Soft Metal Freezer Applications

Soft Metal? Freezer Coils? You Asked...We Listened.

The food industry has been increasingly focused on a risk-based approach to food safety. Control of organisms such as *Listeria* is at the top of the list. As frozen food processors evaluate risk, and implement changes, freezers themselves present unique challenges:

- **Design**- some areas of freezers are difficult to reach or inaccessible. They cannot be disassembled completely for thorough cleaning. Freezer coils are difficult to reach, difficult to clean, and expensive to replace if damaged.
- **Compatibility**- Many freezers are made of metals easily damaged by common cleaning and sanitizing products. When damage occurs, it creates harborage points for microorganisms and repair cost for the processor.
- **Temperature**- As the freezer is defrosted for cleaning purposes, the warmer temperatures allow any existing *Listeria* to grow. The condensation created from the thaw could then contaminate other surrounding surfaces.

The industry recognizes the need for cleaning and sanitation chemicals that are effective in addressing these challenges. Sterilex® Ultra Disinfectant Cleaner Solution 1 and Ultra Soft Metal Activator are specifically designed for disinfection and biofilm removal*. It is specifically designed to disinfect freezer surfaces and coils where *Listeria* may be harbored.

Benefits Summary

A program with Sterilex Ultra Disinfectant Cleaner Solution 1 and Ultra Soft Metal Activator will provide your facility microbial control and remove biofilm* without risking corrosion or damage. As a result, the facility may experience:

Higher Yields

- Less product on hold, downgraded, or discarded due to microbial contamination.

Improved Utility Efficiency

- Improved freezer efficiency and output through removal of microbes. Especially beneficial in less than daily cleaned environments.

Increased Regulatory Compliance

- Inspector, auditor and customer satisfaction with an effective disinfection tool in the food safety plan.

Reduce / Eliminate Risk of Damage to Soft Metal Coils

- Coil systems can cost up to $500,000.00

Confidence in Your Process

- A proven effective tool to continually produce wholesome product.

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Recommended Protocol

A comprehensive shock and maintenance program has been shown to eliminate environmental positives. When starting use of Sterilex Ultra Disinfectant Cleaner Solution 1 and Ultra Soft Metal Activator**, it is important to implement a shock protocol before maintenance treatments. A shock treatment should also be used whenever a plant has an increase in counts, a new “hot spot”, or experiences a sudden decrease in product shelf life.

*Biofilm label claims approved for specific applications only. See product label for full label claims and usage instructions.
**See compatibility chart for list of compatible materials

Recommended Practices Before Sterilex Product Use:

Foam all surfaces to be treated with Sterilex Ultra Disinfectant Cleaner Solution 1 and Ultra Soft Metal Activator with a soft metal safe alkaline detergent and follow with a water rinse prior to the disinfection step.

Product Application & Frequency:

Shock Treatment:
A shock treatment with Sterilex Ultra Disinfectant Cleaner Solution 1 (CIP version available) and Ultra Soft Metal Activator involves **3-5 consecutive treatments**. When using Sterilex Ultra Soft Metal Activator you can use general foaming applications inside your freezer and directly on freezer coils (see compatibility chart).

- **Foam all surfaces with a solution of Sterilex Ultra Disinfectant Cleaner Solution 1 and Ultra Soft Metal Activator at a 1:1:10 – 1:1:8 ratio** (12.8 – 16.0 oz. of each solution per gallon of water). Once mixed, the Sterilex product solution must be used within 8 hours.
    - Sterilex Ultra CIP may serve as an alternate to Sterilex Ultra Disinfectant Cleaner Solution 1 for CIP applications in your freezer. Sterilex Ultra CIP is mixed with Sterilex Ultra Soft Metal Activator at the same rate listed above.
- For all applications from shock to maintenance there is a minimum contact time of 10 minutes and a recommended contact time of up to 30 minutes to allow the chemistry to soak into all crevices of treated surfaces.
- Water temperature should be in the range of 100°F to 140°F.
- Generously foam all belting, housing, and coils to ensure thorough coverage of the product.
- Rinse all surfaces thoroughly with a potable water rinse and then follow with a final sanitizer.

Maintenance Treatments (Post-shock):
Following a successful shock treatment, the facility may experiment with use frequencies while using environmental monitoring tools to determine a proper/necessary Sterilex use protocol.

In general, Sterilex Ultra Disinfectant Cleaner Solution 1 and Ultra Soft Metal Activator should be used **at least 3X/week** in RTE or more highly sensitive environments and **at least 1X/week** in other areas.
For maintenance treatments always ensure the same concentration rate and time of application for continual efficacy.

