

	Product Description	Mechanism of Action	Germicidal Efficacy	Contact Time	Gaps in Activity Spectrum	Health and Safety Profile	Environmental Profile	Cleaning Efficacy	Material Compatibility*
<b>Accelerated Hydrogen Peroxide</b>	<p>Synergistic and patented blend of Hydrogen Peroxide and Anionic Surfactants. <i>All ingredients appear on the EPA GRAS (Generally Regarded As Safe) listing and/or the EPA Preferred Inerts Listing.</i></p> 	<p>The accelerated activity of AHP is the outcome of a unique synergy between Hydrogen Peroxide and a number of other ingredients including surfactants and sequestering agents. This synergy greatly increases the kinetics of the action against pathogenic organisms and reduces the time required to render the solution cidal.</p> <p>Even though the exact mechanism of action for AHP is unknown it is believed that AHP acts by:</p> <ol style="list-style-type: none"> <li>1. Disrupting the cellular membrane permeability, inhibiting the enzymatic activities, and denaturing cellular proteins.</li> <li>2. The reaction of the superoxide ion with H<sub>2</sub>O<sub>2</sub> forms hydroxyl radical. The Hydroxyl radical, being highly reactive attacks membrane lipids, DNA and other essential cell components.</li> <li>3. Sequestration of bivalent cations resulting in subsequent disruption of cellular structure and functions.</li> <li>4. Alteration of the proton motive force responsible for species transport across the cellular membrane.</li> </ol> <p>It is believed that oxidizing actives will not allow for resistance development when targeting organisms.</p>	<p><b>Gram Positive and Gram Negative Vegetative Bacteria (0.5 % w/w) :</b>  <i>Pseudomonas aureginosa ATCC 15442</i>  <i>Staphylococcus aureus ATCC 6538</i>  <i>Salmonella choleraesuis ATCC 10708</i>  <i>Staphylococcus aureus MSRA</i>  <i>Enterococcus faecalis VRE ATCC 51575</i>  <i>Escherichia coli</i>  <i>Acinetobacter baumannii</i></p> <p><b>Viruses -Enveloped and Non-Enveloped (0.5 % w/w) :</b>  <i>Polio Virus Sabin Strain Type I ATCCVIR 192</i>  <i>Human immunodeficiency Virus Type 1</i>  <i>Human Rhinovirus Type 14</i>  <i>Human Rotavirus</i>  <i>Feline Calicivirus(Noravirus surrogate or Norwalk-Like Viruses)</i></p> <p><b>Fungi:</b>  <input type="checkbox"/> AHP (7 % w/w)  <input type="checkbox"/> AHP-TB (2%)  <input type="checkbox"/> AHP-TB (0.5 % w/w)  ATCC 9533 <i>Trichophyton mentagrophyte</i></p> <p><b>Mycobacteria:</b>  <input type="checkbox"/> AHP (7 % w/w)  <input type="checkbox"/> AHP (2%)  <input type="checkbox"/> AHP-TB (0.5 % )  ATCC 15755 <i>Mycobacterium terrae</i></p> <p><b>Spores (7 % w/w) :</b>  <i>Bacillus subtilis ATCC 19659</i>  <i>Clostridium sporogenes ATCC 7955</i></p> <p><b>Reference: Centre for Research on Environmental Microbiology, CREM, University of Ottawa.</b></p>	<p><b>Sanitizer 99.999% 5-log ( 30 seconds)</b>  Broad-Spectrum approval,  Bacteria including MRSA, VRE</p> <p><b>Disinfection: (1-5 minutes)</b>  <b>Broad Spectrum Bactericidal Approval 99.9999% 6-log<sub>10</sub> Reduction:</b>  Accel TB:</p> <p><b>General Virucide Claim (1-5 minutes)</b>  <b>99.99% 4-log<sub>10</sub> Reduction</b>  (based on proven effectiveness against Polio Virus Sabine Strain as selected surrogate by Health Canada):</p> <p><b>Fungicidal (3-5 Minutes)</b>  <b>99.999% 5-log<sub>10</sub> Reduction:</b></p> <p><b>High Level Disinfection: (1-20 min)</b></p> <p><b>Mycobactericidal:</b>  <b>99.9999% 6-log<sub>10</sub> Red.on Instruments</b>  <b>99.99% 4-log<sub>10</sub> Red. on Surfaces</b></p> <p><b>Sporicidal</b>  <b>99.9999% 6-log<sub>10</sub> Reduction</b>  Instruments: 20 minutes  Surfaces: <b>10 minutes</b></p> <p><b>Note:</b>  <i>These contact times have been established by microbial testing as required by the Disinfectant Drug Guidelines - 1999 Edition, Health Canada</i></p>	None	<p><b>0.5 % AHP</b></p> <p>Non Irritant to Skin according to OECD 404* (Nucro-Technics Inc, 1999)</p> <p>Non Irritant to Eyes according to OECD 405 at use dilution (Nucro-Technics Inc, 1999)</p> <p>Acute Oral Toxicology, OECD 420, indicated LD<sub>50</sub> &gt; 2.0g/Kg (Nucro-Technics Inc. , 1999)</p> <p>VOC –Free ( free from Volatile Organic Compounds), studies on file Ortech Inc., below detection limits.