

Indicon® Gel Applications

Trouble Finding Biofilm?

Food processors know the challenges of sanitation and microbial trending. Recognizing trends and determining “hot spots” is one thing, but finding and resolving a trend is another. With food processing constantly in motion, facilities need rapid results to determine areas of concern. Sterilex recognizes this need and provides you with a solution: Indicon Gel.

Indicon Gel is a rapid biological hygiene indicator specifically designed to identify the presence of biofilm on a surface. It allows for rapid detection of biofilm harborage niches that may contain organisms such as *Listeria*, *E. Coli* or *Salmonella* by producing white micro-bubbles within 2 minutes upon contact to allow easy and visual indication.

Indicon Gel has several uses for microbial awareness and trending including: use as a training tool, preventive maintenance guide for sanitary design and equipment upkeep, a visual check of your sanitation program during pre-operational checks, and for “seek and destroy” missions. It complements your current monitoring methods such as ATP. After all, there are only so many luminometers to go around, and there are some places where you just can’t reach with a swab.

Benefits Summary

Incorporating Indicon Gel as a regular tool within your microbial monitoring program can enhance your environmental monitoring program. Indicon Gel provides:

Simple microbial testing tool

- Ready to use unit
- Simple spray bottle format
- Great for training
- Visual indication translates to all (production, quality assurance, maintenance, sanitation, etc.)

Safe tool for your people and equipment

- Only safety eyewear is required for application, but gloves are also recommended
- Compatible with most food processing surfaces (see compatibility chart)
- Readily rinseable and non-staining
- Not regulated for transport

Rapid biofilm detection

- Rapidly detect the presence of organisms living in biofilm harborage niches
- Quick and visual indication of organisms such as *Listeria*, *E. Coli*, and *Salmonella*
- Indicates at levels representing significant concern

Multi-purpose testing

- Reaction is visible on wide variety of surfaces
- Spot-check or spray a whole piece of equipment
- Reaches areas a swab cannot reach
- Ideal for “seek and destroy”
- Use to track, train, and maintain

Cost-effective

- No accessories required for use
- Costs less than ATP per square foot allowing for expanded sampling

Recommended Protocol

Directions for Use:

1. Remove one Indicon Gel bottle from the carton, remove the cap and peel off the seal.
2. Screw the trigger sprayer onto the top of the bottle.
3. Twist the tip of the sprayer so that it is on the “spray” or “stream” setting.
4. Prime the sprayer by pumping the spray head at least 5 times, allowing the entire dip tube to fill with Indicon Gel.
 - a. There should be no large air bubbles in the dip tube.
 - b. Avoid shaking of the bottle during handling.
5. Spray Indicon Gel gently on surfaces to be tested at a distance of 4 to 6 inches ensuring full coverage.
 - a. For vertical surfaces, spray from left to right while activating the spray head to enhance product cling on the vertical surface.
6. Visually inspect the surface 2 minutes following application.
 - a. A positive reaction with Indicon Gel rapidly produces generation of white micro-bubbles.
 - b. The white micro-bubbles clearly contrast with the product’s original blue color.
 - i. Re-clean, re-test, and sanitize in the presence of a positive.
 - ii. Incorporate disinfectant into sanitation program such as Sterilex® Ultra Disinfectant Cleaner Solution 1 and Sterilex® Ultra Activator Solution.
 - c. A negative reaction is the absence of micro-bubbles after 2 minutes.
 - i. Rinse the surface with abundant water.
 - ii. Apply food contact safe sanitizer.

Note: (1) When spraying Indicon Gel onto a surface, a small number of large bubbles may be generated due to the shear created when the gel hits the surface. This is different from the rapid, growing microbubbles which indicate the presence of biofilm. (2) The lack of a positive reaction from Indicon Gel does not guarantee that the surface is free from microorganisms. Indicon Gel is not meant to take the place of routine microbial monitoring or organism specific diagnostic tests. (3) Not for use on galvanized surfaces.

See label for full usage instructions.

Protocols (Pre-Op, Sanitation Verification, Seek and Destroy)

Pre-Op Usage (daily usage):

1. Identify areas of high risk, such as hard to clean areas, areas that are hard to disassemble, niches and grooves, damaged or scratched surfaces, or areas that are not undergoing sanitation regularly.
 - a. These are areas that may or may not be tested with ATP. Grooves or seals may prevent swabs from reaching some areas. Indicon Gel may allow daily testing of redundant sites of concern during pre-op not scheduled for swab rotation.
2. After cleaning and disinfection and before final sanitizer, apply Indicon Gel to identified areas and observe for a positive reaction.
3. If **positive**, re-clean, re-disinfect and adjust sanitation procedures. Example: add Sterilex Ultra Disinfectant Cleaner Solution 1 and Sterilex Ultra Activator Solution or Ultra Soft Metal Activator to the sanitation procedures for biofilm removal*. If **negative**, rinse thoroughly, and apply approved final sanitizer.
4. Repeat steps daily.

Sanitation Verification (as needed, when starting up a new line, etc.)

