

Compatibility of PDI Disinfectant Wipes and KYDEX® Thermoplastics

KYDEX® T, KYDEX® 100, KYDEX® 110, and KYDEX® 430

SEKISUI KYDEX supports the Medical Device Market by providing products that hold up to the daily rigors of medical facilities, strong disinfectants, and chemical reagents.

KYDEX® Thermoplastics are manufactured from a blend of polymers that are robust, impact and wear resistant, and are unaffected by harsh cleaners and disinfectants, making them an ideal solution for the Medical Device Market. In today's medical environment, the use of aggressive disinfectant agents is critical in eliminating surface bacteria and viruses to reduce the risk of infection. These chemical reagents have been known to have an adverse effect on materials, causing discoloration, brittleness, and/or product failure.

PDI Disinfecting Wipes

PDI is a world leader in the fight against preventable infections. It is their goal to manufacture disinfectants that are strong enough to eliminate harmful bacteria, but still preserve the integrity of the medical devices that are being disinfected. SEKISUI KYDEX partnered with PDI in testing the chemical compatibility of their disinfecting wipes with KYDEX® Thermoplastics. SEKISUI KYDEX's appLab™, and PDI conducted compatibility testing on several grades of KYDEX® Thermoplastics with multiple PDI products, using the following standard test procedures.

Testing

A variety of samples underwent the following contact testing with PDI disinfecting wipes: *stressed tensile bar*, *submersion*, *continuous contact*, and *wipe down*. SEKISUI KYDEX and PDI conducted testing based on ASTM D543, Standard Practices for Evaluating the Resistance of Plastics to Chemical Reagents.

Conclusion

After 28 days of testing, the results showed Sani-HyPerCide™, Sani-24®, Super Sani-Cloth®, Sani-Prime®, Sani-Cloth® Bleach and Sani-Cloth® AF3 disinfectants can be used on KYDEX® T, KYDEX® 100, KYDEX® 110 and KYDEX® 430 without any harmful effects. When compared to unexposed control specimens, the tested KYDEX® Products maintained over 90% of their mechanical properties.

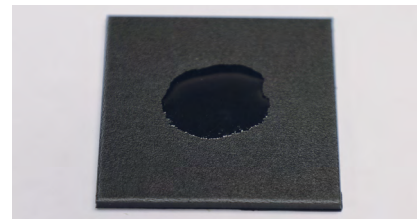
Stressed Tensile Bar Testing



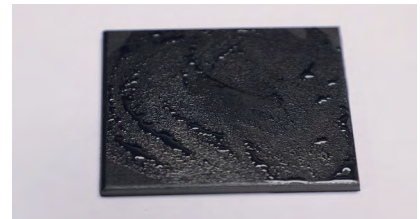
Submersion Testing



Continuous Contact Testing



Wipe Down Testing



No adverse effects observed after 28 days.

