



# Reliable solutions

to ensure safety in the pharmaceutical  
and biotechnology sectors

For Industrial Applications

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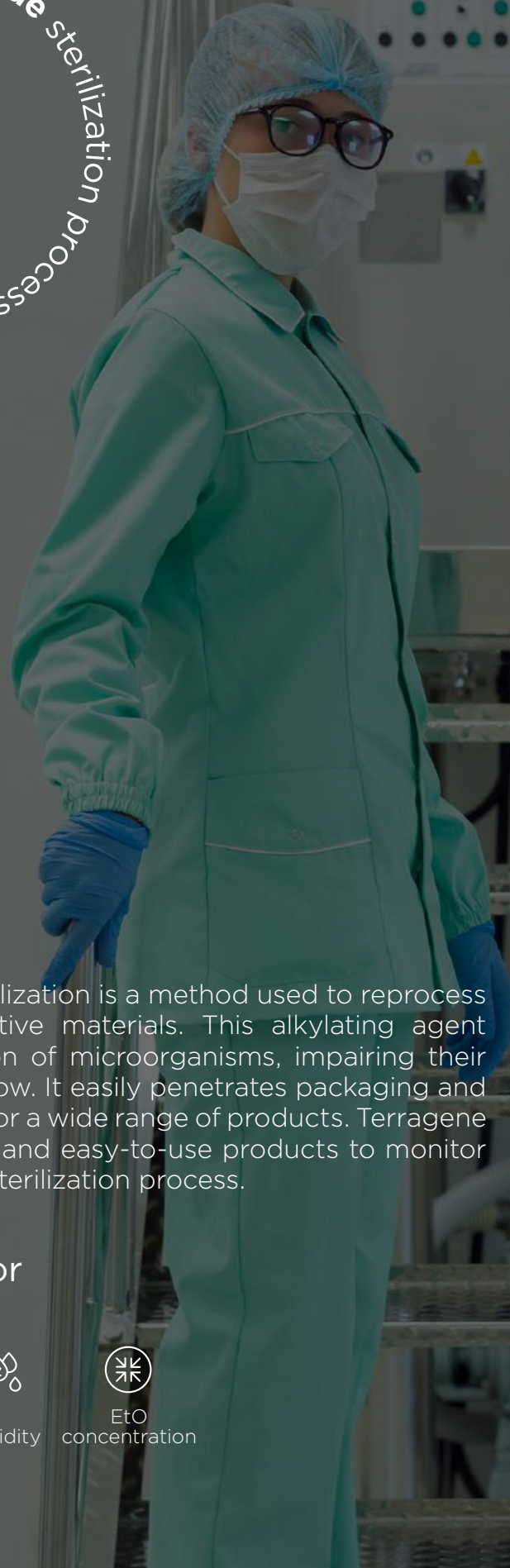
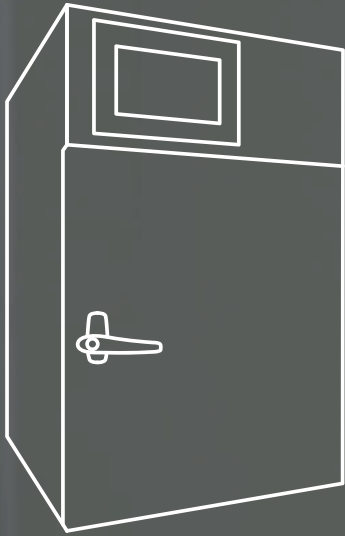
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# Sterilization monitoring

- ↳ Ethylene oxide
- ↳ Steam
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- ↳ Hydrogen peroxide
- ↳ Gamma radiation

# Ethylene Oxide sterilization process



Ethylene oxide (EtO) sterilization is a method used to reprocess high temperatures sensitive materials. This alkylating agent alters the cellular function of microorganisms, impairing their ability to replicate and grow. It easily penetrates packaging and device lumens. Effective for a wide range of products. Terragene offers a range of reliable and easy-to-use products to monitor the effectiveness of this sterilization process.

## Variables to monitor



Temperature



Time



Humidity



EtO  
concentration



## Sterilization monitoring | Ethylene oxide

Self-contained Biological Indicators for rapid, easy and safe evaluation of process lethality.

### 48 h Biological Indicator for EtO

**SKU:** BT10  
**Brand:** Bionova®  
**Category:** Biological Indicators, Self-contained  
**Process:** EtO  
**Microorganism:** *Bacillus atrophaeus* ATCC® 9372  
**Population:** 10<sup>6</sup> Spores/carrier  
**Readout time:** 48 hours  
**Regulations:** ISO 11138-1:2017, ISO 11138-2:2017  
**Related products:**



### 4 h Biological Indicator for EtO

**SKU:** BT110  
**Brand:** Bionova®  
**Category:** Biological Indicators, Rapid Fluorescence  
**Process:** EtO  
**Microorganism:** *Bacillus atrophaeus* ATCC® 9372  
**Population:** 10<sup>6</sup> Spores/carrier  
**Readout time:** 4 hours  
**Regulations:** ISO 11138-1:2017, ISO 11138-2:2017  
 ↳ FDA-cleared  
**Related products:**



ATCC® is a registered trademark of American Type Culture Collection. The identity, purity, or authenticity of Terragene products are their exclusive responsibility; ATCC® has no liability for them.



## Sterilization monitoring | Ethylene oxide

# Verify process lethality with our spore strips and specific culture media.

### Spore Strips for EtO and dry heat

**SKU:** BT40/6  
**Brand:** Bionova®  
**Category:** Biological Indicators, Spore Strips  
**Process:** EtO, dry heat  
**Microorganism:** *Bacillus atrophaeus* ATCC® 9372  
**Population:** 10<sup>6</sup> Spores/carrier  
**Readout time:** 48 hours  
**Regulations:** ISO 11138-1:2017, ISO 11138-2:2017, ISO 11138-4:2017  
**Related products:**



### Spore Strips for EtO, dry heat, and steam

**SKU:** BT60  
**Brand:** Bionova®  
**Category:** Biological Indicators, Spore Strips  
**Process:** EtO, dry heat, steam  
**Microorganism:** *Bacillus atrophaeus* ATCC® 9372, *Geobacillus stearothermophilus* ATCC® 7953  
**Population:** 10<sup>6</sup> Spores/carrier  
**Readout time:** 24 hours, 48 hours  
**Regulations:** ISO 11138-1:2017, ISO 11138-2:2017, ISO 11138-3:2017, ISO 11138-4:2017  
**Related products:**



# Our labels seamlessly stick to packs and pouches, ensuring clear and reliable tracking.

### Self-adhesive label indicator for EtO

**SKU:** CD17  
**Brand:** Chemdye®  
**Category:** Chemical Indicators  
**Process:** EtO  
**Initial color:** ●  
**Final color:** ●  
**Indicator type:** Type 1  
 Chemical Indicator  
**Regulations:** ISO 11140-1:2014



### Self-adhesive indicator tape for EtO

**SKU:** CT10  
**Brand:** Cintape®  
**Category:** Chemical Indicators  
**Process:** EtO  
**Initial color:** ●  
**Final color:** ●  
**Indicator type:** Type 1 Chemical Indicator  
**Regulations:** ISO 11140-1:2014





## Sterilization monitoring | Ethylene oxide

Self-adhesive label indicator  
for automatic labeler for EtO

**SKU:** CD13

**Brand:** Chemdye®

**Category:** Chemical Indicators

**Process:** EtO

**Initial color:** ●

**Final color:** ●

**Indicator type:** Type 1 Chemical Indicator

**Regulations:** ISO 11140-1:2014

**Related products:**



Multiparametric indicator to evaluate internal  
exposure conditions.