1. Identify a variety of test locations, including locations that have been identified as high risk through other monitoring activities.
2. Document all sanitation steps taking place.
3. After cleaning has occurred but before final sanitizer, apply Indicon Gel to identified areas and observe for a positive reaction.
4. If **positive**, re-clean, re-disinfect and adjust sanitation procedures. Example: add Sterilex Ultra Disinfectant Cleaner Solution 1 and Sterilex Ultra Activator Solution or Ultra Soft Metal Activator to the sanitation procedures for biofilm removal*. If **negative**, rinse thoroughly, and apply approved final sanitizer.
5. Repeat these steps as changes to the sanitation procedures are made.

* Biofilm label claims approved for specific applications only. See product label for full label claims and usage instructions.

Seek and Destroy (following an ATP or other positive sampling test)

1. Apply Indicon Gel broadly around the areas of concern in a sampling of locations.
2. Visually inspect area for positive reaction(s).
3. If a clear path of transfer can be observed, continue to apply outward until a source can be identified.
4. Once the source has been identified, take the appropriate corrective actions to remediate the source of contamination and any other positives observed.
5. Generate a preventive control program for the source of the problem. Example: preventive maintenance program with Sterilex Ultra Disinfectant Cleaner Solution 1 and Sterilex Ultra Activator Solution or Ultra Soft Metal Activator.

Compatibility Chart

Compatibility with Indicon Gel Formula		10-Day Immersion Test	
Material	Comments	Material	Comments
Al 1100	Compatible	Lexan (Polycarbonate)	Compatible
Al 5052	Compatible	Makrolon (Polycarbonate)	Compatible
Al 3003	Compatible	PET (Mylar)	Compatible
Carbon steel	Compatible	Viton	Compatible
SS 304	Compatible	BUNA-N	Compatible
SS 316	Compatible	Bronze ¹	Semi-compatible
HDPE	Compatible	Copper ²	Not-compatible
LDPE	Compatible	Brass ²	Not-compatible
Polypropylene	Compatible	Natural rubber ^{1,3}	Not-compatible
PVC	Compatible	Galvanized steel ⁴	Not-compatible
Teflon (PTFE)	Compatible		
Delrin (acetyl)	Compatible		

¹Minor staining on surfaces

²Staining on surfaces

³Tackiness and slight discoloration

⁴Corrosion

Properties

Form - Viscous Liquid

Appearance - Dark Blue

Freeze Point - 25.0°F

Odor - Slight

pH - 4.5 - 5.5

Frequently Asked Questions:

1. How does Indicon Gel work?

Indicon Gel is designed to rapidly react with a by-product naturally produced by micro-organisms, which can be observed through a micro-bubbling reaction.

2. Will Indicon Gel react with food soils?

Indicon Gel is *not* designed to react with organic soils. Living organisms must be present for the reaction to occur. It is possible for Indicon Gel to react with yeast and other cultures that may be present in food soils. Contact Sterilex for a list of soils that are likely to cause a positive reaction.

3. How should Indicon Gel be stored?

Indicon Gel should be stored in a cool, dry place. Freeze point for Indicon Gel is 25.0°F. Extended time stored at high temperatures should be avoided.

4. What does a positive reaction look like with Indicon Gel?

A positive reaction generates small micro-bubbles that grow over the course of 2-3 minutes. This could be an immediate reaction that looks like a white patch(s) or swirls. It could also be a micro-foam that builds over time. It is normal to see some larger air bubbles produced in the Gel during dispensing of the product. This is not a positive reaction and can be reduced through priming the spray nozzle before use.

5. Will Indicon Gel react with other cleaners/sanitizers?

Indicon Gel can provide a false positive reaction if in direct contact with certain cleaners and sanitizers. Ensure that all cleaners have been rinsed off the surface before applying Indicon Gel and then apply approved final sanitizer.

6. How do I properly remove Indicon Gel from the surface?

If use yields a negative reaction, simply rinse Indicon Gel from the surface, and apply an approved final sanitizer. If a positive reaction is observed, take all sanitation steps necessary to remediate the area of concern, and apply an approved final sanitizer.

7. Does Indicon Gel work in cold environments?

Indicon Gel has been tested in refrigerated environments with success. Reaction times may be slower at colder temperatures. However, the product should react with microorganisms. The freeze point for Indicon Gel is 25.0°F.

8. Does Indicon Gel react with all organism/biofilm?

Indicon Gel reacts with the vast majority of pathogens found in a food manufacturing environment. In addition, it is very rare to find “single-species” biofilm in a field environment. Indicon Gel will react with “multi-species” biofilm where at least one of the organisms in the biofilm produces the indicator by-product.

9. I sprayed Indicon Gel on a “dirty” surface but did not see a reaction. Why?

Indicon Gel is specifically designed to react with microorganisms and biofilm. While a dirty surface promotes the formation of biofilm, it does not guarantee that a biofilm is present.

10. How is Indicon Gel different from ATP?

ATP tests look for the presence of a nucleic acid molecule found in all living matter and is **not** biofilm or organism specific. In addition, ATP tests require a luminometer and provide a quantitative number that must be tracked/trended over time.

Indicon Gel is a cost-effective, ready to use gel that provides a nearly instantaneous positive visual response when in the presence of biofilm. Indicon Gel can be used across large areas for sanitation verification or in “seek and destroy” missions to determine the location of microbial harborage niches.

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