

## LYSOCH<sup>®</sup> E4

### PRODUCT DESCRIPTION SHEET

Code	File name	Analyst	Date
0401	PDS_0401_LYSOCH <sup>®</sup> E4	Dr. YANG	04/04/2019

#### DESCRIPTION

Lysoch<sup>®</sup> E4 Lysozyme is an antimicrobial enzyme extracted from egg-white, it is mainly used to lyse the cell wall of Gram-positive bacterial in processed foods.

#### KEY BENEFITS

- Growth control of Gram-positive bacteria;
- Inactive against yeast, mold and Gram-negative bacteria;
- Shelf life extension;
- Natural, consumer-friendly label.

#### APPLICATIONS

Food	Targeted bacteria	Dosage (w/w)
Cheese	Lysis of <i>Clostridium tyrobutyricum</i>	0.02-0.04 g/kg
Wine	Lysis of lactic acid bacteria and control of malolactic fermentation (MLF)	0.1-0.2 g/L

#### DIRECTION FOR USE

In general, dissolving Lysoch<sup>®</sup> E4 into cold boiled water or distilled water, then add directly into foods.

#### ACTIVITIES

Activity in FIP Units/mg protein*	40,000 iu/mg
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#### COMPOSITION

Lysozyme (on the anhydrous basis, w/w)	≥99%
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\*The exact percentage variations may occur from batch to batch.

#### HEAVY METALS

Lead (mg/kg)	≤2
Arsenic (mg/kg)	≤1
Mercury (mg/kg)	≤1

#### MICROBIOLOGICAL SPECIFICATIONS

Total viable count (CFU/g)	≤100
Enterobacteriaceae (/g)	Absent
<i>Salmonella</i> (/25g)	Absent
<i>Staphylococcus aureus</i> (/1g)	Absent
<i>E. coli</i> (MPN/100g)	Absent

#### PHYSICAL / CHEMICAL SPECIFICATIONS

Appearance	Cream white powder
Solubility at 640nm of a 2% aqueous solution	≥95%
pH of 2% aqueous solution at 20-25°C	3.0-4.0

\*Appearance variations may occur from batch to batch.

#### NUTRITIONAL DATA

Contribution to energy level is insignificant at recommended usage levels.

#### PACKAGING

Lysoch<sup>®</sup> E4 is available in 500 gr/bottle or 20 kg/ bucket with integral, tamper-proof seals. Packaging is available in other quantities.

Plastic bottle and pouch materials comply with Regulation (EU) No 10/2011.

#### STORAGE CONDITIONS

Conditions:  
24 months, store unopened below 20°C in dry conditions, away from direct sunlight and odorous products. When opened, store at approx. 20°C in original container.

Shelf life:  
Shelf life is 24 months when stored according to recommendations.

#### ALLERGENS

Components	Yes / No
● Peanut or its derivatives	No
● Tree nuts, macadamia nuts, pecans, pine nuts, pistachios and walnuts or their derivatives	No
● Sesame or its derivatives	No
● Eggs or its derivatives	Yes
● Fish or its derivatives	No
● Crustaceans and shellfish or their derivative	No
● Soy or its derivatives	No
● Wheat, triticale or their derivatives	No
● Mustard or its derivatives	No

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|--|----|
| ● Milk or its derivatives (e.g. Lactose) | No |
| ● Sulphites                              | No |

#### COUNTRY OF ORIGIN

The Netherlands

#### CERTIFIED STATUS

The product is certified by KOSHER, HALAL and ISO22000:2005.

#### GMO STATUS

According to regulations Ec No. 1829/2003 and 1830/2003.

Lysoch<sup>®</sup> E4 has not been derived from and does not contain compounds from Genetically Modified Origin.

#### REGULATION STATUS

In Cheese, Lysozyme is considered as generally recognized as safe (GRAS) by the U.S. FDA and approved as a preservative (E1105) under the European Additives Directive to prevent late blowing in ripened cheese. Lysozyme is also approved for use in cheese in Australia, Canada, China, Japan and South Korea.

In wine, OIV has approved Lysozyme as active ingredient up to the level of 500 mg/kg. The European Union has approved the use of Lysozyme as of October 26, 2001.

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