Multivariable chemical  
indicator for EtO

**SKU:** CD16

**Brand:** Chemdye®

**Category:** Chemical Indicators

**Process:** EtO

**Initial color:** ●

**Final color:** ●

**Indicator type:** Type 4 Chemical Indicator

**Regulations:** ISO 11140-1:2014

↳ **FDA-cleared**



Two-level integrator chemical indicator to ensure  
correct and secure conditions inside the package.

Chemical Integrator for EtO

**SKU:** IT12

**Brand:** Integron®

**Category:** Chemical Indicators

**Process:** EtO

**Initial color:** ● ●

**Final color:** ● ●

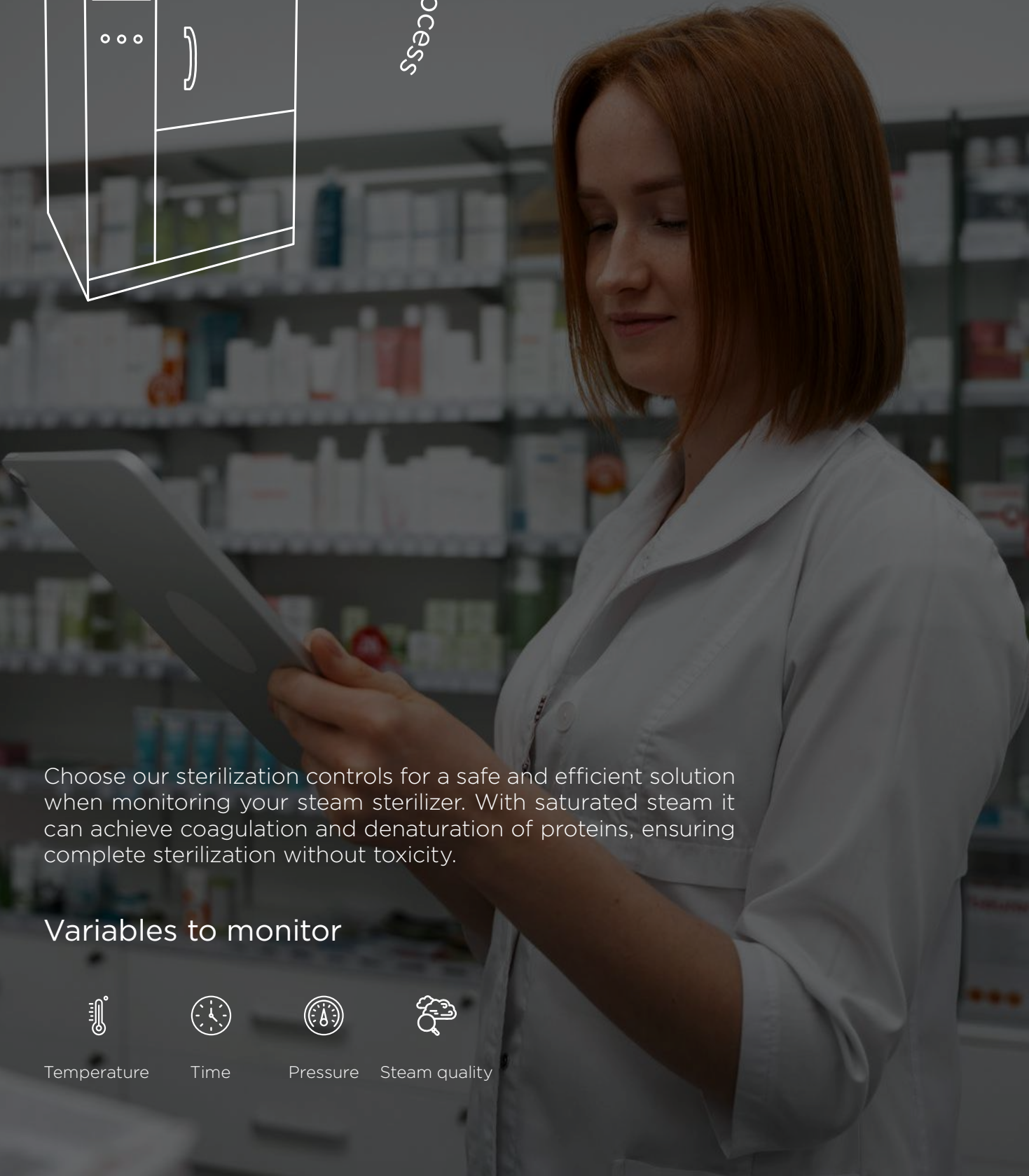
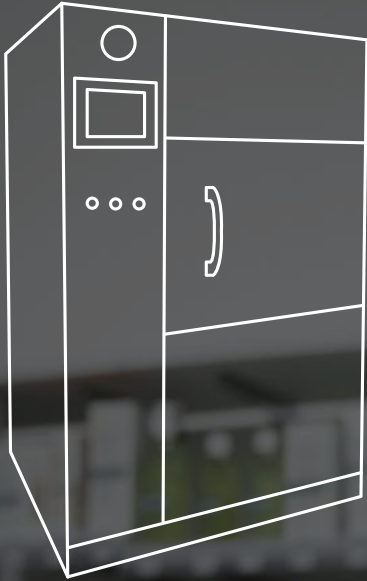
**Indicator type:** Type 5 Chemical Indicator

**Regulations:** ISO 11140-1:2014

↳ **FDA-cleared**



steam sterilization process



Choose our sterilization controls for a safe and efficient solution when monitoring your steam sterilizer. With saturated steam it can achieve coagulation and denaturation of proteins, ensuring complete sterilization without toxicity.

### Variables to monitor



Temperature



Time



Pressure



Steam quality



## Sterilization monitoring | Steam

# Verify process lethality with our spore strips and specific culture media.

### Spore strips for steam and LTSF

**SKU:** BT50/6  
**Brand:** Bionova®  
**Category:** Biological Indicators, Spore Strips  
**Process:** steam, Formaldehyde  
**Microorganism:** *Geobacillus stearothermophilus* ATCC® 7953  
**Population:** 10<sup>6</sup> Spores/carrier  
**Readout time:** 24 hours, 48 hours  
**Regulations:** ISO 11138-1:2017, ISO 11138-3:2017, ISO 11138-5:2017  
**Related products:**



### Spore Strips for steam, EtO, and dry heat

**SKU:** BT60  
**Brand:** Bionova®  
**Category:** Biological Indicators, Spore Strips  
**Process:** steam, EtO, dry heat  
**Microorganism:** *Bacillus atrophaeus* ATCC® 9372, *Geobacillus stearothermophilus* ATCC® 7953  
**Population:** 10<sup>6</sup> Spores/carrier  
**Readout time:** 24 hours, 48 hours  
**Regulations:** ISO 11138-1:2017, ISO 11138-2:2017, ISO 11138-3:2017, ISO 11138-4:2017  
**Related products:**



## Biological Indicators are the right tool to assess the lethality of the sterilization cycle, ensuring maximum safety in the process.