Recommended Practices After Sterilex Product Treatment:
For ongoing protection, add a layer of Sterilex Ultra Step, an EPA registered solid floor sanitizer, on production floors, in hallways and on top of drains to kill organisms such as *Listeria, E. coli*, and *Salmonella* between sanitation shifts.

In the event the facility is pursuing extensive maintenance (ex. replacement of wall paneling in production areas) or undergoing a construction event, it is recommended to apply a shock program until normal operational conditions resume.

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For continuing sanitation verification or expanded sampling processes side-by-side with ATP and APC monitoring, use Indicon® Gel**** to search for any harborages that may exist in areas not currently treated.

****Request Sterilex Indicon Gel Program for Information.

Metal Compatibility Reference

COMPATIBILITY

Compatibility chart for dilutions of Sterilex Ultra Disinfectant Cleaner Solution 1 and Ultra Soft Metal Activator.
Compatibility testing conducted for 10 consecutive days (14,400 minutes of use). Simulates 5.5 years of daily treatments.

Metal	Compatibility	Plastic	Compatibility
Aluminum 1100	Compatible	HDPE	Compatible
Aluminum 5052	Compatible	LDPE	Compatible
Aluminum 3003	Compatible	Polyethylene	Compatible
Aluminum 7075	Semi Compatible[1]	Polypropylene	Compatible
304 Stainless	Compatible	PVC	Compatible
316 Stainless	Compatible	Teflon	Compatible
Bronze	Compatible	Kalrez	Compatible
Copper	Compatible	Delrin (polyacetal)	Compatible
Brass	Semi Compatible[2]	EPDM	Compatible
Carbon Steel	Semi Compatible[3]	BUNA-N	Compatible
Cast Iron	Non Compatible[4]	PET	Compatible
Galvanized	Non Compatible[5]	Viton	Semi Compatible[6]
		Polycarbonate	Non Compatible[7]

[1]Light oxidation
[2]Some darkening of surface
[3]Minimal rusting observed, same compatibility as water
[4]Can cause rusting on clean cast iron surfaces over time
[5]Corrosion, same compatibility as water
[6]Causes material tackiness after 3 days of continuous exposure (4,320 minutes)
[7]Causes material decomposition

Frequently Asked Questions: Sterilex Ultra Soft Metal Activator

1. **Can this product be used on a stand-alone basis?**
   No. Sterilex Ultra Soft Metal Activator is always used as part of a two-part chemistry that is diluted in water. It is designed to be used either with Sterilex Ultra Disinfectant Cleaner Solution 1 or Sterilex Ultra CIP.
2. **Which soft metals is the product approved for?**
   See compatibility chart above.
3. **What does Semi-Compatible mean?**
   The “Semi Compatible” rating depends on the material being tested. For evaluation of Ultra Soft Metal Activator, there are four semi-compatible ratings.
   1. Light oxidation
   2. Some darkening of surface
   3. Minimal rusting observed, same compatibility as water
   4. Causes material tackiness after 3 days of continuous exposure (4,320 minutes)
4. **What type of equipment would this product be used on?**
   Sterilex Ultra Soft Metal Activator is designed for use on a variety of soft metal surfaces including in spiral freezers, evaporative coolers, cooling tunnels, freezer tunnels, soft metal parts/fittings, HVAC, overhead air units, etc.

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5. **Does this have the same efficacy as the Sterilex products that are not soft metal safe?**
   Yes. The combination of Sterilex Ultra Soft Metal Activator, or Sterilex Ultra Activator Solution, with Sterilex Ultra Disinfectant Cleaner Solution 1/Sterilex Ultra CIP, will have all the same EPA registered label claims. The only difference is material compatibility.
6. **Does the addition of corrosion inhibitors create the risk for residue on treated surfaces?**
   When treating surfaces at disinfection concentrations, all Sterilex liquids must be rinsed with a potable water rinse. When treating surfaces at the concentration defined for no-rinse sanitization for non-food contact surfaces, no visible residues have been observed. To avoid flashing off of corrosion inhibitor, we recommend applying to surfaces that are <150°F.
7. **Is it normal to see "residue" in the bottom of the drum/pail of Sterilex Ultra Soft Metal Activator?**
   Yes. It is normal for slight separation to occur over time. Our studies have demonstrated that this separation does not affect the product's efficacy or anti-corrosive characteristics as long as the product is used within its labeled shelf life.

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