
We solve problems with confidence and creativity.

Monitoring Products for Dry Heat

Steam-Formaldehyde

Chlorine Dioxide
Crosstex Industrial is a division of Crosstex International, a Cantel Medical Company (NYSE:CMN). We are a leading global manufacturer of infection control and sterilization assurance products. We create high quality, innovative products, the majority of which are manufactured in the United States. Our broad range of products include the following key product lines: Biological Indicators, Chemical Indicators, Quality Control Test Suspensions, Sterilization Pouches and Tubes, Custom Indicator Labels, Face Masks and High Level Disinfectants.

Our global market segments include medical device, pharmaceutical, contract sterilizer, laboratory, food and beverage and biotechnology companies which we serve through a worldwide distribution network. With eleven manufacturing/distribution facilities around the world – eight in the United States and three internationally – Crosstex Industrial services the global infection control community in an efficient and timely manner.

Crosstex’s infection control and sterilization assurance products are manufactured in FDA regulated facilities certified to ISO 13485:2012. Globally, Crosstex maintains a comprehensive list of accreditations and certifications.

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Biological Indicators for Dry Heat

Inoculated Carriers & Biological Indicators
Crosstex manufactures a comprehensive line of Inoculated Carriers and Biological Indicators (BIs) for use in monitoring Dry Heat sterilization processes. Our most popular inoculated carriers and biological indicators are packaged using state of the art equipment, which provides assurance that each glassine pouch contains a biological indicator.

- Convenient shelf packages of 100 units per box
- Products are accompanied by a Certificate of Analysis and are certified with population, purity, and resistance characteristics ($D$ value, $z$ value, survival and kill where applicable)

Biological Indicators – ISO 11138-4 Compliant
Crosstex manufactures a biological indicator for Dry Heat sterilization which is compliant with ISO 11138-4. The BI consists of a 7 mm x 38 mm filter paper strip inoculated with Bacillus atrophaeus spores, packaged in a white glassine pouch. The configuration offers an increased $D$ value at 160°C of not less than 2.5 minutes meeting the requirements for dry heat resistance as outlined in ISO 11138-4.

- Place BIs into the most difficult area of the sterilizer or device/article to be sterilized. In general, a minimum of 10 BIs are utilized in each cycle
- Packaging allows for easy placement in sterilizer or device/article and transfer post-exposure

Traditional Spore Strips
Consist of inoculated filter paper, each 7 mm x 38 mm, individually packaged in easy-to-handle glassine pouches.
- The strips can be easily removed from the glassine pouch by tearing or peeling the pouch open for transfer to culture media or challenge device assembly
- Compliant with ISO 11138-1

Traditional Spore Strips
Bacillus atrophaeus Cell Line 9372
24 month shelf life

<table>
<thead>
<tr>
<th>Crosstex Code</th>
<th>Population</th>
<th>Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>BG-104</td>
<td>$10^4$</td>
<td>100/box</td>
</tr>
<tr>
<td>BG-105</td>
<td>$10^6$</td>
<td>100/box</td>
</tr>
<tr>
<td>BG-106</td>
<td>$10^6$</td>
<td>100/box</td>
</tr>
</tbody>
</table>

Mini Spore Strips
Consist of inoculated filter paper, each 2 mm x 10 mm, packaged in a variety of options. The small size of the Mini Spore Strips allows them to fit into areas of a device where standard sized spore strips cannot be used, such as within a syringe barrel, inside tubing or under a cap.
- Crosstex Mini Spore Strips are available packaged in glassine envelopes of two sizes: a larger envelope 25 mm x 50 mm (STN-062) or a mini glassine envelope 25 mm x 25 mm (STN-062MG)
- The product is also available as an inoculated carrier in bulk (no glassine packaging - STN-062B)
- Compliant with ISO 11138-1

Mini Spore Strips
Bacillus atrophaeus Cell Line 9372
30 month shelf life

<table>
<thead>
<tr>
<th>Crosstex Code</th>
<th>Packaging</th>
<th>Population</th>
<th>Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>STN-062</td>
<td>Glassine envelopes</td>
<td>$10^6$</td>
<td>100/box</td>
</tr>
<tr>
<td>STN-062B</td>
<td>Bulk</td>
<td>$10^6$</td>
<td>100/box</td>
</tr>
<tr>
<td>STN-062MG</td>
<td>Mini glassine envelopes</td>
<td>$10^6$</td>
<td>100/box</td>
</tr>
</tbody>
</table>
**Biological Indicators for Dry Heat**

### Spore Discs

Crosstex Spore Discs are available in two different sizes, 6 mm and 3 mm diameters. The discs are designed to be utilized as an inoculated carrier for placement directly into areas of a device which are the most difficult to sterilize.

