



## MINI SELF CONTAINED BIOLOGICAL INDICATORS (MSCBIs) For Monitoring Vaporized Hydrogen Peroxide (VH<sub>2</sub>O<sub>2</sub>) Processes

True Indicating Code: MSCPT-06

### Product Description

Mini Self-Contained Biological Indicators (MSCBIs) for monitoring VH<sub>2</sub>O<sub>2</sub> processes consist of:

- A polypropylene vial and cap
- A crushable media ampule which contains modified Tryptic Soy Broth (TSB) with a pH indicator. The modified TSB will transition from the initial Purple color to Yellow and/or demonstrate turbidity in the presence of bacterial growth.
- An inoculated carrier (disc) of *Geobacillus stearothermophilus* Cell Line 7953 with a population level of 10<sup>6</sup>.

### Indications for Use

The MSCBIs may be utilized to monitor VH<sub>2</sub>O<sub>2</sub> efficacy in equipment and process validation and routine monitoring.

### Physical Properties

Process	VH <sub>2</sub> O <sub>2</sub>
Dimensions	8.3 mm x 46 mm
Packaging	100 per box
Chemical Indicator	Each MSCBI contains a Chemical Indicator (CI) strip on the vial label. The CI should transition from Purple to Green when exposed to a VH <sub>2</sub> O <sub>2</sub> process.

### Monitoring Frequency

For greatest control of sterilized goods, it is recommended that one or more MSCBIs be included with every load.

### Instructions for Use

**Exposure:** MSCBIs may be placed inside representative materials or within the chamber directly. Package or wrap product as usual, if applicable. Locate product or MSCBIs in most difficult location to sterilize, as outlined in your specific sterilization validation protocol or according to standard operating procedure. Run the cycle.

After sterilization or exposure, remove MSCBIs or product from sterilizer.



MSCBIs may be held at room temperature for up to 96 hours post-exposure prior to activation without any impact to the performance. If the processed MSCBIs are not activated within 96 hours of exposure, the cycle should be repeated.





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**Activation:** Squeeze the sides of the unit until an audible click is heard and the glass media ampule contained within is crushed. Once the media ampule is activated the SCBI must remain in an upright position to avoid leaking and premature evaporation of media. Ensure that the disc is immersed in the growth medium. Activate one MSCBI which has not been exposed in a sterilization process as a Positive Control.

**Incubation:** Place the processed, activated MSCBI and the Positive Control in a vertical position in an incubator at 55°C to 65°C for 24 – 72 hours. Continued incubation beyond 72 hours may result in evaporation of the growth medium making it difficult to distinguish when the SCBI is positive or negative.

If incubation is required beyond 72 hours, individual MSCBI should be capped or sealed to reduce evaporation of the growth medium.

**Monitoring:** Examine the MSCBIs and record observations.

All positive MSCBIs should be disposed of immediately. Do not continue to incubate a positive MSCBI. Continued growth may result in metabolism of amino acids in the absence of sugars, causing the pH to rise and result in color reversion that is visibly darker than a sterile unit. These should be considered as positive for growth (turbidity will be present).

**Interpretation:** Control MSCBI: The Positive Control MSCBI should exhibit a color change to Yellow and/or demonstrate turbidity. If the Positive Control as does not show signs of growth, consider the test invalid.

Test MSCBI: A passing sterilization cycle is indicated by no signs of turbidity and the Purple color remains and does not transition to Yellow. A failed sterilization cycle is indicated by turbidity and/or a color change to Yellow.

Chemical Indicator (CI): The CI strip (along the top of the MSCBI label) should transition from Purple to Green when exposed to a  $VH_2O_2$  process. Lack of color change or a partial change in color of the CI does not necessarily indicate failure. The CI does not prove efficacy of sterilization; the biological result should be used to gauge efficacy of the sterilization cycle.

For unexpected positives, it is recommended that a Gram Stain be performed. Gram positive rods are indicative for the indicator organism.

## Compliance

ISO 11138-1 Sterilization of health care products – Biological indicators – Part 1:General requirements

USP <55> Biological Indicators – Resistance Performance Tests

True Indicating has a validated method for Total Viable Spore Count. Please inquire for the Technical Bulletin which outlines the recommended methodology.





# Technical Data Sheet

## Performance Characteristics

Population	$\geq 1.0 \times 10^6$ per Disc
Purity	No evidence of contamination present in sufficient numbers to adversely affect the finished product.
VH <sub>2</sub> O <sub>2</sub> Resistance	<i>D</i> value at 50°C ± 5°C, 2.5 mg/L ≥1.0 minute
Post-Market Criteria	Population: 50% to 300% of certified population  <i>D</i> value: ± 20% of the certified <i>D</i> value  Survival Time: All MSCBIs result in growth at the certified survival time  Kill Time: All MSCBIs result in no growth at the certified kill time

## Storage and Shelf Life

	15°C to 30°C		Protect from heat, radioactive sources and sterilizing agents
	20% to 80% Relative Humidity		Do not freeze
<b>Shelf Life</b>	The shelf life of the MSCBI is based on the shorter of two individual components (the media ampule and inoculated carrier), which have independent expiration periods. This is usually 36 months from the date of manufacture.		
	Short excursions outside the range of temperature and relative humidity recommended will not impact the performance of the MSCBIs. Do not use damaged MSCBIs or MSCBIs which demonstrate turbidity or have transitioned to a Yellow color. Do not use after expiration date. Do not refrigerate. The MSCBIs contain live cultures and should be handled with care.		

## Disposal

Autoclave for not less than 30 minutes at 121°C or per validated disposal cycle prior to discard.

