

Section 1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY UNDERTAKING

1.1 Product identifiers

Product Name: PhageGuard Listex™

Product code: 106, 107 (100 mL), 105 (1000 mL)

CAS-No.: N.A.

1.2 Relevant identified uses of the substance or mixture and uses advised against uses:

Liquid P100 phage culture which kills *Listeria monocytogenes* in food.

1.3 Details of the supplier of the safety data sheet

Manufacturer: MICREOS FOOD SAFETY B.V.
Nieuwe Kanaal 7P
6709 PA, The Netherlands
Tel: +31 88 8007 151

1.4 Emergency telephone number

Emergency Phone : +31-6-53322700

Section 2. HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture

US: The product contains no substances which at their given concentration is considered to be hazardous to health.

EC: Not a hazardous substance or mixture according to Regulation (EC) No. 1272/2008.

2.2. Label elements

The product does not need to be labelled in accordance with EC directives or respective other national laws.

2.3 Other hazards

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

Section 3. COMPOSITION/INFORMATION OF INGREDIENTS

Mixture

Components	EC-No.	CAS-No.	Weight, %
Water	7732-18-5	231-791-2	80-83
Potassium Lactate	288-752-8	996-31-6	17-20
Ferment	n.a.	n.a	< 0.1
P100 phage culture	n.a	n.a	0.0033

Physical State and Appearance: Clear to slightly opaque, colorless to slightly yellow liquid

Section 4. FIRST-AID MEASURES

General advice:	Show this safety data sheet to the doctor in attendance.
Inhalation:	Move to fresh air.
Skin contact:	Wash off with water.
Eye contact:	Rinse thoroughly with plenty of water, also under the eyelids.
Ingestion:	Drink water.
Major effects of exposure:	May cause eye irritation with susceptible persons

Section 5. FIRE-FIGHTING MEASURES

Suitable extinguishing media	Water, carbon dioxide (CO2), foam.
Extinguishing media which must not be used for safety reasons	None.
Specific hazards	Burning produces irritant fumes.
Special protective equipment for firefighters	None.
Specific methods	Standard procedure for chemical fires.

Section 6. ACCIDENTAL RELEASE MEASURES

Personal precautions	Avoid contact with eyes.
Environmental precautions	No special environmental precautions required.
Methods for cleaning up	Flush with water.

Section 7. HANDLING AND STORAGE

Handling: No special precautions required.
Storage: Keep refrigerated at 36-46°F (2-8°C). Do not freeze.
Avoid temperatures above 99°F (37°C).

Section 8. EXPOSURE CONTROLS/PERSONEL PROTECTION

Engineering measures to reduce exposure Insure adequate ventilation, especially in confined areas.
Control parameters None.
Personal protection equipment No special protective equipment required.
Hygiene measures Handle in accordance with good industrial hygiene and safety practice.

Section 9. PHYSICAL AND CHEMICAL PROPERTIES

Odor: Odorless.
Physical State and Appearance: Clear to slightly opaque, colourless to slightly yellow liquid
Molecular Weight: Not applicable.
Molecular Formula: Not applicable.
pH: 6.0 – 8.0
Boiling/Condensation Point: Not applicable
Melting/Freezing Point: Not applicable
Vapor pressure: Not available
Density: Not available
Solubility: Soluble in water
Viscosity: Not available
Flash Point: Not applicable
Flammability Limits: Not self-igniting

Section 10. STABILITY AND REACTIVITY

Stability Shelf life 6 months when refrigerated at 36-46°F (2-8°C).
Conditions to avoid Temperatures outside 36-46°F (2-8°C). Do not freeze.
Temperatures above 99°F(37°C).
Materials to avoid None.
Hazardous decomposition products Carbon oxides.

Section 11. TOXICOLOGICAL INFORMATION

Bioinformatical analysis of the phage genomes showed an absence of genes encoding known virulence factors and toxins.

Chronic Effects on Humans:	Health injuries are not known or expected under normal use.
Acute Effects on Humans:	None
Irritancy:	May cause eye irritation with susceptible persons.
Sensitization:	Non-sensitizing
Carcinogenic Effects:	The product is not known to cause cancer in animals or humans.
Toxicity to Reproductive System:	Not available.
Teratogenic Effects:	Not available.
Mutagenic Effects:	Not available.

Repeated high dose toxicology study in rats: normal histomorphometric limits.

Section 12. ECOLOGICAL INFORMATION

PhageGuard Listex™ is believed not to be dangerous to the environment with respect to mobility, persistence and degradability, bioaccumulative potential, aquatic toxicity and other data pertaining to ecotoxicity.

Section 13. DISPOSAL CONSIDERATIONS

EPA Waste Number:	Not available
Treatment:	The product does not have an EPA Waste Code and is no listed waste. Always contact a permitted waste disposal site (TSD) to assure compliance with all current local, state, and Federal Regulations.
EC	There are no uniform EC regulations for the disposal. Small quantities of waste are disposed of as domestic refuse. Large quantities are disposed of in accordance with the local regulations.

Section 14. TRANSPORT INFORMATION

DOT Classification:	Not applicable
IMO/IMDG Classification:	Not applicable
ICAO/IATA Classification:	Not applicable
Storage:	Keep refrigerated at 36-46°F (2-8°C). Do not freeze. Avoid temperatures above 99°F (37°C).

Section 15. Regulatory Information

U.S. Federal Regulations:	FDA & USDA approved PhageGuard Listex™ as a “GRAS” GRN. 000218 (Generally Recognized as Safe) food processing aid against <i>Listeria</i>
EC	When in use as a processing aid, PhageGuard Listex™ is exempted under EU law and free from labelling under Directive 2000/13/EC.

Section 16. Other Information

This data sheet complies with EU Directive 91/155 as amended. Product specifications are available on request.

This information relates to the specified material designated and may not be valid for such material used in combination with any other materials or in any other process. Such information is, to the best of our knowledge and belief, accurate and reliable as of the date indicated. However, no warranty, guarantee or representation is made as to its accuracy, reliability and completeness. It is the user’s responsibility to satisfy himself as to the suitability of such information for his own particular use. Health and safety information is directed towards the safe use rather than the commercial performance of the product.



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