

KYDEX® Sheet with Antimicrobial Product Protection

TB - 104

Introduction

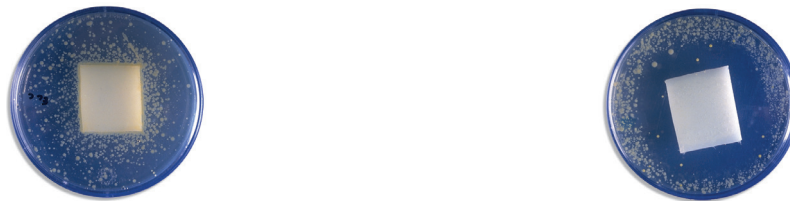
General Information

KYDEX® sheet is available with the option of antimicrobial protection — an additive that continuously fights the growth and spread of microbes such as odor and stain causing bacteria, mold and mildew.

What is antimicrobial product protection?

Antimicrobial protection is an additive that contains active ingredients which are incorporated into the polymer structure when KYDEX® sheet is manufactured. There is no single, generic antimicrobial additive. The additive is homogeneously distributed throughout the matrix, enabling it to provide antimicrobial protection across the entire surface area and into the substrate. When microbes come in contact with a KYDEX® sheet that contains antimicrobial protection, the ingredient penetrates the cell wall, affecting the cell's ability to function, grow and reproduce. The active ingredient is durable, lasting as long as the KYDEX® sheet product.

The antimicrobial product in KYDEX® sheet is not OBPA (arsenic) or TBT (Tributyl tin) based. It is an organic based additive that proves to be the most effective, and safe, product for KYDEX® sheet that will last for the life of the finished part. It is commonly found in toothpaste, hand soaps and many other household products.



These samples were tested for efficacy against bacteria using the Kirby Bauer test method. Both samples were inoculated with bacteria and then photographed after 24 hours. The sample on the right was manufactured with antimicrobial protection and the sample on the left was untreated. The sample with built-in antimicrobial product protection showed no growth. The untreated sample showed significant contamination.

How does antimicrobial protection work?

The additive is both broad spectrum bacteriostatic and fungistatic. A halogenated bisphenol, it affects the metabolic and biochemical processes of bacteria, mold and yeast. The active ingredient has been clinically documented to be effective against a non-comprehensive list of organisms. A sample of the Minimum Inhibitory Concentration (MIC) against selected microorganisms is shown on page two. These values are typical MIC numbers and may vary in actual use applications.

SEKISUI SPI

ISO 9001 and 14001 Certified

Customer Service

6685 Low St, Bloomsburg, PA 17815 USA

Phone: 800.325.3133, +1.570.389.5810

Outside the US: +1.570.389.5814

Fax: 800.452.0155, +1.570.387.7786

Email: info@sekisui-spi.com

Technical Service

Phone: 800.682.8758

Fax: +1.570.387.8722

Outside the US: +1.570.387.6997

techservice@sekisui-spi.com

sekisui-spi.com

KYDEX® Sheet with Antimicrobial Product Protection

TB - 104

Minimum Inhibitory Concentration (MIC)

Gram Negative

Achromobacter sp.	3.0 mg/ml
Brucella suis	0.03 mg/ml
Escherichia coli	0.3 mg/ml
Escherichia freundii	<100 mg/ml
Haemophilus influenzae	33.0 mg/ml
Klebsiella aerogenes	0.3 mg/ml
Klebsiella edwardsii	0.3 mg/ml
Klebsiella pneumoniae	0.3 mg/ml
Moraxella duplex	0.01 mg/ml
Moraxella glucidolytica	0.3 mg/ml
Moraxella lwoffii	0.1 mg/ml
Neisseria catarrhalis	330. mg/ml
Pasteurella pseudotuberculosis	10.0 mg/ml
Pasteurella septica	0.1 mg/ml
Proteus mirabilis	0.3 mg/ml
Proteus morganii	10.0 mg/ml
Proteus rettgeri	33 mg/ml
Proteus vulgaris	0.1 mg/ml
Pseudomona aeruginosa	>1000 mg/ml
Pseudomonas fluorescens	>100 mg/ml
Salmonella paratyphi	0.3 mg/ml
Salmonella pullorum	0.3 mg/ml
Salmonella typhi	0.3 mg/ml
Salmonella typhimurium	0.3 mg/ml
Serratia marcescens	>100 mg/ml
Shigella dysenteriae	0.1 mg/ml
Shigella flexneri	0.3 mg/ml
Vibrio cholerae	10 mg/ml
Vibrio eltor	10 mg/ml

Gram Positive

Actinomyces naeslundii	1.0 mg/ml
Bacillus subtilis	0.1 mg/ml
Clostridium difficile	5.0 mg/ml
Corynebacterium acnes	3.0 mg/ml
Corynebacterium diphtheriae	3.0 mg/ml
Dermatophilus congolensis	1.0 mg/ml
Enterococcus faecalis (vancomycin resistant)	10 mg/ml
Erysipelothrix rhusiopathiae	3.0 mg/ml
Lactobacillus sp.	33.0 mg/ml
Listeria monocytogenes	3.0 mg/ml
Micrococcus lysodeikticus	3.0 mg/ml
Micromonospora chalybeata	0.1 mg/ml

