

## PhageGuard Listex Application on (Food Contact) Surface Areas

Product: PhageGuard Listex™ 100 mL per bottle  
 Concentration:  $2 \times 10^{11}$  PFU/mL  
 Shelf life: 6 months refrigerated  
 Storage: To be stored at refrigerated conditions 36 - 46°F (2 - 8°C)

PhageGuard Listex™ can be used directly on food or in the environment as an extra safety step against *Listeria monocytogenes*. It is not replacing the normal hygiene measurements and cleaning practices.

PhageGuard Listex™ kills Listeria and not just delays the outgrowth of it.



### Food-contact surfaces

For food-contact surfaces and environmental surfaces that are chemically cleaned daily, PhageGuard Listex™ can be applied on a continuous/daily base.

1% daily

### Biofilms/Hot Spots treatments

For environmental application/hot spots where biofilms are expected PhageGuard Listex™ can be used daily at a 5% concentration and followed by daily testing/swabbing until Listeria will test negative for three consecutive days. From this point onwards PhageGuard Listex™ should be used weekly or bi-weekly. Biofilm should be eradicated within 2-7 treatments.

5% daily, until test negative

### Food-processing environments

For the food-processing environments we recommend a weekly/bi-weekly application of LISTEX™.

1% dilution  
Weekly/Bi-weekly

### Use Instructions

- Dilution: make a 1% concentration: 1 bottle PhageGuard on 10 liter water
- The tap water should have a free chlorine level of < 1 ppm
- Distilled water should not be used.
- Spray on the surface, add so much that the surface becomes wet
- 10 liter of a 1% PhageGuard™ solution can treat approx. 100 m<sup>2</sup> of surface
- For the drains either spray as well or flush with some liters of the solution
- The treated surfaces should not contain chemicals so rinse the surfaces after your regular leaning protocol
- Phages work up to 24 hours so treatment at the end of shift so they can work overnight (or over the weekend) will give best results
- PhageGuard™ does not need to be removed as it is a GRAS processing aid
- Clean the sprayer (in and out) and flush it before preparing a new batch.
- Do not add any chlorine tablets to the drains, make sure PhageGuard Listex™ does not come into contact with cleaning chemicals

### Application considerations

- See picture example of a hand sprayer that can be used.
- Since our product does not contain any chemicals, we advise during cleaning to flush the spraying installation in line with cleaning regimes for organic materials and then rinse with water.
- Remaining liquid should be stored refrigerated overnight in the vessel for use next day.
- Finish this remaining liquid first before switching to a fresh batch.
- However when given the choice we advise to start the day fresh to rule out unintentional mishandling.
- PhageGuard Listex™ is deactivated by deionized water, chlorine and chemical sanitizers but can tolerate chlorinated water up to 1 ppm
- Distilled water should not be used.
- PhageGuard Listex™ should not be frozen or kept at temperatures > 30°C. Refrigerated, PhageGuard Listex has a 6 months shelf life.

