely. Let air dry. Repeat application weekly or when growth or odor reappears.

DISINFECTION:

PREPARATION OF USE SOLUTION:

For water hardness up to 300 ppm add 2 ounces per gallon of water to disinfect hard, non porous surfaces. Apply solution with a cloth, mop, sponge, hand pump trigger sprayer or other mechanical sprayer devices. Treated surfaces must remain wet for 10 minutes. Let air dry. Prepare a fresh solution for each use. ShockWave is effective in hard water up to 300 ppm hardness.

This product, in the presence of a 98% organic soil load, diluted 1:64 (2 ounces per gallon) in 791 ppm Hard Water, demonstrated efficacy within 10 minutes against the following organisms: Staphylococcus aureus, Salmonella enterica.

This product is a Hospital Use Disinfectant at 2 ounces per gallon, modified in the presence of 300 ppm hard water and in the presence of organic soil (5% blood serum) for a contact time of 10 minutes.

Remove gross filth or heavy soil. For heavily soiled areas, a pre-cleaning step is required.

This product is Bactericidal according to the AOAC Use Dilution Test Method, Virucidal* according to the virucidal qualification on hard, inanimate surfaces, modified in the presence of 5% organic serum against the microorganisms listed as follows.

***Disinfection Performance*:** At 2 ounces of this product to one gallon of water use level, this product is bactericidal and fungicidal on hard inanimate surfaces modified in the presence of 5% organic serum with a 10 minute contact time against:.

Isolates From AIDS Patients

1. *Aspergillus niger*
2. *Candida albicans*
3. *Cryptococcus neoformans*
4. *Pseudomonas aeruginosa*
5. *Staphylococcus aureus*
6. *Streptococcus pneumoniae*

Gram Positive Clinical Isolates

7. *Enterococcus faecalis*
8. *Micrococcus luteus*
9. *Staphylococcus aureus*
10. *Staphylococcus aureus (Toxic shock)*
11. *Staphylococcus epidermidis*
12. *Staphylococcus saprophyticus*
13. *Streptococcus haemoiyticus*
14. *Streptococcus pyogenes*

Gram Negative Clinical Isolates

15. *Acinetobacter calcoaceticus var. anitratus*
16. *Acinetobacter calcoaceticus var. lwoffii*
17. *Bordetella bronchiseptica*
18. *Brevundimonas diminuta*
19. *Burkholderia cepacia*
20. *Enterobacter agglomerans*
21. *Enterobacter cloacae*
22. *Enterobacter gergoviae*
23. *Enterobacter liquefaciens*
24. *Escherichia coli (Urinary)*
25. *Escherichia coli (Wound)*
26. *Flavobacterium meningosepticum*
27. *Hafnia alvei*
28. *Klebsiella oxytoca*
29. *Klebsiella pneumoniae*
30. *Morganella morganii*
31. *Proteus mirabilis*
32. *Proteus vulgaris*
33. *Pseudomonas aeruginosa*
34. *Pseudomonas fluorescens*
35. *Pseudomonas pseudomallei*
36. *Pseudomonas putida*
37. *Pseudomonas stutzeri*
38. *Serratia marcescens*
39. *Sphingomonas paucimobilis*