### 24 h Biological Indicator for steam

**SKU:** BT20  
**Brand:** Bionova®  
**Category:** Biological Indicators, Self-contained  
**Process:** steam  
**Microorganism:** *Geobacillus stearothermophilus* ATCC® 7953  
**Population:** 10<sup>6</sup> Spores/carrier  
**Readout time:** 24 hours  
**Regulations:** ISO 11138-1:2017, ISO 11138-3:2017  
**Related products:**





## Sterilization monitoring | Steam

With Biological Indicators, the lethality of the sterilization cycle can be assessed, ensuring maximum safety in the process.

### 20 min Biological Indicator for steam

**SKU:** BT224  
**Brand:** Bionova®  
**Category:** Biological Indicators, Rapid Fluorescence  
**Process:** steam  
**Microorganism:** *Geobacillus stearothermophilus*  
 ATCC® 7953  
**Population:** 10<sup>6</sup> Spores/carrier  
**Readout time:** 20 minutes  
**Regulations:** ISO 11138-1:2017, ISO 11138-3:2017  
 ↳ **FDA-cleared**  
**Related products:**



## Accelerate sterility assurance with fluorescence indicators for fast, reliable results when time matters.

### 1 h Biological Indicator for steam

**SKU:** BT222  
**Brand:** Bionova®  
**Category:** Biological Indicators, Self-contained  
**Process:** steam  
**Microorganism:** *Geobacillus stearothermophilus*  
 ATCC® 7953  
**Population:** 10<sup>6</sup> Spores/carrier  
**Readout time:** 1 hour  
**Regulations:** ISO 11138-1:2017, ISO 11138-3:2017  
 ↳ **FDA-cleared**  
**Related products:**



### 3 h Biological Indicator for steam

**SKU:** BT220  
**Brand:** Bionova®  
**Category:** Biological Indicators, Self-contained  
**Process:** steam  
**Microorganism:** *Geobacillus stearothermophilus*  
 ATCC® 7953  
**Population:** 10<sup>6</sup> Spores/carrier  
**Readout time:** 3 hours  
**Regulations:** ISO 11138-1:2017, ISO 11138-3:2017  
 ↳ **FDA-cleared**  
**Related products:**





## Sterilization monitoring | Steam

Reliable liquid load sterilization monitoring with easy interpretation, no activation, and clear visual confirmation.

Self-contained spore ampoules for steam

**SKU:** BT21/6  
**Brand:** Bionova®  
**Category:** Biological Indicators, Self-contained  
**Process:** steam at 121-135 °C  
**Initial color:** ●  
**Final color:** ●  
**Microorganism:** *Geobacillus stearothermophilus* ATCC® 7953  
**Population:** 10<sup>6</sup> Spores/carrier  
**Readout time:** 48 hours  
**Regulations:** ISO 11138-1:2017, ISO 11138-3:2017  
**Volume:** 0.5 ml

**SKU:** BT22/6  
**Brand:** Bionova®  
**Category:** Biological Indicators, Self-contained  
**Process:** steam at 121-135 °C  
**Initial color:** ●  
**Final color:** ●  
**Microorganism:** *Geobacillus stearothermophilus* ATCC® 7953  
**Population:** 10<sup>6</sup> Spores/carrier  
**Readout time:** 48 hours  
**Regulations:** ISO 11138-1:2017, ISO 11138-3:2017  
**Volume:** 0.25 ml



**SKU:** BT23/6  
**Brand:** Bionova®  
**Category:** Biological Indicators, Self-contained  
**Process:** steam at 121-135 °C  
**Initial color:** ●  
**Final color:** ●  
**Microorganism:** *Geobacillus stearothermophilus* ATCC® 7953  
**Population:** 10<sup>6</sup> Spores/carrier  
**Readout time:** 48 hours  
**Regulations:** ISO 11138-1:2017, ISO 11138-3:2017  
**Volume:** 2 ml

**SKU:** BT24/6  
**Brand:** Bionova®  
**Category:** Biological Indicators, Self-contained  
**Process:** steam at 110-121 °C  
**Initial color:** ●  
**Final color:** ●  
**Microorganism:** *Bacillus subtilis* DSM 5230 - ATCC® 35021  
**Population:** 10<sup>6</sup> Spores/carrier  
**Readout time:** 48 hours  
**Regulations:** ISO 11138-1:2017, ISO 11138-3:2017  
**Volume:** 0.6 ml



**Ampoules related products:**



## Sterilization monitoring | Steam

Reliable pre-assembled packages for Bowie-Dick test evaluation.

Bowie-Dick Test Pack simulates 7 kg handmade pack described in EN 285

- SKU:** BD125X/2
- Brand:** Chemdye®
- Category:** Chemical Indicators
- Process:** steam
- Initial color:** ●
- Final color:** ●
- Indicator type:** Type 2 Chemical Indicator
- Cycles:** 16.9 minutes at 121 °C, 4 minutes at 132 °C and 3.5 minutes at 134 °C
- Regulations:** ISO 11140-1:2014, ISO 11140-4:2007



Bowie-Dick Test Pack ISO 11140-4:2007 compliant

- SKU:** BD125X10/2
- Brand:** Chemdye®
- Category:** Chemical Indicators
- Process:** steam
- Initial color:** ●
- Final color:** ●
- Indicator type:** Type 2 Chemical Indicator
- Cycles:** 10 minutes at 121 °C
- Regulations:** ISO 11140-1:2014, ISO 11140-4:2007



Includes an early warning sheet for proactive sterilization control

Bowie-Dick Test Pack simulates 4 kg handmade pack described in ANSI/AAMI ST79:2017

- SKU:** BD125X/1
- Brand:** Chemdye®
- Category:** Chemical Indicators
- Process:** steam
- Initial color:** ●
- Final color:** ●
- Indicator type:** Type 2 Chemical Indicator
- Cycles:** 4 minutes at 132 °C and 3.5 minutes at 134 °C
- Regulations:** ISO 11140-1:2014, ISO 11140-5:2007
- ↳ **FDA-cleared**





## Sterilization monitoring | Steam

### Multivariable chemical indicator for steam

**SKU:** CD29  
**Brand:** Chemdye®  
**Category:** Chemical Indicators  
**Process:** steam  
**Initial color:** ●  
**Final color:** ●  
**Indicator type:** Type 4 Chemical Indicator  
**Regulations:** ISO 11140-1:2014  
 ↪ **FDA-cleared**



### Self-adhesive label indicator for automatic labeler

**SKU:** CD23  
**Brand:** Chemdye®  
**Category:** Chemical Indicators  
**Process:** steam  
**Initial color:** ●  
**Final color:** ●  
**Indicator type:** Type 1 Chemical Indicator  
**Regulations:** ISO 11140-1:2014



**Related products:**

### Self-adhesive label indicator for steam

**SKU:** CD28  
**Brand:** Chemdye®  
**Category:** Chemical Indicators  
**Process:** steam  
**Initial color:** ●  
**Final color:** ●  
**Indicator type:** Type 1 Chemical Indicator  
**Regulations:** ISO 11140-1:2014



### Self-adhesive indicator tape for steam

**SKU:** CT22  
**Brand:** Cintape®  
**Category:** Chemical Indicators  
**Process:** steam  
**Initial color:** ●  
**Final color:** ●  
**Indicator type:** Type 1 Chemical Indicator  
**Regulations:** ISO 11140-1:2014





## Sterilization monitoring | Steam

Chemical integrators for effective monitoring of operating parameters within your load.

