



PhageGuard Listex reduces Listeria on food contact surfaces and in the environment

Advantages of Phage Application

Smart

- Food Contact Surfaces & Processing Environment:** In 3 hours, 5% PhageGuard Listex reduces Listeria by 3.3 logs on stainless steel, 2.8 logs on conveyor belt & 1.8 logs on epoxy flooring (R.G Reinhard *et al.*, 2020)
- Biofilms:** 1% PG Listex reduces newly formed or aged Listeria biofilms by 3.6 -5.6 – logs (K. Soni *et al.* 2010)

Green

- Organic** - OMRI listed food processing aid
- Food grade** with no effect on odor, color & texture
- No detrimental effect on personnel or oxidizing effect on equipment surfaces

Easy

- Easy to apply
- Spray on Food contact surfaces during processing or after sanitation

PhageGuard Listex - The natural solution against Listeria

PhageGuard Listex is a highly concentrated solution containing phage P100. P100 is selected from nature for its killing ability against *Listeria monocytogenes*. PhageGuard Listex is also effective against all Listeria strains.

Application of PhageGuard Listex

Listeria monocytogenes has a persistent ability to form biofilms matrices in Food Contact Surfaces (**FCS**) and Food Processing Environment (**FPE**) like floors, drains, conveyor belts, freezer tunnels and cold rooms. directly on equipment and will not have an organoleptic influence on the end product.

Advantage over chemical sanitizers Listex can be applied during processing, directly on equipment and will not have an organoleptic influence on the end product.

PhageGuard Listex

Dosage

- FCS & Biofilms:** 1 - 5% solution on stainless steel and conveyor belt shows 2-3 logs kill (>99%).
- FPE:** 1- 5 % solution

Distribution

Hand-held garden sprayer (picture)

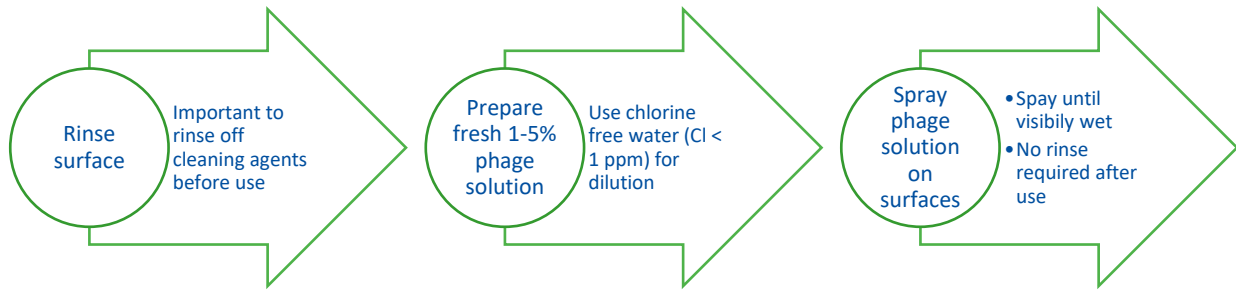
Application techniques

- Spray onto food contact surfaces during production.
- Use as the final sanitation step in the environment.

Contact time

- Allow minimum of 1 - 3 hours after application.
- FCS:** Daily
 - FPE:** Weekly/Biweekly
 - Biofilms:** Daily until removed

HOW TO USE



Rinse surface area to treat with phages

- Rinse off other chemical cleaning agents from the surface if used before.
- Do NOT let chemical residues come in contact with prepared phage solution.
- Use phage solution as a last step in your sanitizing procedure.



Prepare fresh 1 - 5% PhageGuard solution

- Use clean, rinsed spray canister/installation. Do NOT let chemical residues come in contact with prepared phage solution.
- Use dechlorinated water (Cl < 1 ppm). A chlorine filter will remove chlorine from water.
- Dilution 1 % : add one 100mL bottle of PhageGuard for 2.5 gallons of water.
- Dilution 5 % : 5 X 100 mL bottles for 2.5 gallons of water.
- 2.5 gallon of phage solution can treat approx. 1000 ft².
- Prepared solution can be stored refrigerated (39 °F) for 48 hours only.

Spray phage solution

- Spray on surface until visibly wet. No need to rinse after spray.
- Phages work up to 24 hours upon treatment. Recommend to spray end of shift so has phages to work overnight/weekend.
- **Food contact surfaces:** recommended to spray daily.
- **Biofilms:** Spray 1 - 3 times after area has dried. Swab, if tested positive repeat until Listeria will test negative for 3 consecutive days. Biofilms should be eradicated in 2-7 treatments.
- **Food processing environments:** spray phage solution weekly/biweekly.
- Leftover phage solution should be stored refrigerated (39 °F).