- The Inoculated Carriers are packaged in easy-to-access and handle bulk packaging
- Crosstex Spore Discs will fit into small areas of a device where a standard-sized spore strip cannot be used, such as within a syringe barrel, inside tubing and vials or under a cap
- Compliant with ISO 11138-1

#### Spore Discs

*Bacillus atrophaeus* Cell Line 9372  
24 month shelf life (BG-106D) / 30 month shelf life (DN18-06)

<table>
<thead>
<tr>
<th>Crosstex Code</th>
<th>Disc Diameter</th>
<th>Packaging</th>
<th>Population</th>
<th>Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>BG-106D</td>
<td>6 mm</td>
<td>Bulk</td>
<td>$10^6$</td>
<td>100/box</td>
</tr>
<tr>
<td>DN18-06</td>
<td>3 mm</td>
<td>Bulk</td>
<td>$10^6$</td>
<td>100/box</td>
</tr>
</tbody>
</table>

### Spore Threads

- Ideal for use in tubing, lumens and other devices/instruments where larger BIs and carriers cannot be utilized
- Compliant with ISO 11138-1

#### Spore Threads

*Bacillus atrophaeus* Cell Line 9372  
24 month shelf life

<table>
<thead>
<tr>
<th>Crosstex Code</th>
<th>Description</th>
<th>Packaging</th>
<th>Population</th>
<th>Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>THN-06</td>
<td>Cotton Thread, 25 mm x 0.1 mm</td>
<td>Bulk</td>
<td>$10^6$</td>
<td>100/box</td>
</tr>
</tbody>
</table>

### Spore Suspensions

Crosstex manufactures Spore Suspensions utilized in Dry Heat sterilization processes. The Spore Suspensions are pure suspensions of spores with known resistance characteristics and a variety of population levels standardized per 0.1 mL. The Spore Suspensions allow for direct inoculation of products, typically to verify sterility of devices where a traditional biological indicator spore strip cannot be used. They can also be used for a variety of other microbiological tests including cleaning effectiveness studies, Bioburden percent recovery and Bacteriostasis/Fungistasis (BF) testing.

- Each vial contains 10 mL of suspension. Diluent contains 20% ethanol
- Pharmaceutical grade glass vials with screw cap and septum
- Spore Suspensions require storage under refrigerated conditions (2°C to 8°C)
- ISO 11138-1 Compliant

#### Spore Suspensions

*Bacillus atrophaeus* Cell Line 9372  
18 month shelf life

<table>
<thead>
<tr>
<th>Crosstex Code</th>
<th>Population per 0.1 mL</th>
</tr>
</thead>
<tbody>
<tr>
<td>VBA-102</td>
<td>$10^2$</td>
</tr>
<tr>
<td>VBA-103</td>
<td>$10^3$</td>
</tr>
<tr>
<td>VBA-104</td>
<td>$10^4$</td>
</tr>
<tr>
<td>VBA-105</td>
<td>$10^5$</td>
</tr>
<tr>
<td>VBA-106</td>
<td>$10^6$</td>
</tr>
<tr>
<td>VBA-107</td>
<td>$10^7$</td>
</tr>
<tr>
<td>VBA-108</td>
<td>$10^8$</td>
</tr>
</tbody>
</table>
Chemical Process Indicators

Crosstex Dry Heat Chemical Process Indicators (CPIs) meet the requirements of Crosstex’s Quality System (ISO 13485) and have been validated per standard cycles outlined in ISO and USP for Depyrogenation processes. Our Chemical Process Indicators provide a fast and consistent visual check on items that were exposed to Dry Heat processes.

### Chemical Process Indicators

#### 24 month shelf life

<table>
<thead>
<tr>
<th>Crosstex Code</th>
<th>Description</th>
<th>Indicators Per Roll</th>
<th>Unexposed</th>
<th>Exposed</th>
</tr>
</thead>
<tbody>
<tr>
<td>CPI-DH01</td>
<td>Circle Indicator Label 12.7 mm (Dry Heat) orange to brown (≤ 180°C)</td>
<td>1,000</td>
<td><img src="image1" alt="Unexposed" /></td>
<td><img src="image2" alt="Exposed" /></td>
</tr>
<tr>
<td>CPI-DP1</td>
<td>Circle Indicator Label 12.7 mm (Depyrogenation) High temperature or Depyrogenation - pink to violet/dark brown (≤ 250°C)</td>
<td>500</td>
<td><img src="image3" alt="Unexposed" /></td>
<td><img src="image4" alt="Exposed" /></td>
</tr>
</tbody>
</table>

