SEKISUI | KYDEX

TECHNICAL BULLETIN

Disinfectants and Chemical Reagents Testing

KYDEX® T, KYDEX® 100, and KYDEX® 430

SEKISUI KYDEX supports the Medical Devices Market by providing products that hold up to the daily rigors of medical facilities, severe 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 cleaning agents and disinfectants 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.

Virex® Tb

SEKISUI KYDEX was challenged by a major Medical Device OEM with testing the chemical compatibility of the cleaning agent, Virex® Tb, on KYDEX® Thermoplastics. This manufacturer uses Virex® Tb as their "litmus test" on substrates when considering them for the design of medical and diagnostic equipment. SEKISUI KYDEX conducted compatibility testing on several grades of KYDEX® Thermoplastics with Virex® Tb using the following standard test procedures.

Testing

A variety of samples underwent the following contact testing with Virex® Tb: *stressed tensile bar, submersion, continuous contact,* and *wipe down*. SEKISUI KYDEX conducts testing based on the ASTM D543 standards and meets or exceeds their practices for evaluating the resistance of plastics to chemical reagents.

Conclusion

After 28 days of testing, the results showed Virex® Tb can be used as a disinfectant cleaner on KYDEX® T, KYDEX® 100, and KYDEX® 430 without any harmful effects.

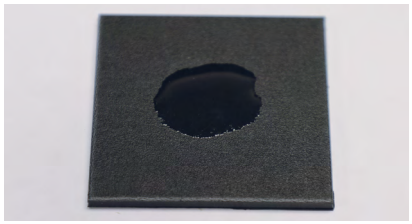
Additional Testing

KYDEX® T, KYDEX® 100, and KYDEX® 430 underwent testing with a range of disinfectants and chemical reagents commonly used in hospitals and medical facilities.

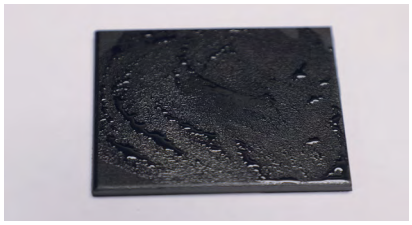
Stressed Tensile Bar Testing

Submersion Testing

Continuous Contact Testing



Wipe Down Testing



No adverse effects observed after 28 days.

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Disinfectants and Chemical Reagents Testing

CLEANER	ACTIVE TECHNOLOGY	EPA REG #
CaviCide™ AF	Diethylene glycol monobutyl ether; Tetrasodium EDTA; Alkyl dimethyl ethyl benzyl ammonium chlorides; Alkyl dimethyl benzyl ammonium chlorides	46781-12
CaviWipes™ Bleach	Sodium hypochlorite	46781-14
Caviwipes1™	Quaternary ammonium; Ethanol; Isopropanol	46781-13
Caviwipes™	Ammonium chloride; Ethylene glycol monobutyl ether; Isopropanol	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
Sani-24® Germicidal Spray	Didecyl dimethyl ammonium chloride; Dioctyl dimethyl ammonium chloride; Octyl decyl dimethyl ammonium chloride; Alkyl dimethyl benzyl ammonium chloride; Isopropanol; Ethyl alcohol	42182-9
Sani-Cloth® AF3 Germicidal Wipes	Quaternary ammonium compounds, C12-18-alkyl dimethyl, chlorides; Benzyl-C12-18-alkyldimethyl ammonium chlorides	9480-9
Sani-Cloth® Bleach Germicidal Wipes	Sodium hypochlorite	9480-8
Sani-Cloth® Prime Germicidal Wipes	Didecyl dimethyl ammonium chloride; Ethanol; Isopropanol	9480-12
Sani-HyPerCide™ Germicidal Spray	Acetic acid; Hydrogen peroxide	9480-14
Sani-Prime® Germicidal Spray	Didecyl dimethyl ammonium chloride; Ethyl alcohol; Isopropanol	9480-10
Sporicidin Disinfectant Solution	Phenol; Sodium phenate	8383-3
Sporicidin Disinfectant Towelette	Phenol; Sodium phenate	8383-7
Super Sani-Cloth® Germicidal Wipes	n-Alkyl dimethyl benzyl ammonium chlorides; n-Alkyl dimethyl ethyl benzyl ammonium chlorides; Isopropanol	9480-4
Vesphene® IIse	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 sulphonate; 2,2',2''-nitrilotriethanol; Disodium oxybis	
DECON-PHENE®	Isopropyl Alcohol; Sodium ortho-benzyl-parachlorophenate; Sodium ortho-phenylphenate; Sodium para-tertiary-amlphenate	
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	

The highlighted products are found on EPA's website as List N entitled Products with Emerging Viral Pathogens and Human Coronavirus claims for use against SARS-CoV-2.
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 SARS-CoV-2. Link to EPA website, List N: https://www.epa.gov/pesticide-registration/list-n-disinfectants-use-against-sars-cov-2

Results

The results of the testing confirmed that KYDEX® T, KYDEX® 100, and KYDEX® 430 are not affected by any of these cleaners and disinfectants.

Conclusion

KYDEX® Thermoplastics stand up to a range of hospital-grade disinfectants and cleaners 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, and to see if KYDEX® Thermoplastics are compatible with your "litmus test" disinfectant, contact your local representative or visit us at **kydex.com**.

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