</p> <p>No-Fragrance, No-Dyes</p> <p><b>0.5% AHP - TB</b></p> <p>Non-irritating to Skin according to OECD 404* (Nucro-Technics Inc, 2003)</p> <p>Non-irritating to Eyes by OECD 405 * (Nucro-Technics Inc, 2003)</p> <p>Acute Oral Toxicology, OECD 420, indicated LD<sub>50</sub> &gt; 2.0g/Kg (Nucro-Technics Inc. , 2002)</p> <p>Category IV-The Environmental Protection Agency (EPA), does not require any precautionary statement on the label.</p>	<p><b>0.5 % AHP</b></p> <p>Biodegradable according to the OECD 302 B (Inherent Biodegradability Test)</p> <p>Products are not manufactured using APE (Alkyl Phenyl Ethoxylates) or NPEs (Nonylphenol Ethoxylates) which have been worldwide classified as "Endocrine Disrupting Chemicals":  <i>Canadian Environmental Protection Act (CEPA) - Priority Substance List PLS2</i></p> <p>Low Toxicity Profile to Aquatic Species:  Rainbow Trout  Toxicity 96h LC<sub>50</sub> = 1.77 ml/l  Daphnia Magna  Toxicity 48h EC<sub>50</sub> = 0.37ml/l</p>	<p><b>0.5 % AHP</b></p> <p>Excellent:  86.5% Cleaning Efficiency according to the Canadian General Standards Board, Standard CAN/CGSB 2.11-Method 20.3</p>	<p>Avoid prolonged exposure to:  Copper, Brass, , Lead, Chrome, Nickel and other soft metals.</p>
<b>Alcohols</b>	<p>Aqueous solutions of ethyl alcohol (ethanol), normal propyl alcohol (n-propanol) and isopropyl alcohol (iso-propanol) or mixtures of thereof.</p>	<p>As of today the exact mechanism of action of alcohols is not completely known, but it is generally believed that the antimicrobial activity is due to:</p> <ol style="list-style-type: none"> <li>1. Denaturation of proteins</li> <li>2. Interference with cell metabolism</li> <li>3. Lytic action</li> </ol>	<p>Gram Positive and Gram Negative Vegetative Bacteria</p> <p>Fungi</p> <p>Mycobacteria</p> <p>The antimicrobial efficacy increases with the increase of length of the alkyl chain; contrary to the solubility in water. Also the water content plays an important role in the germicidal efficacy of alcohols: The germicidal efficacy decreases and the required contact time increases if the alcohol content is outside the range of 60 - 70 % w/w.</p> <p>Alcohols are not approved by the E.P.A. as a chemical category for surfaces or as instrument disinfectants, neither are included on the Category IV Monograph set forth by the Canadian Therapeutic Product Directorate for hard surface disinfectants.</p>	<p>The contact time required for alcohols to exert their antimicrobial activity depends upon several factors:</p> <ol style="list-style-type: none"> <li>1. The type of alcohol</li> <li>2. The micro-organism</li> <li>3. If contaminated surface or object is dry or wet</li> </ol> <p>Contact times ranges from less than 5 minutes for <i>E.Coli</i> and <i>Pseudomonas aureginosa</i> to up to 30 minutes for <i>Streptococcus pneumonia</i></p>	<p>Spores</p> <p>Non-enveloped Viruses</p> <p>Germicidal efficacy of alcohols is extremely reduced by organic matter.</p> <p>Due to their fixative properties on proteinaceous material, surfaces or objects repeatedly treated with alcohols become coated with fixed material providing food for micro-organisms.</p>	<p>Alcohols, in the formulations available as disinfectants have a low flash point, which make these products extremely flammable.</p> <p>Alcohols may cause by prolonged exposure, dry skin and skin irritation</p> <p>Even though severe toxicological effects of alcohols mainly arise by exposure through oral administration, toxicological effects by inhalation may become an occupational issue when even small amounts of iso-propyl alcohol is used in small areas: the level of vapours reaches the Short-Term Exposure Limit (STEL) and the Time Weighted Average Limit (TWA).</p>	<p>All alcohols used as active ingredients in commercial disinfectants are included in VOC List (Volatile Organic Compounds):</p> <p>Ontario Ministry of Environment  (<a href="http://www.ene.gov.on.ca/envision/monitoring/VOC_List.pdf">www.ene.gov.on.ca/envision/monitoring/VOC_List.pdf</a>)</p> <p>Environment Canada  (<a href="http://www.ec.gc.ca/pdb/npri/documents/html/Final_WG_Report_0716_e.cfm">www.ec.gc.ca/pdb/npri/documents/html/Final_WG_Report_0716_e.cfm</a>)</p>	Poor.	<p>Alcohols damage the shellac mounting of lensed instruments, tend to swell and harden rubber and certain plastic tubing after prolonged and repeated use. Alcohol can bleach rubber and plastic tile.</p> <p>They also may dissolve synthetic surfaces.</p>

\*Always check material compatibility with manufacturer before using.