#### 36 month shelf life

<table>
<thead>
<tr>
<th>Crosstex Code</th>
<th>Description</th>
<th>Indicators Per Roll</th>
<th>Unexposed</th>
<th>Exposed</th>
</tr>
</thead>
<tbody>
<tr>
<td>DIL-1000</td>
<td>Circle Indicator Label 19 mm</td>
<td>1,000</td>
<td><img src="image5" alt="Unexposed" /></td>
<td><img src="image6" alt="Exposed" /></td>
</tr>
<tr>
<td>DTL-125</td>
<td>Indicator Label with operator and date 19 mm x 32 mm</td>
<td>125</td>
<td><img src="image7" alt="Unexposed" /></td>
<td><img src="image8" alt="Exposed" /></td>
</tr>
</tbody>
</table>

Chemical Indicator Strips

Crosstex Dry Heat Chemical Indicator Strips are innovative indicator strips which demonstrate exceptional performance and are customized for the most widely utilized Dry Heat processes. Crosstex evaluates the performance of every lot to ensure consistent and reliable performance. Each shipment includes a Certificate of Analysis for assurance of product quality and performance.

### Chemical Indicator Strips

#### 24 month shelf life

<table>
<thead>
<tr>
<th>Crosstex Code</th>
<th>Description</th>
<th>Dimensions</th>
<th>Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>DH-250</td>
<td>Chemical Indicator Strip – Type 4</td>
<td>115 mm x 19 mm</td>
<td>250/box</td>
</tr>
<tr>
<td>DIS-100</td>
<td>Chemical Indicator Strip – Type 1</td>
<td>100 mm x 16 mm</td>
<td>100/box</td>
</tr>
</tbody>
</table>

- Lead & latex free
- Irreversible color transition from orange to brown
- ISO 11140-1 Type 4 Compliant

- Provides a distinct color change from green to dark when processed
- Writable strip for record keeping
- ISO 11140-1 Type 1 Compliant
Packaging for Dry Heat

Nylon Self-Seal Sterilization Pouches and Roll Stock Tubing

Crosstex Nylon Self-Seal Sterilization Pouches and Roll Stock Tubing are manufactured for use in Dry Heat processes up to 215°C. Nylon material is clear, strong and puncture resistant, maintaining a durable barrier for instrumentation until point of use.

- Pouches have built-in adhesive tape which eliminates the need for a heat sealer or indicator tape
- Each pouch is notched for ease of opening after processing, and complimentary external chemical indicator labels are included
- Roll stock tubing is designed to be cut to any length prior to packaging and then mechanically sealed or taped closed
- Latex free

### Nylon Self-Seal Sterilization Pouches

<table>
<thead>
<tr>
<th>Crosstex Code</th>
<th>Dimensions</th>
<th>Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>NSP-400</td>
<td>2” x 10” (5 x 25 cm)</td>
<td>100/bx</td>
</tr>
<tr>
<td>NSP-405</td>
<td>3” x 10” (8 x 25 cm)</td>
<td>100/bx</td>
</tr>
<tr>
<td>NSP-410</td>
<td>4” x 10” (10 x 25 cm)</td>
<td>100/bx</td>
</tr>
<tr>
<td>NSP-420</td>
<td>7” x 10.5” (18 x 25 cm)</td>
<td>100/bx</td>
</tr>
<tr>
<td>NSP-430</td>
<td>9.5” x 13” (24 x 25 cm)</td>
<td>100/bx</td>
</tr>
</tbody>
</table>

### Nylon Sterilization Tubing

<table>
<thead>
<tr>
<th>Crosstex Code</th>
<th>Dimensions</th>
<th>Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>SN2</td>
<td>2” x 100 ft (5 cm x 30 m)</td>
<td>16 rolls/cs</td>
</tr>
<tr>
<td>SN3</td>
<td>3” x 100 ft (8 cm x 30 m)</td>
<td>12 rolls/cs</td>
</tr>
<tr>
<td>SN4</td>
<td>4” x 100 ft (10 cm x 30 m)</td>
<td>12 rolls/cs</td>
</tr>
<tr>
<td>SN6</td>
<td>6” x 100 ft (15 cm x 30 m)</td>
<td>12 rolls/cs</td>
</tr>
</tbody>
</table>

Tyvek® is a registered trademark of E.I. du Pont de Nemours and Company.