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PRODUCT NAME	ACTIVE TECHNOLOGY	EPA REG #
Super Sani-Cloth® Germicidal Disposable Wipes	n-Alkyl dimethyl ethylbenzyl ammonium chlorides; n-Alkyl dimethyl benzyl ammonium chlorides; Isopropyl Alcohol	9480-4
Sani-Cloth® AF3 Germicidal Disposable Wipes	n-Alkyl dimethyl ethylbenzyl ammonium chlorides; n-Alkyl dimethyl benzyl ammonium chlorides	9480-9
Sani-Cloth® Bleach Germicidal Disposable Wipes	Sodium hypochlorite	9480-8
Sani-Cloth® Prime Germicidal Disposable Wipes	Didecyl Dimethyl Ammonium Chloride; Ethyl Alcohol; Isopropyl Alcohol	9480-12
Sani-HyPerCide™ Germicidal Spray	Hydrogen peroxide	9480-14
Sani-24® Germicidal Spray	Alkyl dimethyl benzyl ammonium chloride; Didecyl dimethyl ammonium chloride; Octyl decyl dimethyl ammonium chloride; Dioctyl dimethyl ammonium chloride; Ethanol	42182-9
Sani-Prime® Germicidal Spray	Didecyl Dimethyl Ammonium Chloride; Ethyl Alcohol; Isopropyl Alcohol	9480-10
CaviCide™ AF	Diethylene Glycol Monobutyl Ether; Alkyl dimethyl ethylbenzyl ammonium chlorides; Alkyl dimethyl benzyl ammonium chlorides	46781-12
CaviWipes™ Bleach	Sodium hypochlorite; Other Ingredients	46781-14
Caviwipes1™	Isopropanol; Ethanol; Ethylene Glycol Monobutyl Ether; Didecyl dimethyl ammonium chloride; Sodium Lauryl Ether Sulfate; Sodium Hydroxide; Surfactant	46781-13
Caviwipes™	Isopropanol; Ethylene Glycol Monobutyl Ether; Diisobutylphenoxyethoxyethyl dimethyl benzyl ammonium chloride; Sodium Hydroxide; Surfactants	46781-13
Clorox® Disinfecting Spray	Sodium nitrite; n-Alkyl dimethyl benzyl ammonium chloride; Octyl decyl dimethyl ammonium chloride	67619-21
Dispatch® Hospital Cleaner Disinfectant Towels with Bleach	Sodium hypochlorite	56392-8
LpH® se	Phosphoric acid; 2-Phenylphenol; 4-tert-pentylphenol; Isopropyl alcohol; Sulfonic acids; Sodium xylene sulfonate; Benzenesulfonic acid	1043-91
Lysol® Brand Disinfectant Concentrate	Didecyl dimethyl ammonium chloride; Alkyl dimethyl benzyl ammonium chlorides; Sodium hydroxide	675-54
Professional Lysol® Brand Disinfectant Spray	Ethyl alcohol; Butane; Propane	777-127
Sporicidin Disinfectant Solution	Phenol; Sodium phenate	8383-3
Sporicidin Disinfectant Towelette	Phenol; Sodium phenate	8383-7
Vesphene® Ilse	Sulfonic acids; 2-Phenylphenol; 4-tert-pentylphenol; Potassium hydroxide; Phosphoric acid; Sodium hydroxide; Sodium xylene sulfonate	1043-87
Ball-Phene Disinfecting Spray	Phenolic	
CIDEZYME® GI Enzymatic Detergent	Bacterial protease; Alpha-amylase; Lipase; Cellulase; Sodium tetraborate decahydrate	
CIP 100®	Potassium hydroxide; Tetrasodium EDTA	
CIP 200®	Phosphoric acid; Citric acid	
CIP 220®	Glycolic acid (Hydroxyacetic acid)	
Citrusolve Cleaner Degreaser	Sodium xylene sulfonate; Alcohols, C6-12, ethoxylated; Sodium tripolyphosphate; Sodium metasilicate; d-Limonene	
Coverage Plus NPD	Potassium hydroxide; Tetrasodium EDTA	
DECON-CYCLE®	2-methylpentane-2,4-diol; Isopropanol; Citric acid; Biphenyl-2-ol; 4-chloro-2-phenol; Dodecyl benzene sulfonic acid; Disodium decyl benzene sulfonate; 2,2',2"-nitritotriethanol; Disodium oxybis	
DECON-PHENE®	Isopropyl Alcohol; Sodium ortho-benzyl-parachlorophenate; Sodium ortho-phenylphenate; Sodium para-tertiary-amphenate	
ENZOL® Enzymatic Detergent	Borax decahydrate; Subtilisin	
Environ® LpH® st	Phosphoric acid; Isopropanol; O-benzyl-p-chlorophenol; 2-Phenylphenol; Dodecyl benzene sulfonic acid	
Hepacide Quat II	Isopropyl alcohol; C9-11 Pareth-6; Dicapryl/Dicaprylyl dimonium chloride; Alkyl dimethyl benzyl ammonium chloride; Citric acid; Sodium hydroxide	
MediClean EZ™	Amylase, .alpha.-; Subtilisin (proteolytic enzymes)	
Rapicide PA®	Hydrogen peroxide; Acetic acid; Peroxyacetic acid	
Rapicide™	Glutaraldehyde; Sodium nitrite	
Spor-Klenz®	Hydrogen peroxide; Peroxyacetic acid; Acetic acid	
Virex® Tb	Diethylene glycol butyl ether, n-Alkyl dimethyl benzyl ammonium chloride, n-Alkyl dimethyl ethylbenzyl ammonium chloride	

The products highlighted in grey are found on EPA's website as List N entitled Disinfectants for Coronavirus (COVID-19). On April 2, 2020, the CDC updated their recommendations to refer to List N on the EPA website for EPA-registered disinfectants that have qualified under EPA's emerging viral pathogens program for use against COVID-19. Link to EPA website, List N: <https://www.epa.gov/pesticide-registration/list-n-disinfectants-coronavirus-covid-19>

Results

The results of testing conducted by SEKISUI KYDEX confirmed that KYDEX® T, KYDEX® 100, KYDEX® 110 and KYDEX® 430 are not adversely affected by any of the above listed disinfectants.

Conclusion

KYDEX® Thermoplastics stand up to a range of hospital-grade disinfectants without loss of surface finish, color fastness, or degradation of mechanical and physical properties.

For more information about SEKISUI KYDEX and our line of KYDEX® Thermoplastics, contact your local representative or visit us at kydex.com.

For more information about PDI's disinfectants and our Environment of Care solutions, contact your local representative or visit us at pdihc.com.