Other Bacteria

40. *Actinobacillus pleuropneumoniae*
41. *Actinomyces pyogenes*
42. *Bacillus cereus*
43. *Bacteroides fragilis*
44. *Corynebacterium ammoniagenes (Brevibacterium ammoniagenes)*
45. *Bordetella bronchiseptica*
46. *Burkholderia pickettii*
47. *Campylobacter jejuni*
48. *Chryseomonas luteola*
49. *Corynebacterium pseudotuberculosis*
50. *Enterobacter aerogenes*
51. *Enterococcus faecalis*
52. *Enterococcus faecium*
53. *Enterococcus hirae*
54. *Escherichia coli*
55. *Escherichia coli strain 0157:H7*
56. *Escherichia vulneris*
57. *Haemophilus influenzae*
58. *Klebsiella pneumoniae*
59. *Listeria monocytogenes*
60. *Pasteurella haemolytica*
61. *Pseudomonas aeruginosa*
62. *Rhodococcus equi*
63. *Salmonella enterica*
64. *Salmonella schottmuelleri*
65. *Salmonella typhi*
66. *Shigella dysenteriae*
67. *Staphylococcus aureus*
68. *Staphylococcus auricularis*
69. *Staphylococcus capitis*
70. *Staphylococcus hominis*
71. *Staphylococcus simulans*
72. *Stenotrophomonas maltophilia*
73. *Streptococcus equi var. equi*
74. *Streptococcus equi var. zooepidermicus*
75. *Streptococcus pneumoniae (PRSP)*
76. *Streptococcus pyogenes*
77. *Streptococcus salivarius*
78. *Yersinia enterocolitica*

Pathogenic Fungi

79. *Trichophyton mentagrophytes*

Environmental Fungi

80. *Aspergillus candidus*
81. *Aspergillus niger*
82. *Penicillium chermesinum*
83. *Penicillium oxalicum*
84. *Penicillium spinulosum*
85. *Ulocladium sp.*

Antibiotic Resistant Gram Negative Bacteria

86. *Pseudomonas aeruginosa* (Sulfa, Cefatoxime, Nitrofurantoin, Tetracycline, Amikacin, Ampicillin, Cephalothin and Bactine Resistant)
87. *Escherichia coli* (Ampicillin, Tetracycline, Penicillin and Sulfa Resistant)
88. *Klebsiella oxytoca* (Ampicillin, Sulfanilimide and Tetracycline Resistant)
89. *Klebsiella pneumoniae* type 1 (Ampicillin, Tetracycline, Cephalothin and Sulfa Resistant)
90. *Morganella morganii* (Penicillin and Tetracycline Resistant)
91. *Enterobacter agglomerans* (Ampicillin and Sulfanylimide Resistant)
92. *Salmonella choleraesuis* (Antibiotic Resistant)
93. *Enterobacteriacia with extended beta-lactamase resistance* (Ampicillin and Piperacillin Resistant)

Antibiotic Resistant Gram Positive Bacteria

94. *Enterococcus faecalis* (Vancomycin Resistant-VRE)
95. *Enterococcus faecium* (Vancomycin Resistant-VRE)
96. *Staphylococcus aureus* (Methicillin-MRSA, Community Associated Methicillin Resistant - CA-MRSA PVL Positive)
97. *Staphylococcus aureus* (CA-MRSA Genotype USA 400)
98. *Staphylococcus aureus* (Penicillin G, Penicillin, Ampicillin, Cefazolin, Cefatoxime, Chloramphenicol, Ciprofloxacin, Clindimycin, Erythromycin, Oxacillin, Rifampin, Tetracycline Resistant)
99. *Staphylococcus aureus* (Vancomycin Resistant – VRSA)
100. *Staphylococcus aureus* (Vancomycin Resistant Intermediate-VISA)
101. *Staphylococcus epidermidis* (Ampicillin and Drug Resistant)

Virucidal* Performance:

At 2 ounces per gallon use level, this product was evaluated in the presence of 5% serum with a 10 minute contact time unless otherwise noted below and found to be effective against the following viruses on hard, non-porous environmental surfaces:

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 Pandemic 2009 H1N1 influenza A virus.

Human Viruses

102. Adenovirus type 2
103. Cytomegalovirus
104. HBV (Hepatitis B Virus)
105. HCV (Hepatitis C Virus)
106. Herpes Simplex type 1 Virus
107. Herpes Simplex type 2 Virus
108. HIV-1 (AIDS Virus)
109. Human Coronavirus
110. Influenza A/Brazil Virus
111. Influenza A/Victoria (H3N2) Virus
112. Influenza A2-Asian Virus
113. Influenza B Virus (Allen strain)
114. Influenza C Virus (Taylor strain)
115. Measles Virus
116. Parainfluenza Virus type 1
117. Poliovirus type 1 (Chat strain) 30 minutes contact time
118. Respiratory Syncytial Virus
119. Rotavirus
120. Vaccinia Virus

Animal Premise Virucidal* Performance:

At 2 ounces per gallon use level, this product was evaluated in the presence of 5% serum with a 10 minute contact time and found to be effective against the following viruses on hard, non-porous environmental surfaces:

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.