PhageGuard Listex removes Listeria on Food Contact Surfaces and in the production environment

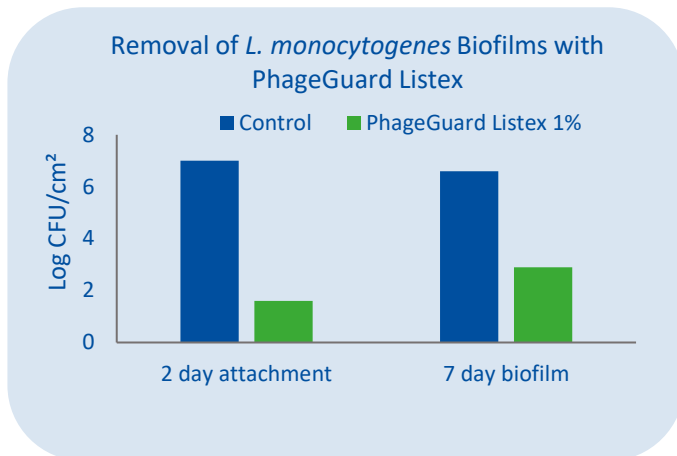


Figure 1. PhageGuard Listex reduces Listeria by 5.6 – 3.6 logs in newly formed or aged biofilm.

Scientific research by K. Soni *et al.* (2010), demonstrated the effectiveness of PhageGuard Listex on newly formed and aged Listeria biofilms on stainless steel (Figure 1) and R G. Reinhard *et al.* (2020), on Listeria contaminated Food Processing Environment surfaces such as stainless steel, conveyor belt material and epoxy flooring (Figure 2).

- **Biofilms:** PhageGuard Listex kills Listeria in newly formed or aged biofilms by 3.6 - 5.6 - logs (Figure 1).
- **Food Processing Environment surfaces:** In 3 hours, PhageGuard Listex reduces Listeria by 3.3 logs on stainless steel, - 2.8 logs on conveyor belts and 1.8 logs on epoxy flooring (Figure 2).

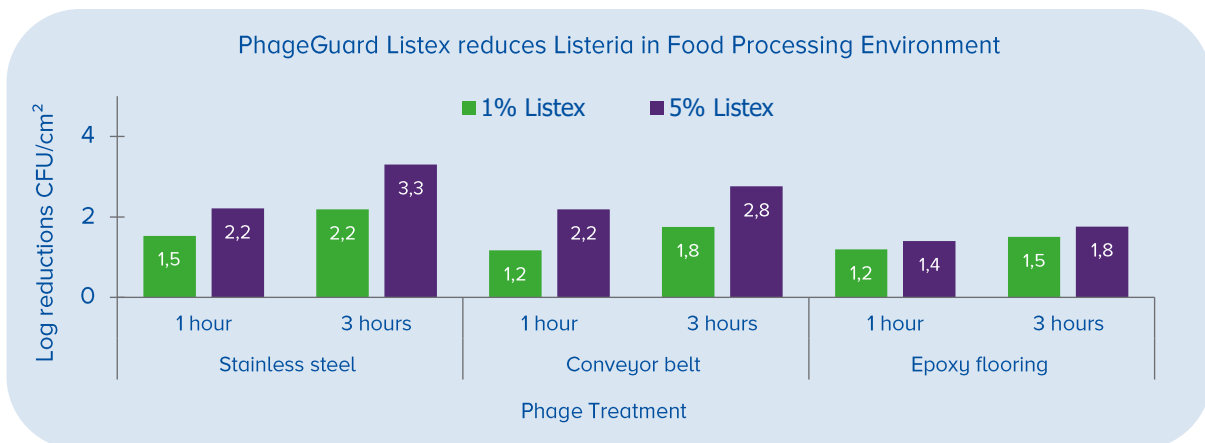


Figure 2. On Food Processing Environment surfaces, 5% PhageGuard Listex kills Listeria up to 2.2 – 3.3 logs on stainless steel, 2.2 – 2.8 logs on conveyor belt and 1.5-1.8 logs on epoxy flooring in 1 to 3 hours.

For more information regarding this application data bulletin please use the following contact information:



FMCG Industry Solutions Pty Ltd
 ABN 22 135 446 007
 📍 Factory 11A, 1 - 3 Endeavour Rd, Caringbah NSW 2229
 🌐 www.fmcgis.com.au
 ✉ sales@fmcgis.com.au
 ☎ 1300 628 104 or 02 9540 2288