### Moving front Integrator for steam

**SKU:** IT26-C  
**Brand:** Integron®  
**Category:** Chemical Indicators  
**Process:** steam processes between 118-138 °C  
**Indicator type:** Type 5 Chemical Indicator  
**Regulations:** ISO 11140-1:2014  
↳ **FDA-cleared**



Ensuring comprehensive monitoring of all critical sterilization parameters for optimal process efficacy.

### 3 Point Emulator indicator for steam

**SKU:** IT28  
**Brand:** Integron®  
**Category:** Chemical Indicators  
**Process:** steam  
**Initial color:** ●  
**Final color:** ●  
**Indicator type:** Type 6 Chemical Indicator  
**Cycles:** 3.5 minutes at 134 °C and 15 minutes at 121 °C  
**Regulations:** ISO 11140-1:2014



### Chemical Integrator for steam

**SKU:** IT26-1YS  
**Brand:** Integron®  
**Category:** Chemical Indicators  
**Process:** steam processes between 121-135 °C  
**Initial color:** ●  
**Final color:** ●  
**Indicator type:** Type 5 Chemical Indicator  
**Regulations:** ISO 11140-1:2014  
↳ **FDA-cleared**





## Sterilization monitoring | Steam

### Emulator Indicators for steam

**SKU:** IT27-3YS

**Brand:** Integron®

**Category:** Chemical Indicators

**Process:** steam

**Initial color:** ●

**Final color:** ●

**Indicator type:** Type 6 Chemical Indicator

**Cycles:** 3 minutes at 134 °C

**Regulations:** ISO 11140-1:2014



**SKU:** IT27-4YS

**Brand:** Integron®

**Category:** Chemical Indicators

**Process:** steam

**Initial color:** ●

**Final color:** ●

**Indicator type:** Type 6 Chemical Indicator

**Cycles:** 4 minutes at 134 °C

**Regulations:** ISO 11140-1:2014



**SKU:** IT27-5YS

**Brand:** Integron®

**Category:** Chemical Indicators

**Process:** steam

**Initial color:** ●

**Final color:** ●

**Indicator type:** Type 6 Chemical Indicator

**Cycles:** 5 minutes at 134 °C and 15 minutes at 121 °C

**Regulations:** ISO 11140-1:2014



**SKU:** IT27-7YS

**Brand:** Integron®

**Category:** Chemical Indicators

**Process:** steam

**Initial color:** ●

**Final color:** ●

**Indicator type:** Type 6 Chemical Indicator

**Cycles:** 7 minutes at 134 °C and 20 minutes at 121 °C

**Regulations:** ISO 11140-1:2014



**SKU:** IT27-18YS

**Brand:** Integron®

**Category:** Chemical Indicators

**Process:** steam

**Initial color:** ●

**Final color:** ●

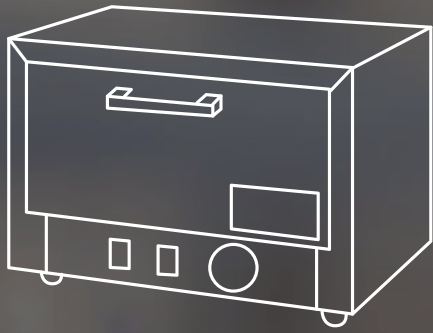
**Indicator type:** Type 6 Chemical Indicator

**Cycles:** 18 minutes at 134 °C

**Regulations:** ISO 11140-1:2014



Dry heat sterilization process



Experience reliable sterilization controls with our dry heat products. Utilizing protein oxidation to eliminate microorganisms, it's ideal for powders and anhydrous oils.

### Variables to monitor



Temperature



Time



## Sterilization monitoring | Dry heat

Verify process lethality with our spore strips and specific culture media.

### Spore Strips for dry heat and EtO

**SKU:** BT40/6  
**Brand:** Bionova®  
**Category:** Biological Indicators, Spore Strips  
**Process:** dry heat, EtO  
**Microorganism:** *Bacillus atrophaeus* ATCC® 9372  
**Population:** 10<sup>6</sup> Spores/carrier  
**Readout time:** 48 hours  
**Regulations:** ISO 11138-1:2017, ISO 11138-2:2017, ISO 11138-4:2017  
**Related products:**



Semi self-contained Biological Indicator for reliable dry heat sterilization monitoring.

Spore Strips for dry heat, EtO, and steam

**SKU:** BT60  
**Brand:** Bionova®  
**Category:** Biological Indicators, Spore Strips  
**Process:** dry heat, EtO, steam  
**Microorganism:** *Bacillus atrophaeus* ATCC® 9372, *Geobacillus stearothermophilus* ATCC® 7953  
**Population:** 10<sup>6</sup> Spores/carrier  
**Readout time:** 24 hours, 48 hours  
**Regulations:** ISO 11138-1:2017, ISO 11138-2:2017, ISO 11138-3:2017, ISO 11138-4:2017  
**Related products:**



48 h Biological Indicator for dry heat

**SKU:** BT30  
**Brand:** Bionova®  
**Category:** Biological Indicators, Self-contained  
**Process:** dry heat  
**Microorganism:** *Bacillus atrophaeus* ATCC® 9372  
**Population:** 10<sup>6</sup> Spores/carrier  
**Readout time:** 48 hours  
**Regulations:** ISO 11138-1:2017, ISO 11138-4:2017  
**Related products:**





## Sterilization monitoring | Dry heat

Reliable and thriving in the extreme temperatures of depyrogenation cycles.

### Biological Indicator for depyrogenation

**SKU:** BT31  
**Brand:** Bionova®  
**Category:** Biological Indicators, Spore Ampoules  
**Process:** Depyrogenation cycles  
**Microorganism:** *Bacillus atrophaeus* ATCC® 9372  
**Population:** 10<sup>6</sup> Spores/carrier  
**Readout time:** 72 hours  
**Regulations:** ISO 11138-1:2017, ISO 11138-4:2017  
**Related products:**



MC1030  
Culture  
media



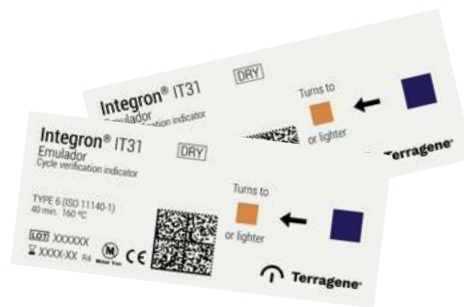
IC10/20  
Incubator



ISO 11140-1:2014 compliant emulator indicator for dry heat sterilization processes.

### Emulator Indicator for dry heat

**SKU:** IT31  
**Brand:** Integron®  
**Category:** Chemical Indicators  
**Process:** dry heat  
**Initial color:** ●  
**Final color:** ●  
**Indicator type:** Type 6 Chemical Indicator  
**Cycles:** 40 minutes at 160 °C  
**Regulations:** ISO 11140-1:2014





## Sterilization monitoring | Dry heat

Multivariable indicators for dry heat sterilization: they react within the loads to ensure precise temperature control over time.