Non-Human Viruses

121. Avian Influenza/Turkey/Wisconsin Virus
122. Canine Coronavirus
123. Canine Distemper Virus
124. Canine Herpesvirus
125. Equine Herpesvirus
126. Equine Influenza Virus
127. Feline Calicivirus
128. Norovirus
129. Feline Infectious Peritonitis Virus
130. Infectious Bovine Rhinotracheitis (IBR) Virus
131. Newcastle Disease Virus
132. Porcine Parvovirus
133. Porcine Respiratory & Reproductive Syndrome Virus (PRRSV)
134. Porcine Rotavirus
135. Pseudorabies Virus
136. Transmissible Gastroenteritis (TGE) Virus
137. T1 bacteriophage
138. T4 bacteriophage
139. Vesicular Stomatitis Virus (VSV)
140. Bovine Viral Diarrhea Virus (BVDV)
141. Avian Influenza Virus (H5N1)
142. Influenza A Virus (swine flu virus) (H1N1)

Note that the organisms referenced in the above statement are not associated with blood spills. For blood spills, the surface must be thoroughly cleaned before applying the disinfectant.

ShockWave is a concentrated Hospital Use disinfectant that is effective against a broad spectrum of bacteria, is virucidal*, and fungicidal, and eliminates odor causing bacteria when used as directed.

ShockWave inhibits bacterial growth on moist surfaces and deodorizes by killing microorganisms that cause offensive odors.

ShockWave is a versatile sanitizer and broad-spectrum disinfectant formulated for use in Ultrasonic Baths.

ShockWave is a versatile cleaner, broad-spectrum disinfectant and sanitizer formulated for use on bath and therapy equipment.

ShockWave may be applied through low-pressure sprayers, and fogging systems.

Use ShockWave on the multi-touch surfaces responsible for cross-contamination.

ShockWave provides effective cleaning strength that will not dull most metal-interlock floor finishes, and does not require a rinse prior to recoat.

ShockWave is for use in:

- Hospitals, nursing homes, medical and dental offices and clinics, physician offices, operating rooms, isolation wards & medical research facilities.
- Patient care rooms & facilities, recovery rooms, anesthesia, Emergency Rooms, X-ray cat labs, newborn nurseries, orthopedics, whirlpool surfaces, footbath surfaces, respiratory therapy, surgi-centers, labs, blood collection rooms, central supply, housekeeping & janitorial rooms.
- EMS & fire facilities, emergency vehicles, ambulance(s), ambulance equipment/ surfaces, police cars.
- Day care centers and nurseries, sick rooms.
- Acute care institutions, alternate care institutions, home healthcare institutions.
- Life care retirement communities.
- Restaurants, restaurants and bars, bars, cafeterias, institutional kitchens, fast food operations and food storage areas.
- Supermarkets, convenience stores, retail and wholesale establishments, department stores, shopping malls, gift shops, video stores, bookstores, dressing rooms and laundries, photocopy centers, bicycle shops, auto repair centers.
- Computer manufacturing sites, toy factories.
- Food establishments, coffee shops, donut shops, bagel stores, pizza parlors, liquor stores.
- Crime scenes and funeral homes, mortuaries, burial vaults, mausoleums, autopsy rooms.
- Police stations, courthouses, correctional facilities, jails, prisons, municipal government buildings, penitentiaries, correctional institutions, bus stations, train stations.
- Institutional facilities, laboratories, factories, business and office buildings, restrooms, hotels and motels, and transportation terminals.
- Public restrooms, public facilities, waysides, travel rest areas, shower rooms, shower stalls, bathrooms.
- Hotel, motels, dormitories.
- Kitchens, bathrooms and other household areas.
- Homes.
- Institutions, schools and colleges, churches, classrooms, community colleges, universities, athletic facilities and locker rooms, exercise rooms, exercise facilities, gyms, gymnasiums.
- Cosmetic manufacturing facilities, medical device manufacturing facilities, biotechnology firms, pharmaceutical manufacturing facilities.
- Health clubs, spas, tanning spas, tanning beds, footbath surfaces, massage/facial salons, hair/nail/pedicure salons, barber/ beauty shops, salons.
- Museums, art galleries, post offices, performance/theater centers, banks, libraries, movie houses, bowling alleys.
- Recycling centers.
- Humidifier water tanks.
- Campgrounds, playgrounds, recreational facilities, picnic facilities, sports arenas, sports complexes.
- Food processing plants, USDA inspected food-processing facilities, dairy farms, hog farms, equine farms, poultry and turkey farms and egg processing plants, meat/poultry processing plants, meat/ poultry producing establishments, mushroom farms, rendering plants.
- Processing facilities for Fish, Wine, Milk, Citrus, Fruits, Vegetable, Ice Cream, and Potatoes, and beverage plants.
- Tobacco plant premise.
- Veterinary clinics, animal life science laboratories, kennels, dog/cat animal kennels, breeding and grooming establishments, pet animal quarters, zoos, pet shops, tack shops and other animal care facilities.
- Household and automotive garages, boats, ships, barges, campers, trailers, mobile homes, cars, trucks, buses, trains, taxis and airplanes.
- Cruise lines, airline terminals, airports, shipping terminals, public transportation.
- Commercial florist and flower shops.
- Basements, cellars, bedrooms, attics, living rooms and porches.

ShockWave may be used on washable hard non-porous surfaces such as:

- Counters, stoves, sinks, tub surfaces, and exterior surfaces of appliances, refrigerators and ice machines.
- Glass, metal, stainless steel, glazed porcelain, glazed ceramic, granite, marble, plastic, sealed limestone, sealed slate, sealed stone, sealed terra cotta, sealed terrazzo, chrome and vinyl.
- Enameled surfaces, painted woodwork, Formica®, vinyl and plastic upholstery.
- Examination tables, X ray tables, washing areas, animal grooming areas.
- Tables, chairs, desks, bed frames, lifts, washable walls, cabinets, doorknobs and garbage cans, cuspidors and spittoons.
- Exhaust fans, refrigerated storage and display equipment, coils and drain pans of air conditioning and refrigeration equipment and heat pumps.
- Large inflatable, non-porous, plastic and rubber structures such as animals, promotional items, moonwalks, slides, obstacle course play and exercise equipment.
- Hard, non-porous surfaces of picnic tables and outdoor furniture.
- Telephones and telephone booths.
- Highchairs, baby cribs, diaper changing stations, infant bassinets/cribs/warmers/ incubators/care equipment, folding tables.
- Bed railings, bedpans, cervical collars, CPR training mannequins, curing lights, neck braces, oxygen hoods, slit lamps, spine backboards, stretchers and unit stools.
- External lenses vision correction (not for use on contact lenses), light lens covers, optical instruments/implements.
- Drinking fountains.
- Foundations, steps, plumbing fixtures, finished baseboards and windowsills.
- Shower stalls, shower doors and curtains, bathtubs and glazed tiles, chrome plated intakes, toilets, toilet bowls, toilet bowl surfaces, urinals, empty diaper pails, portable and chemical toilets and latrine buckets, porcelain tile and restroom fixtures.
- Ultrasonic baths, whirlpools, whirlpool bathtubs.
- Kennels, kennel runs, cages, kennel/cage floors, conductive flooring.
- Wrestling and gymnastic mats, athletic training tables, physical therapy tables.
- Use ShockWave to clean non-porous personal protective safety equipment, protective headgear, athletic helmets, wrestling/boxing headgear, athletic shoe soles, hard hats, half mask respirators, full face breathing apparatus, gas masks, goggles, spectacles, face shields, hearing protectors and ear muffs. Rinse all equipment that comes in prolonged contact with skin before reuse with clean warm water about 120ºF, and allow to air dry. Precaution: Cleaning at 120ºF temperature will avoid overheating and distortion of the personal safety equipment that would necessitate replacement.
- Use ShockWave to clean, sanitize and disinfectant non-porous ambulance equipment and surfaces by rinsing all equipment that comes in prolonged contact with skin before reuse with clean warm water about 120ºF, and allow to air dry. Precaution: Cleaning at 120ºF temperature will avoid overheating and distortion of the ambulance equipment and surfaces that would necessitate replacement.

