

Biotechnology

Control of Listeria in the food industry

The listeria problem

Listeria is a universal problem for the global food industry because it poses a threat to human health. Despite careful hygiene, pathogens still enter food companies despite an apparently clean production environment in practice. According to the German Federal Office of Consumer Protection (BVL), the number increased from 17 reported foodborne outbreaks in 2018 to 34 outbreaks in 2021. Using current detection methods and, in particular, the ability to link DNA profiles of disease cases from different databases, disease outbreaks can increasingly be attributed to individual foods and companies.

A statement¹⁾ from the German Federal Institute for Risk Assessment (BfR) in 2021 focused on Listeria. Unlike many other pathogens, Listeria can also grow under cold storage conditions. Small residual contaminations thus become serious sources of recontamination for the entire production chain.

Good hygiene is the basis

Proper and regular cleaning of surfaces and the immediate environment of production facilities, as well as the implementation of disinfection with a fast and broadly effective disinfectant, is the basis of success for good (production) hygiene.

In addition, careful compliance with personal hygiene regulations by employees is essential in order to minimize the possible introduction of listeria contamination via raw materials/products and means of transport. Raw materials/products, packaging materials and means of transport to a minimum.

However, even when good hygiene is maintained, there are always cases of (very) persistent infections whose sources cannot be completely eliminated.

Here, the new development of **the PhytoClean series** from our biotechnology subsidiary **Phage Technology Center** is used to complement the hygiene concept.

¹⁾ <https://www.bfr.bund.de/cm/343/listeriose-erkrankungen-nehmen-zu-welche-rolle-spielenverzehrferfigelebensmittel.pdf>



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PhytoClean X8 L

Processing aid for the aftertreatment of surfaces

PhytoClean X8 L is a liquid, biotechnological processing aid for the post-treatment of problem areas with Listeria findings. The activity of *PhytoClean X8 L* is based on the biological activity of bacteriophages, which have the potential to exclusively recognize and kill Listeria as a host.

Nature provides balance

In nature, there is a balance between bacteria (growth rate) and bacteriophages (kill rate), which serves both counterparts. Through the targeted use of bacteriophages, this balance can be shifted in favor of the kill rate and thus, within a limited range, undesirable bacteria can be significantly reduced or even eliminated.

PhytoClean X8 L is therefore not a disinfectant, but a processing aid that is used after the cleaning and disinfection process has been completed.

Application

After rinsing off the disinfectant used every day, the surfaces to be treated are sprayed with a solution of *PhytoClean X8 L*. The solution is then rinsed off. To give the active ingredients time to recognize and eliminate the bacteria, rinsing after spraying is not necessary. *PhytoClean X8 L* is pH neutral and leaves no residue after drying.

If Listeria is detected in a company, it is recommended to carry out this treatment daily until at least 14 days after the last sample control with a negative result (i.e.: the contamination is no longer present). After that, a weekly application, e.g. after the last cleaning of the week, is sufficient.

PhytoClean X8 L is intended for use on food contact materials and in the environment and may only be used by professional users.



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Overall concept – hygiene

The following modules are available to FINKTEC customers as part of an overall hygiene concept.

Area	Description
Process hygiene	- FINK TEC cleaning and disinfection products for container, CIP, conveyor belt, foam and environmental hygiene, as well as for industrial / boiler water treatment and special applications - Cleaning, disinfection and care products for personal hygiene
Process aftertreatment	- FINK TEC-PhytoClean series - Processing aids for the after-treatment of surfaces - Phage consulting
Services	- Application-technical support and consulting service - Hygiene plan concept development - Verification service for closed cleaning processes and open applications
Documentation	- Provision of product documents including update service (Compliance Manager) - Service documentation and provision via customer portal FINKTEC DATA CLOUD
Employee training	- On-site delivery - Provision via the eLearning online portal FINK TEC-Campus - Provision of your company's own instructions via the eLearning online portal FINK TEC-Campus-Plus

Any questions?

Learn in detail which possibilities there are to complement your hygiene concept with developments of the FINKTEC *PhytoClean* series.

Our technical advisors are at your disposal to arrange a personal consultation.

Kontakt: info@finktec.com