### Multivariable chemical indicator for dry heat

**SKU:** CD30  
**Brand:** Chemdye®  
**Category:** Chemical Indicators  
**Process:** dry heat  
**Initial color:** ●  
**Final color:** ●  
**Indicator type:** Type 4 Chemical Indicator  
**Regulations:** ISO 11140-1:2014



Our labels seamlessly stick to packs and pouches, ensuring clear and reliable tracking.

Self-adhesive label indicator for automatic labeler

**SKU:** CD33  
**Brand:** Chemdye®  
**Category:** Chemical Indicators  
**Process:** dry heat  
**Initial color:** ●  
**Final color:** ●  
**Indicator type:** Type 1 Chemical Indicator  
**Regulations:** ISO 11140-1:2014  
**Related products:**

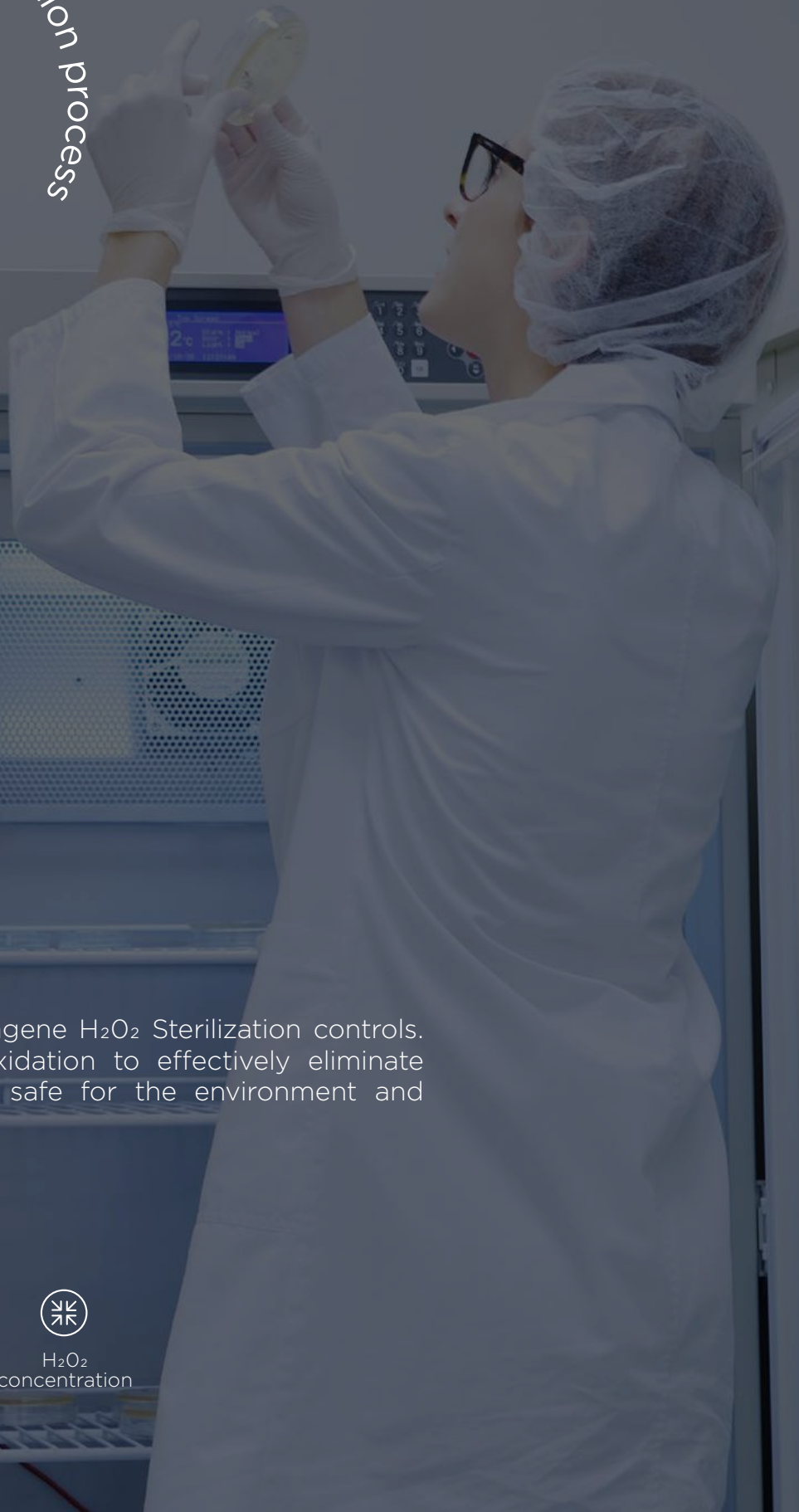
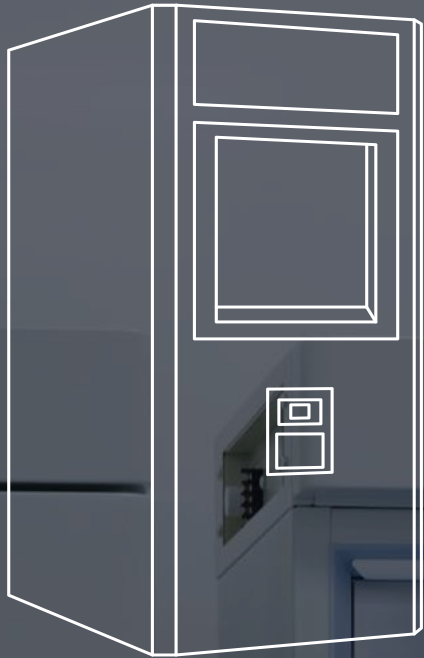


Self-adhesive indicator tape for dry heat

**SKU:** CT30  
**Brand:** Cintape®  
**Category:** Chemical Indicators  
**Process:** dry heat  
**Initial color:** ●  
**Final color:** ●  
**Indicator type:** Type 1 Chemical Indicator  
**Regulations:** ISO 11140-1:2014



# H<sub>2</sub>O<sub>2</sub> sterilization process



Discover the benefits of Terragene H<sub>2</sub>O<sub>2</sub> Sterilization controls. This method uses protein oxidation to effectively eliminate microorganisms, while being safe for the environment and leaving no toxic residue.

## Variables to monitor



Temperature



Time



Pressure



H<sub>2</sub>O<sub>2</sub>  
concentration



## Sterilization monitoring | Hydrogen peroxide

Achieve fast and reliable results with our Biological Monitoring System for sterilization processes with H<sub>2</sub>O<sub>2</sub>.