Disinfection/Fungicidal/*Virucidal* Directions:

Apply use solution to hard inanimate, non-porous surfaces thoroughly wetting surfaces with a cloth, mop, sponge or sprayer. For heavily soiled areas, a preliminary cleaning is required. For sprayer applications use a coarse spray device. Spray 6-8 inches from surface and rub with brush, sponge or cloth. Do not breathe spray.

Add 2 ounces per gallon of water to disinfect hard, non-porous surfaces. Treated surfaces must remain wet for 10 minutes. Prepare a fresh solution at least daily or when use dilution becomes diluted or soiled.

KILLS HIV, HCV & HBV ON PRECLEANED ENVIRONMENTAL SURFACES/OBJECTS PREVIOUSLY SOILED WITH BLOOD/BODY FLUIDS in health care setting or other settings in which there is an expected likelihood of soiling of inanimate surfaces/objects with 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 (HIV-1) (associated with AIDS), Hepatitis C Virus (HCV) and Hepatitis B Virus.

SPECIAL INSTRUCTIONS

FOR FOR CLEANING AND DECONTAMINATION AGAINST HIV-1, HCV & HBV ON SURFACES/ OBJECTS SOILED WITH BLOOD/ BODY FLUIDS.

PERSONAL PROTECTION:

Specific barrier protection items to be used when handling items soiled with blood or body fluids are disposable 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 product.

DISPOSAL OF INFECTIOUS MATERIALS:

Blood and other body fluids, cleaning materials and clothing must be autoclaved and disposed of according to Federal, State and local regulations for infectious waste disposal. CONTACT TIME: Leave surfaces wet for 30 seconds for HIV-1 and 10 minutes for HCV and HBV. The contact time for the viruses, fungi and bacteria listed on this label is 10 minutes except for Polio virus Type 1 (Chat strain) which is 30 minutes.

Cleansing of Body Surfaces and Body Orifices of Human Remains: **To cleanse away skin secretions and accompanying malodor and to insure the removal of all soil and bloodstains, apply 2 ounces of this product to a gallon of water to the surfaces and body openings, natural or artificial. Bathe the entire body using sponge or washcloth. A soft brush may be employed on surfaces other than the face. Allow a 10 minute contact time for optimal results. Prepare a fresh solution for application of each remains.**

VIRUCIDAL*:

When used on inanimate, hard, non-porous, environmental surfaces at 2 ounces per gallon of water for a 10 minute contact time (5% organic soil), except for Poliovirus type 1 (Chat strain): which requires a 30 minute contact time (5% organic soil) and HIV-1 which requires only a 30 second contact time.

This product, in the presence of a 98% organic soil load, diluted 1:64 (2 ounces per gallon) in 400 ppm Hard Water, demonstrated efficacy within 10 minutes against the following virus: *Human Coronavirus*. Note that the organism referenced in the above statement is not associated with blood spills. For blood spills, the surface must be thoroughly cleaned before applying this product.

General Deodorization:

To deodorize, add 2 ounces of this product per gallon of water. Excess material must be wiped up or allowed to air dry.

For Use on Finished Floors:

To limit gloss reduction, use 2 ounces of this product per gallon of water. Apply with a damp mop or auto scrubber. Allow to air dry.