Biological Indicators for Chlorine Dioxide

Biological Indicators - Traditional Spore Strips

Crosstex manufactures Biological Indicators (BIs) for use in monitoring Chlorine Dioxide sterilization processes. Our BIs are manufactured using precise care, which provides assurance that each pouch contains a biological indicator consistent in population and purity.

- Consist of inoculated filter paper, each 7 mm x 38 mm, individually packaged in easy-to-handle Tyvek®/Tyvek® pouches.
- The strips can be easily removed from the pouch for transfer to culture media
- Convenient shelf packages of 100 units per box
- Products are accompanied by a Certificate of Analysis and are certified with population and purity
- Compliant with ISO 11138-1

### Traditional Spore Strips

**Geobacillus stearothermophilus Cell Line 7953**

30 month shelf life

<table>
<thead>
<tr>
<th>Crosstex Code</th>
<th>Packaging</th>
<th>Population</th>
<th>Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>TCDS-06</td>
<td>Tyvek®/Tyvek®</td>
<td>10&lt;sup&gt;6&lt;/sup&gt;</td>
<td>100/box</td>
</tr>
</tbody>
</table>

Tyvek® is a registered trademark of E.I. du Pont de Nemours and Company.
Biological & Chemical Indicators for Steam-Formaldehyde

Biological Indicators - Traditional Spore Strips
Crosstex manufactures Biological Indicators (BIs) for use in monitoring Steam-Formaldehyde sterilization processes. Our BIs are manufactured using precise care, which provides assurance that each glassine pouch contains a biological indicator consistent in population and purity.

- Consist of inoculated filter paper, each 7 mm x 38 mm, individually packaged in easy-to-handle glassine pouches
- The strips can be easily removed from the glassine pouch by tearing open for transfer to culture media
- Convenient shelf packages of 100 units per box
- Products are accompanied by a Certificate of Analysis
- Compliant with ISO 11138-1

Traditional Spore Strips
Geobacillus stearothermophilus Cell Line 7953
30 month shelf life

<table>
<thead>
<tr>
<th>Crosstex Code</th>
<th>Population</th>
<th>Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>STSF-05</td>
<td>$10^6$</td>
<td>100/box</td>
</tr>
<tr>
<td>STSF-06</td>
<td>$10^6$</td>
<td>100/box</td>
</tr>
</tbody>
</table>

Chemical Process Indicators
Crosstex Steam-Formaldehyde Chemical Process Indicators (CPIs) are manufactured to meet performance specifications as outlined in ISO 11140-1 Sterilization of health care products - Chemical indicators - Part 1: General requirements, for Type 1 Process Indicators. Our CPIs provide a fast and consistent visual check on items that were sterilized by Steam-Formaldehyde.

- Consistent and irreversible color transition from violet to green
- No light sensitivity issues
- Permanent pressure-sensitive adhesive

Room temperature storage (15°C to 30°C)
Each shipment is accompanied by a Certificate of Analysis to ensure product quality and consistency

Chemical Process Indicators
60 month shelf life

<table>
<thead>
<tr>
<th>Crosstex Code</th>
<th>Description</th>
<th>Indicators Per Roll</th>
<th>Unexposed</th>
<th>Exposed</th>
</tr>
</thead>
<tbody>
<tr>
<td>CPI-SF01</td>
<td>Circle Indicator Label</td>
<td>5,000</td>
<td>Unexposed</td>
<td>Exposed</td>
</tr>
<tr>
<td></td>
<td>12.7 mm</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Chemical Indicator Strips
Crosstex Steam-Formaldehyde Chemical Indicator Strips demonstrate exceptional performance and are customized for the most widely utilized Steam-Formaldehyde sterilization processes and provide a distinct color change. Crosstex evaluates the performance of every lot to ensure consistent and reliable performance.

- Indicator turns from red to green when processed
- Each shipment includes a Certificate of Analysis for assurance of product quality and performance
- ISO 11140-1 Type 4 Compliant

Chemical Indicator Strip
24 month shelf life

<table>
<thead>
<tr>
<th>Crosstex Code</th>
<th>Description</th>
<th>Dimensions</th>
<th>Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>SFS-250</td>
<td>Chemical Indicator Strip – Type 4</td>
<td>100 mm x 16 mm</td>
<td>250/box</td>
</tr>
</tbody>
</table>

Colors shown are representations of printed ink initial and signal colors but may vary from actual use.
Our Product Literature

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