### 30 min Biological Indicator for hydrogen peroxide

**SKU:** BT96  
**Brand:** Bionova®  
**Category:** Biological Indicators, Spore Strips  
**Process:** hydrogen peroxide  
**Microorganism:** *Geobacillus stearothermophilus* ATCC® 7953  
**Population:** 10<sup>6</sup> Spores/carrier  
**Readout time:** 30 minutes  
**Regulations:** ISO 11138-1:2017  
 ↳ **FDA-cleared**  
**Related products:**



### Spore coupon for hydrogen peroxide

**SKU:** BT93/6  
**Brand:** Bionova®  
**Category:** Biological Indicators, Spore Coupon  
**Process:** hydrogen peroxide  
**Microorganism:** *Geobacillus stearothermophilus* ATCC® 7953  
**Population:** 10<sup>6</sup> Spores/carrier  
**Readout time:** 24 hours  
**Regulations:** ISO 11138-1:2017  
**Related products:**

### 24 h Biological Indicator for hydrogen peroxide

**SKU:** BT91  
**Brand:** Bionova®  
**Category:** Biological Indicators, Self-contained  
**Process:** hydrogen peroxide  
**Microorganism:** *Geobacillus stearothermophilus* ATCC® 7953  
**Population:** 10<sup>6</sup> Spores/carrier  
**Readout time:** 24 hours  
**Regulations:** ISO 11138-1:2017  
**Related products:**





## Sterilization monitoring | Hydrogen peroxide

Cintape® Self-adhesive tapes: securely seal and easily identify sterilization packages with confidence.

Self-adhesive indicator tape for hydrogen peroxide

- SKU:** CT40
- Brand:** Cintape®
- Category:** Chemical Indicators
- Process:** hydrogen peroxide
- Initial color:** ●
- Final color:** ●
- Indicator type:** Type 1 Chemical Indicator
- Regulations:** ISO 11140-1:2014
- ↳ **FDA-cleared**



Our labels seamlessly stick to packs and pouches, ensuring clear and reliable tracking.

Self-adhesive label indicator for hydrogen peroxide

- SKU:** CD43
- Brand:** Chemdye®
- Category:** Chemical Indicators
- Process:** hydrogen peroxide
- Initial color:** ●
- Final color:** ●
- Indicator type:** Type 1 Chemical Indicator
- Regulations:** ISO 11140-1:2014
- Related products:**



Self-adhesive label indicator for hydrogen peroxide

- SKU:** CD48
- Brand:** Chemdye®
- Category:** Chemical Indicators
- Process:** hydrogen peroxide
- Initial color:** ●
- Final color:** ●
- Indicator type:** Type 1 Chemical Indicator
- Regulations:** ISO 11140-1:2014



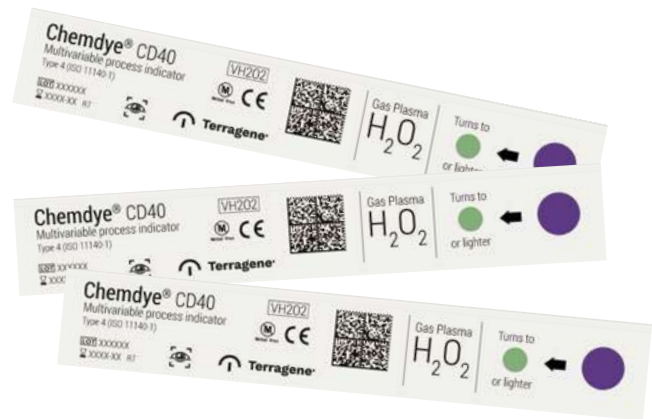


## Sterilization monitoring | Hydrogen peroxide

Ensure complete sterilization with Chemdye® Type 4 strips: multivariable indicators that confirm the proper penetration of the sterilizing agent into the package.

### Chemical indicator for hydrogen peroxide

- SKU:** CD40
- Brand:** Chemdye®
- Category:** Chemical Indicators
- Process:** hydrogen peroxide
- Initial color:** ●
- Final color:** ●
- Indicator type:** Type 4 Chemical Indicator
- Regulations:** ISO 11140-1:2014
- ↳ **FDA-cleared**

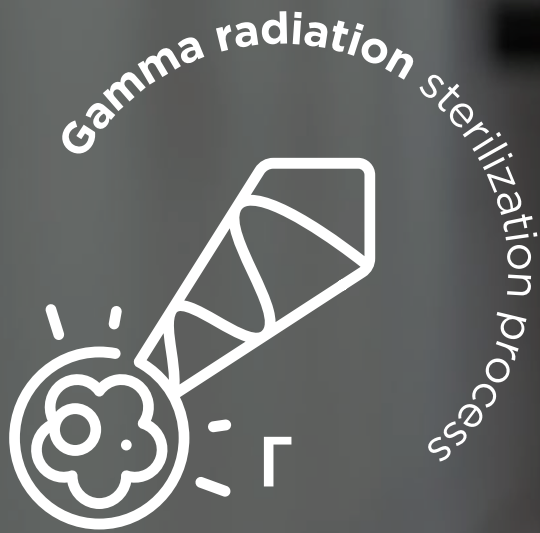


Monitor with confidence using our internal chemical indicators, ensuring proper exposure to H<sub>2</sub>O<sub>2</sub>.

### Chemical indicator for hydrogen peroxide

- SKU:** CD42
- Brand:** Chemdye®
- Category:** Chemical Indicators
- Process:** hydrogen peroxide
- Initial color:** ●
- Final color:** ●
- Indicator type:** Type 1 Chemical Indicator
- Regulations:** ISO 11140-1:2014
- ↳ **FDA-cleared**





Elevate your controls of sterilization with gamma radiation. This clean and dry process denatures proteins and nucleic acids, ensuring complete exposure from all angles. Highly compatible with various materials and available in large chambers, it offers a reliable and effective solution for your sterilization needs.

## Variables to monitor



Radiation  
dose



## Sterilization monitoring | Gamma radiation

Our labels seamlessly stick to packs and pouches, ensuring clear and reliable tracking.

Self-adhesive label indicator for gamma radiation

**SKU:** CD77

**Brand:** Chemdye®

**Category:** Chemical Indicators

**Process:** gamma radiation

**Initial color:** ●

**Final color:** ●

**Indicator type:** Type 1 Chemical Indicator

**Regulations:** ISO 11140-1:2014



Verify process lethality with our spore strips and specific culture media.

Spore Strips for gamma radiation

**SKU:** BT70/6

**Brand:** Bionova®

**Category:** Biological Indicators, Spore Strips

**Process:** gamma radiation

**Microorganism:** *Bacillus pumilus* ATCC® 27142

**Population:** 10<sup>6</sup> Spores/carrier

**Readout time:** 48 hours

**Regulations:** ISO 11138-1:2017

**Related products:**



MC1020  
Culture  
media



IC10/20  
Incubator





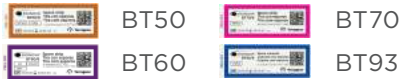
# Culture media and compatibles chart

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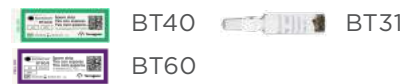
Culture media  
MC1020

Use MC1020 with  
*Geobacillus stearothermophilus*  
or *Bacillus pumilus*



Culture media  
MC1030

Use MC1030 with  
*Bacillus atrophaeus*



























Custom Biological Indicators available on demand tailored to your needs.