For Odors Caused by Dogs, Cats and Other Domestic Animals:

Use on rugs, floors, walls, tile, cages, crates, litter boxes, mats, floor coverings, or any surface soiled by a pet. Test a small inconspicuous area first. Blot problem area. Then follow directions for "General Deodorization".

To control the growth of mold and mildew on non-porous athletic equipment (wrestling and gymnastic mats, athletic training tables, physical therapy tables, athletic helmets, wrestling/boxing headgear, athletic shoe soles)**:** Thoroughly clean all surfaces with soap or detergent and rinse with water. Saturate surfaces with a use solution of 2 ounces per gallon of water or a period of 10 minutes. Ventilate buildings and other closed spaces. Do not use equipment until treatment has been absorbed, set or dried.

Ultrasonic Bath Disinfectant Directions:

Use this product to disinfect hard nonporous non-critical objects compatible with Ultrasonic cleaning units. Pour fresh solution of 2 ounces per gallon of water directly into bath chamber. Preclean soiled objects. Place objects into unit and operate for a minimum of 10 minutes, according to manufacturers' use directions. Remove objects and rinse with sterile water (sterile water for injection), or allow to air dry. Replace solution at least daily or when solution becomes visible dirty or discolored.

To Disinfect Food Service Establishment Food Contact Surfaces:

Before using this product, food products and packaging materials must be removed from area or carefully protected. For countertops, exterior surfaces of appliances, and tables, add 2 ounces of this product per gallon of water. For heavily soiled areas, a pre-cleaning step is required. Apply solution with a mop, cloth, sponge or hand pump trigger sprayer so as to wet all surfaces thoroughly. For sprayer applications use a coarse spray device. Allow to remain wet for 10 minutes. Then remove excess liquid and rinse the surface with potable water.

Directions for Fogging:

For use in dairies, beverage and food processing plants. Prior to fogging, food products and packaging material must be removed from the room or carefully protected. After cleaning, fog desired areas using one quart per 1000 cubic feet of room area with a product solution containing 3 ounces product to 1 gallon of water. Vacate the area of all personnel for a minimum of 2 hours after fogging and a minimum of 4 air exchanges (ACH) per hour in the facility. All food contact surfaces must be sanitized with an EPA approved food contact sanitizer prior to use. Allow food contact surfaces to drain thoroughly before operations are resumed. Wear a dust mist respirator when mixing the use solution and pouring it into the fogging apparatus.

NOTE: The fog generated is irritating to the eyes, skin and mucous membranes. Under no circumstances must a room or building be entered by anyone within two hours of the actual fogging and a minimum of 4 air exchanges (ACH) per hour in the facility. If the building must be entered, then the individuals entering the building must wear a self-contained respirator approved by NIOSH/MSHA, goggles, long sleeves and long pants.

FOGGING IS TO BE USED AS AN ADJUNCT TO ACCEPTABLE MANUAL CLEANING AND DISINFECTING OF ROOM AND MACHINE SURFACES.

LAUNDRY ADDITIVE (RESIDUAL BACTERIOSTATIC AND RESIDUAL SELF SANITIZING ACTIVITY UNDER CONDITIONS OF HIGH RELATIVE HUMIDITY OR WET CONTAMINATION) AGAINST ODOR-CAUSING BACTERIA FOR INSTITUTIONAL, INDUSTRIAL AND HOSPITAL USE.

This product sanitizes laundry such as bedspreads, sheets, pillowcases, diapers, towels, and other wet linens by controlling and/or reducing the growth of odor-causing bacteria. It can be used in industrial and institutional areas such as motels, hotel chains, nursing homes and hospitals. This product is used as an addition to the final rinse cycle.

Add 8 fluid ounces of this product per 100 lbs. of dry laundry to the final rinse cycle water. If the product is to be diluted prior to adding it to the final rinse cycle, use 1 ounce per gallon of water and then add to the washwheel in the final rinse cycle.

