

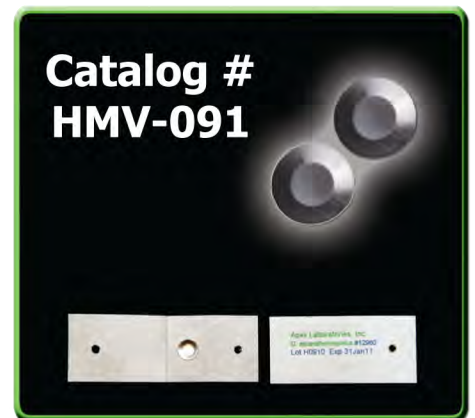
**A**pex Biological Indicator products are designed specifically for the pharmaceutical, food and medical device industries utilizing H<sub>2</sub>O<sub>2</sub> vapor sterilization. Whether it be stainless steel discs/ribbons or a spore suspension, Apex BI products offer the ideal solution to monitoring hydrogen peroxide sterilization.

## Gaseous Hydrogen Peroxide Systems Products and Services

The stainless steel carrier material is designed for use with today's isolator and filling line applications.

### Apex Discs

- Packaged in Tyvek/Tyvek<sup>1</sup>
- Discs measure 0.35" diameter x 0.008" thick
- Tyvek packaged indicators have perforations for hanging and a thumb notch for peeling
- Available with reference #12980 or #7953



### Apex Ribbons

- Bare stainless steel ribbons measure (0.25" x 2.75")
- Inoculated at one end
- Convenient size and flexibility



## Key features and benefits

- Grade 304 stainless steel carrier is non-absorptive - no H<sub>2</sub>O<sub>2</sub> residuals
- Thin carrier (0.008" thick) warms and cools rapidly with chamber variations
- Minimum 1.0 x 10<sup>6</sup> spores per carrier

<sup>1</sup> Tyvek is a registered trademark of DuPont Corporation.

## Tri-Scale Biological Indicator for Hydrogen Peroxide

(US Patent # 5,856,118)

Tri-Scale BI (Reorder #LOG-456) features:

- Based on grade 304 stainless steel carriers; no residuals issues
- One convenient Tyvek<sup>1</sup>/Tyvek package; three *G. stearothermophilus* populations
- Three carriers respectively inoculated with  $>1 \times 10^4$ ,  $>1 \times 10^5$  and  $>1 \times 10^6$  spores and sealed in separate compartments
- Thumb notch for peeling; perforated for hanging

### Uses:

- Initial shakedown or validation of new enclosures or filling lines
- Evaluating large or uniquely configured enclosures
- Studying systems with unknown gas distribution dynamics
- Enclosure validations with multiple load configurations
- Routine monitoring of identified worst-case enclosure locations



### General Method:

- Place Tri-Scale BIs in selected sites throughout test enclosure
- Conduct an exposure time estimated to be near the 6 log reduction point
- Retrieve Tri-Scale BIs, culture, and observe for outgrowth
- Based on outgrowth patterns, identify worst-case location(s) in enclosure
- Use fractional outgrowth results to estimate a probable 6 log reduction cycle

*For example, a location where the  $1 \times 10^5$  and  $1 \times 10^6$  carriers grew had adequate sterilant to kill  $1 \times 10^4$  spores, but not  $1 \times 10^5$  spores, and will require a longer cycle to ensure sterilization of this location.*

## Microbial Suspensions

*G. stearothermophilus* for gaseous hydrogen peroxide  
Custom applications and custom preparations

## Testing

Complete System Validations  
Propagation and Resistance Testing of Environmental Isolates