Contact us today for more details at  
**[terragine.com](http://terragine.com)**



# Auto-readers and compatibles chart

		 Incubator IC10/20	 Auto-reader IC10/20FR	 Auto-reader IC10/20FRLCD	 Auto-reader MiniBio
	BT10	✓			
	BT20	✓			
	BT21	✓			
	BT22	✓			
	BT23	✓			
	BT24	✓			
	BT30	✓			
	BT31 w/MC1030	✓			
	BT40 w/MC1030	✓			
	BT50 w/MC1020	✓			
	BT60 w/MC1020 or MC1030	✓			
	BT70 w/MC1020	✓			
	BT91	✓			
	BT93 w/MC1020	✓			
	BT96		✓	✓	✓
	BT97		✓	✓	✓
	BT110		✓	✓	✓
	BT220		✓	✓	✓
	BT222		✓	✓	✓
	BT224		✓	✓	✓

# Cleaning monitoring

- ↳ Washing
- ↳ Hygiene

## Washing process



Ensure effective cleaning with our specialized controls. Designed to verify instrument cleanliness, our solutions guarantee reliable and precise washing cycles. Trust us for accurate verification and results that meet the highest standards.





## Cleaning monitoring | Washing

Precision-engineered for seamless control and monitoring, enhancing the effectiveness of ultrasonic cavitation process.

Indicator for ultrasonic cavitation performance

**SKU:** CDWU

**Brand:** Chemdye®

**Category:** Thermosinfection and washing control

**Process:** Cleaning and thermosinfection

**Initial color:** ●

**Cavitation failures:** ●

**Correct cavitation:** ●

**Related products:**



Optimal cleaning with Splat Indicators: stable at disinfection temperatures and designed to monitor every parameter in your washer-disinfectors and ultrasonic machines.

High challenge Splat washing indicator

**SKU:** CDWA3

**Brand:** Chemdye®

**Category:** Thermosinfection and washing control

**Process:** Cleaning and Thermosinfection

**Initial color:** ●

**Related products:**

Very high challenge Splat washing indicator

**SKU:** CDWA4

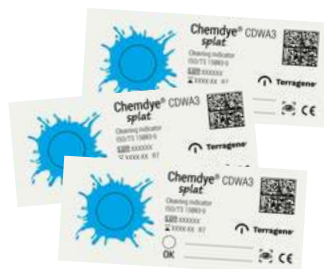
**Brand:** Chemdye®

**Category:** Thermosinfection and washing control

**Process:** Cleaning and Thermosinfection

**Initial color:** ●

**Related products:**





## Cleaning monitoring | Hygiene

Don't just clean, verify. Meet the hygiene standard: accurate protein quantification for optimal hygiene monitoring.

Designed to detect and quantify proteins with high sensitivity on surfaces and difficult-to-access areas after the cleaning process

**SKU:** PRO1 MICRO

**Brand:** Chemdye®

**Category:** Hygiene monitoring

**Readout time:** 4 minutes with MiniPro and 7 minutes with IC10/20FR or IC10/20FRLCD

**Related products:**



MiniPro Auto-reader



IC10/20FR Auto-reader



IC10/20FRLCD Auto-reader



Qualitative visual reading of color change indicates detectable levels of protein. No need for incubation with Auto-reader.

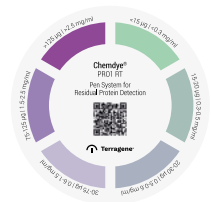
Designed to detect proteins on surfaces and solutions

**SKU:** PRO1 RT

**Brand:** Chemdye®

**Category:** Hygiene monitoring

**Readout time:** 10 minutes at room temperature



# Environmental disinfection

↳ UV-C

↳ Hydrogen peroxide



## Disinfection process | Environmental

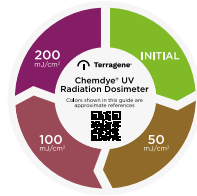
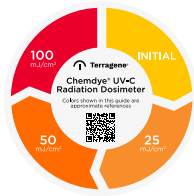
Ensure reliable disinfection with our Chemical Dosimeter Indicator, designed to monitor UV-C disinfection system.

UV dosimeter for UV-C radiation disinfection-100

**SKU:** CD87-100  
**Brand:** Chemdye®  
**Category:** Chemical Indicators  
**Process:** Room and surface biodecontamination  
**Initial color:** ●  
**Final color:** ●  
**Conditions:** radiation dose  $\geq 25$  mJ/cm<sup>2</sup>

UV dosimeter for UV-C radiation disinfection-200G

**SKU:** CD87-200G  
**Brand:** Chemdye®  
**Category:** Chemical Indicators  
**Process:** Room and surface biodecontamination  
**Initial color:** ●  
**Final color:** ●  
**Conditions:** radiation dose  $\geq 50$  mJ/cm<sup>2</sup>



Achieve fast, reliable results with our VH<sub>2</sub>O<sub>2</sub> Airborne Disinfection Biological Monitoring System.

1 h Biological Indicator for room disinfection with H<sub>2</sub>O<sub>2</sub>

**SKU:** BT97  
**Brand:** Bionova®  
**Category:** Biological Indicators, Self-contained  
**Process:** Room disinfection  
**Microorganism:** *Geobacillus stearothermophilus* ATCC® 7953  
**Population:** 10<sup>6</sup> Spores/carrier  
**Readout time:** 1 hour

### Related products:



# Accessories



## Accessories

Fast, safe, and easy to use: our Auto-readers and incubators provide quick and accurate results.

### Touchscreen Fluorescence Auto-reader for Biological Indicators

**SKU:** IC10/20FRLCD

**Brand:** Bionova®

**Working temperature:** 37 ± 2 °C, 60 ± 2 °C

**Characteristics:**

- ↳ 12 positions to incubate Rapid, Super Rapid, and Ultra Rapid Biological Indicators and 1 position to incubate Protein Pen.
- ↳ Remote display of each reading status in PC and Smartphones.
- ↳ Thermal printer of results. Stores 208 results.
- ↳ Ethernet connection. for recording results on PC using a Readout and Traceability software.
- ↳ **FDA-cleared**



### Dual Incubator

**SKU:** IC10/20

**Brand:** Bionova®

**Working temperature:**  
37 ± 2 °C, 60 ± 2 °C

**Characteristics:**

- ↳ 26 positions to incubate BI and 10 positions to incubate culture media and protein pen.



### Fluorescence Auto-reader

**SKU:** IC10/20FR

**Brand:** Bionova®

**Working temperature:** 37 ± 2 °C, 60 ± 2 °C

**Characteristics:**

- ↳ 12 positions to incubate Rapid, Super Rapid, and Ultra Rapid Biological Indicators and 1 position to incubate Protein Pen.
- ↳ Thermal printer of results. Stores 12 results.
- ↳ USB connection for recording results on PC using a Readout and Traceability software.
- ↳ **FDA-cleared**





## Accessories

Compact, fast, and easy to use: Our auto-readers offer efficient solutions for both hygiene monitoring systems and Biological Indicator readings.

### MiniBio Auto-reader for Biological Indicators

**SKU:** MINIBIO

**Brand:** Bionova®

**Working temperature:** 37 ± 2 °C, 60 ± 2 °C

**Characteristics:**

- ↳ 3 positions to incubate Rapid, Super Rapid, and Ultra Rapid Biological Indicators.
- ↳ Thermal printer of results.
- ↳ USB connection for recording results on PC using a Readout and Traceability software.
- ↳ **FDA-cleared**



### MiniPro Auto-reader for Hygiene monitoring system

**SKU:** MINIPRO

**Brand:** Bionova®

**Process:** Hygiene Monitoring

**Characteristics:**

- ↳ 3 positions for incubation and transmittance readout of hygiene indicators.
- ↳ Thermal printer of results.
- ↳ USB connection for recording results on PC using a Readout and Traceability software.