SHOE BATH SANITIZER: To prevent cross contamination from area to area in animal areas, and the packaging and storage areas of food plants, shoe baths containing one inch of freshly made solution must be placed at all entrances to buildings, hatcheries and at all the entrances to the production and packaging rooms. Scrape waterproof shoes and place in 2 ounces of this product per gallon of water solution for 1 minute prior to entering area. Change the sanitizer solution in the bath at least daily or sooner if solution appears dirty.

SHOE FOAM DIRECTIONS: To prevent cross contamination from area to area in animal areas, and the packaging and storage areas of food plants, apply a foam layer approximately 0.5 to 2 inches thick made from a solution of 2 to 2¾ ounces per gallon of water at all entrances to buildings, hatcheries, production and packaging rooms by using a foam generating machine or aerator to apply foam layer. Follow the foaming directions as specified by the manufacture of the foam generator/aerator. Scrape waterproof shoes. Stand and/or walk through foamed area for 1 minute prior to entering area. Foam area must be washed and replaced at least daily or when it appears dirty.

(For food processing or other facilities that have installed entryway sanitizing systems)

ENTRYWAY SANITIZING SYSTEMS: To prevent cross contamination from area to area, set the system to deliver 2 oz. per gallon of water of sanitizing solution. The spray/foam must cover the entire path of the doorway. Set the system so that a continuous wet blanket of sanitizer solution is delivered to the floor.

Do not mix other foam additives to the sanitizing solution.

Disinfection of Hard, Non-Porous Surfaces in Whirlpool Units: After using the whirlpool unit, drain and refill with fresh water to just cover the intake valve. Add 2 ounces of this product for each gallon of water at this point. Briefly start the pump to circulate the solution. Turn off the pump. Wash down the unit sides, seat of the chair, lift and any/all related equipment with a clean swab, brush or sponge. Treated surfaces must remain wet for 10 minutes. After the unit has been thoroughly disinfected, drain the solution from the unit and rinse any/all cleaned surfaces with fresh water. Repeat for heavy soiled units.

Special Instructions for Cleaning Carpet Against Odor Causing Bacteria: This product may be used in industrial, institutional, commercial and residential areas such as homes, motels & hotel chains, nursing homes, schools and hospital. For use on wet, cleanable synthetic fibers. Do not use on wool. Vacuum carpet thoroughly prior to cleaning. Test fabric for color fastness.

For portable extraction units: Mix 1 ounce of this product per gallon of water.

For truck mounted extraction machines: Mix 24 ounces of the product per gallon of water and meter at 4 gallons per hour.

For rotary floor machines: Mix 2 ounces of this product per gallon of water and apply at the rate of 300-500 sq. ft. per gallon.

Do not mix this product with other cleaning products. Follow the cleaning procedures specified by the manufacturer of the cleaning equipment. After using this product, set the carpet pile and protect the carpet from furniture legs and bases while drying. Do not over wet. If applied to stain resistant nylon carpet, apply a fabric protector according to the carpet manufacturer's directions.

FOOD PROCESSING PLANTS USING FOGGING DEVICES

For use in dairies, beverage and food processing plants. Prior to fogging, food products and packaging material must be removed from the room or carefully protected. Wear a dust mist respirator when mixing the use solution and pouring it into the fogging apparatus. After cleaning, fog desired areas using 1 quart per 1000 cubic feet of room area with a solution containing 2 7/8 ounces of product to 1 gallon of water. Vacate the area of all personnel for a minimum of 2 hours after fogging. All food contact surfaces must be thoroughly rinsed prior to reuse with potable water then sanitized with an EPA approved food contact sanitizer.

NOTE: The fog generated is irritating to the eyes, skin and mucous membranes. Under no circumstances must a room or building be entered by anyone within two hours of the actual fogging and a minimum of 4 air exchanges (ACH) per hour in the facility. If the building must be entered, then the individuals entering the building must wear a self-contained respirator approved by NIOSH/MSHA, goggles, long sleeves and long pants.

FOGGING IS TO BE USED AS AN ADJUNCT TO ACCEPTABLE MANUAL CLEANING AND DISINFECTING OF ROOM AND MACHINE SURFACES.