Mycobacterium smegmatis	1.0 mg/ml
Mycobacterium tuberculosis	100 mg/ml
Mycoplasma hominis	1000 mg/ml
Mycoplasma orale	1000 mg/ml
Nocardia asteroides	1.0 mg/ml
Sarcina lutea	3.0 mg/ml
Staphylococcus aureus	0.01 mg/ml
Staphylococcus aureus (methicillin resistant)	0.6 mg/ml
Staphylococcus epidermidis	0.05 mg/ml
Streptococcus faecalis	3.0 mg/ml
Streptococcus pyogenes	3.0 mg/ml
Streptomyces coelicolor	3.0 mg/ml

Fungus & Yeast

Aspergillus fumigatus	10 mg/ml
Aspergillus niger	30 mg/ml
Blastomyces dermatitidis	3 mg/ml
Candida albicans	3-33 mg/ml
Candida brumptii	10 mg/ml
Candida dattila	10 mg/ml
Candida famata	10 mg/ml
Candida guilliermondii	33 mg/ml
Candida parakrusei	3 mg/ml
Candida parapsilosis	33 mg/ml
Candida pulcherrima	33 mg/ml
Candida stellatoidea	10 mg/ml
Candida tropicalis	10 mg/ml
Candida utilis	33 mg/ml
Cryptococcus neoformans	10 mg/ml
Epidermophyton floccosum	10 mg/ml
Hansenula anomala	10 mg/ml
Keratinomyces ajelloi	10 mg/ml
Microsporum canis	1-1 mg/ml
Microsporum cookei	33 mg/ml
Microsporum gypseum	10 mg/ml
Microsporum nanum	10 mg/ml
Neurospora sitophila	0.1 mg/ml
Penicillium egyptiacum	33 mg/ml
Pichia Farinosa	33 mg/ml
Shigella sonnei	0.1 mg/ml
Schizosaccharomyces pombe	3 mg/ml
Sporotrichum schenckii	3-10 mg/ml
Trichophyton concentricum	10 mg/ml

SEKISUI SPI

ISO 9001 and 14001 Certified

Customer Service

6685 Low St, Bloomsburg, PA 17815 USA
 Phone: 800.325.3133, +1.570.389.5810
 Outside the US: +1.570.389.5814
 Fax: 800.452.0155, +1.570.387.7786
 Email: info@sekisui-spi.com

Technical Service

Phone: 800.682.8758
 Fax: +1.570.387.8722
 Outside the US: +1.570.387.6997
 techservice@sekisui-spi.com

sekisui-spi.com

KYDEX® Sheet with Antimicrobial Product Protection TB - 104

General Information (cont.)

Why is antimicrobial protection important?

In the healthcare and airline industries, preventing the growth and spread of microbes — including odor and stain causing bacteria and fungi—is particularly important. Antimicrobial protection is a distinct benefit in areas where cleanliness matters.

What does this mean to you and your customers?

Increased awareness of the need to manage microbes has made antimicrobial protection widely sought after. KYDEX® sheet with antimicrobial protection slows the growth and spread of these microbes, making it easier for your customers to keep your products cleaner between cleanings for the useful life of the product. By using KYDEX® sheet products that contain antimicrobial protection (designated by the letters MB), you provide a distinct advantage to your customers.

The Advantage

Get the KYDEX® MB advantage. Ask your SEKISUI SPI sales representative about the following KYDEX® sheet products that include antimicrobial product protection:

- KYDEX® T MB for healthcare components and thermoformed parts
- KYDEX® XD MB for membrane-pressed components
- KYDEX® 150 MB for protective wall coverings, acoustical partitions and pre-laminated panels
- KYDEX® 5555 MB for airline interior components

SEKISUI SPI

ISO 9001 and 14001 Certified

Customer Service

6685 Low St, Bloomsburg, PA 17815 USA

Phone: 800.325.3133, +1.570.389.5810

Outside the US: +1.570.389.5814

Fax: 800.452.0155, +1.570.387.7786

Email: info@sekisui-spi.com

Technical Service

Phone: 800.682.8758

Fax: +1.570.387.8722

Outside the US: +1.570.387.6997

techservice@sekisui-spi.com

sekisui-spi.com

Because we cannot anticipate or control the many different conditions under which this information and our products may be used, we do not guarantee the applicability of the accuracy of this information or the suitability of our products in any given situation. Users should conduct their own tests to determine the suitability of each product for their particular purposes. Data in the physical property table represents typical values and are to serve only as a guide for engineering design. Results are obtained from specimens under ideal laboratory conditions. Right to change physical properties as a result of technical progress is reserved. THE PRODUCTS DISCUSSED ARE SOLD WITHOUT WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR USE, EITHER EXPRESSED OR IMPLIED, EXCEPT AS PROVIDED IN OUR STANDARD TERMS AND CONDITIONS OF SALE. Buyer assumes all responsibility for loss or damage arising from the handling and use of our products, whether done in accordance with directions or not. In no event shall the supplier or the manufacturer be liable for incidental or consequential damages. Also, statements concerning the possible use of our products are not intended as recommendations to use our products in the infringement of any patent. Consult local code and regulatory agencies for specific requirements regarding code compliance, transporting, processing, recycling and disposal of our product. Product not intended for use as a heat resistant surface. Texture, product grade and other conditions may cause variations in appearance.

This information supersedes all previously published data.