### Three line automatic labeler

**SKU:** CG3

**Brand:** Chemdye®

**To use with:** CD13, CD23, CD33, and CD43 labels





# Products presentation chart

PRODUCT	DESCRIPTION	UNITS/PACKAGING
BD125X-1	Bowie-Dick Test Pack	20 units per box
BD125X-2	Bowie-Dick Test Pack	20 units per box
BD125X10-2	Bowie-Dick Test Pack	20 units per box
BT10 x30	48 h Biological Indicator for EtO	30 units per box
BT10 x100	48 h Biological Indicator for EtO	100 units per box
BT20 x30	24 h Biological Indicator for steam	30 units per box
BT20 x100	24 h Biological Indicator for steam	100 units per box
BT21	Self-contained spore ampoule for steam	200 units + 20 negative controls per box
BT22	Self-contained spore ampoule for steam	200 units + 20 negative controls per box
BT23	Self-contained spore ampoule for steam	50 units + 5 negative controls per box
BT24	Self-contained spore ampoule for steam	200 units + 20 negative controls per box
BT30	48 h Biological Indicator for dry Heat	50 units per box: 25 tubes A + 25 tubes B
BT31	Spore ampoule for dry Heat	50 units per box
BT40	Spore strip for EtO and dry Heat	100 units per aluminium foil bag
BT50	Spore strip for steam	100 units per aluminium foil bag
BT60	Spore strip for EtO, steam, and dry heat	100 units per bag
BT70	Spore strip for gamma radiation	100 units per aluminium foil bag
BT91	24 h Biological Indicator for VH <sub>2</sub> O <sub>2</sub>	100 units per box
BT93	Spore coupon for hydrogen peroxide	100 units per aluminium foil bag
BT96	30 min. Biological Indicator for VH <sub>2</sub> O <sub>2</sub>	50 units per box
BT97	1 h Biological Indicator for H <sub>2</sub> O <sub>2</sub>	50 units per box: 25 tubes A + 25 tubes B
BT97-H	Biological Indicator holder for room disinfection	1 unit per box
BT110	4 h Biological Indicator for EtO	50 units per box
BT220	3 h Biological Indicator for steam	50 units per box
BT222	1 h Biological Indicator for steam	50 units per box
BT224	20 min. Biological Indicator for steam	50 units per box
CD13	Self-adhesive label indicator for EtO	1 roll with 750 labels per foil bag or 12-roll boxes
CD16	Multivariable chemical indicator for EtO	250 strips per aluminium foil bag
CD17	Self-adhesive label indicator for EtO	1 roll with 1000 labels per aluminium foil bag
CD23	Self-adhesive label indicator for steam	1 roll with 750 labels per foil bag or 12-roll boxes
CD28	Self-adhesive label indicator for steam	1 roll with 1000 labels per bag
CD29	Multivariable chemical indicator for steam	250 double strips per aluminium foil bag
CD30 x250	Multivariable chemical indicator for dry heat	250 strips per aluminium foil bag
CD30 x500	Multivariable chemical indicator for dry heat	500 strips per aluminium foil bag



<b>CD33</b>	Self-adhesive label indicator for dry heat	1 roll w/750 labels per foil bag/12-roll boxes
<b>CD40 x250</b>	Chemical indicator for $VH_2O_2$	250 strips per aluminium foil bag
<b>CD40 x500</b>	Chemical indicator for $VH_2O_2$	500 strips per aluminium foil bag
<b>CD42 x250</b>	Chemical indicator for $VH_2O_2$	250 strips per aluminium foil bag
<b>CD42 x500</b>	Chemical indicator for $VH_2O_2$	500 strips per aluminium foil bag
<b>CD43</b>	Self-adhesive label indicator for $VH_2O_2$	1 roll w/750 labels per foil bag/12-roll boxes
<b>CD48</b>	Self-adhesive label indicator for $VH_2O_2$	1 roll with 1000 labels per bag
<b>CD77</b>	Self-adhesive label indicator for gamma	1 roll with 1000 labels per bag
<b>CD87-100</b>	UV dosimeter for UV-C radiation disinfection	200 labels per roll in individual bags
<b>CD87-200G</b>	UV dosimeter for UV-C radiation disinfection	1000 labels per roll in individual bags
<b>CDWA3</b>	Splat Washing indicator	200 units per aluminum foil bag
<b>CDWA4</b>	Splat Washing indicator	200 units per aluminum foil bag
<b>CDWA-H</b>	Holder for washing indicators	1 unit per box
<b>CDWU x6</b>	Indicator for ultrasonic cavitation tests	6 units per box
<b>CDWU x30</b>	Indicator for ultrasonic cavitation tests	30 units per box
<b>CDWU-H</b>	Holder for Ultrasonic Cleaning Indicator	10 units per box
<b>CG3</b>	Three line automatic labeler	1 labelling device and 1 ink roller per box
<b>CT10</b>	Self-adhesive indicator tape for EtO	1 roll of 50 m x 18 mm
<b>CT22</b>	Self-adhesive indicator tape for steam	1 roll of 50 m x 18 mm
<b>CT30</b>	Self-adhesive indicator tape for dry Heat	1 roll of 50 m x 18 mm
<b>CT40</b>	Self-adhesive indicator tape for $VH_2O_2$	1 roll of 50 m x 20 mm
<b>IC10/20</b>	Dual incubator for Biological Indicators	1 unit per box
<b>IC10/20FR</b>	Auto-reader	1 unit per box
<b>IC10/20FRLCD</b>	Auto-reader	1 unit per box
<b>IT12</b>	Chemical Integrator for EtO	250 units per aluminum foil bag
<b>IT26-1YS x200</b>	Chemical Integrator for steam	200 strips per aluminium foil bag
<b>IT26-1YS x500</b>	Chemical Integrator for steam	500 strips per aluminium foil bag
<b>IT26-C</b>	Chemical Integrator for steam	250 units per aluminum foil bag
<b>IT27-3YS</b>	Emulator Indicator for steam	200 units per aluminum foil bag
<b>IT27-4YS</b>	Emulator Indicator for steam	200 units per aluminum foil bag
<b>IT27-5YS</b>	Emulator Indicator for steam	200 units per aluminum foil bag
<b>IT27-7YS</b>	Emulator Indicator for steam	200 units per aluminum foil bag
<b>IT27-18YS</b>	Emulator Indicator for steam	200 units per aluminum foil bag
<b>IT28</b>	3 Point Emulator indicator for steam	250 units per aluminum foil bag
<b>IT31</b>	Emulator Indicator for dry heat	250 units per aluminum foil bag
<b>MC1020</b>	Culture media	50 units per box
<b>MC1030</b>	Culture media	50 units per box
<b>MINIBIO</b>	Auto-reader	1 unit per box
<b>MINIPRO</b>	Auto-reader	1 unit per box
<b>PRO1MICRO x20</b>	Pen system for quantification of surface proteins	20 units per box
<b>PRO1MICRO x100</b>	Pen system for quantification of surface proteins	100 units per box
<b>PRO1 RT</b>	Pen system for quantification of surface proteins	20 units per box

**OEM**  
DEVELOPMENT DIVISION



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