

# Lyofast PB 1

## Description

**Lyofast PB 1** consists of selected strains of *Propionibacterium freudenreichii* ssp. *shermanii*.

Lyofast PB 1 may be applied to produce big-eyed hard cheese such as Emmentaler and Swiss cheese types.

Lyofast PB 1 ferments lactose and lactate producing carbon dioxide, propionic acid, and acetic acid. Lyofast PB 1 might be used in combination with other Lyofast cultures.

## Application

For high inoculation levels sprinkle the culture powder directly into process milk under aseptic conditions ensuring that the culture is well dispersed by gentle stirring.

For lower inoculation levels disperse the culture powder in milk or water, add approximately the same temperature as the process milk and apply under aseptic conditions ensuring that the culture is well dispersed by gentle stirring.

The following may be used as inoculation guidelines:

Product	Dose/100 l	Product	Dose/100 l
Semi-hard cheese	0.5-1.0	Hard cheese	0.1-0.2
Semi-hard cheese, bactofugated	1.0-2.0	Hard cheese, bactofugated	0.5-1.0

## Culture information

Inoculation guideline: 1 dose is  $10^{10}$  CFU and inoculated in 100 l milk 1 dose gives approx.  $10^5$  CFU/ml milk.

Data are obtained under standardised laboratory conditions, and consequently, should be considered as guidelines.

Optimal temperature for growth	15-30°C	Scalding temperature	Max. 54°C
Gas production/citrate/urea	High T°C / +++	Gas production/citrate/urea	Low T°C / +

## Storage

Unopened pouches should be kept below -17°C.

## Package data

The freeze-dried culture is packed in waterproof and airproof aluminium pouches. The packaging material is food grade.

## Shelf life

18 months when stored below -17°C.

## Heavy metal specification

Pb (lead)	< 1 ppm
Hg (mercury)	< 0.03 ppm
Cd (cadmium)	< 0.1 ppm

\* Analysed on regular basis.

## Microbiological specification

<i>Bacillus cereus</i>	<100 CFU/g	Method: Sacco M10 (1)
Coagulase positive staphylococci*	<10 CFU/g	Method: Sacco M11 (2)
Enterobacteriaceae	<10 CFU/g	Method: Sacco M02 (3)
<i>Escherichia coli</i>	<1 CFU/g	Method: Sacco M27 (4)
<i>Listeria monocytogenes</i> *	Not detected in 25 g	Method: Sacco M13 (5)
Moulds & yeasts	<10 CFU/g	Method: Sacco M03 (6)
<i>Salmonella</i> spp.*	Not detected in 25 g	Method: Sacco M12 (7)

\* Analysed on regular basis. All analytical methods are available upon request.

(1)ISO 7932; (2)ISO 6888-1-2; (3)ISO 21528-1-2; (4)ISO 11866-1-2/IDF 170-1-2; (5)ISO 11290-1-2; (6)ISO 6611/IDF 94; (7)ISO 6785/IDF 93.

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<b>GMO</b>	Sacco microorganisms are not genetically modified (GMO) in accordance with the European Directive 2001/18/EC. The strains are isolated from natural sources. In accordance with Regulation (EC) No. 1829/2003 and Regulation (EC) No. 1830/2003 this product does not require labelling with regard to the use of genetically modified organisms.
<b>Allergens</b>	The raw materials used are generally based on dairy ingredients. All materials are free of the following components and their derivatives: cereals containing gluten, crustaceans, eggs, fish, peanuts, soybeans, nuts, celery, mustard, sesame seeds, shellfish, lupine, molluscs, sulphur dioxide and sulphites.
<b>Safety information</b>	Material Safety Data Sheet available on <a href="http://www.saccosystem.com">www.saccosystem.com</a> .
<b>Certificate</b>	Lot certificate available upon request.
<b>Certifications</b>	Sacco S.r.l. is UNI EN ISO 9001:2008 certified since 1998, ISO 22000:2005 and FSSC 22000 certified since 2014. Sacco cultures are generally Kosher and Halal approved except for surface ripening cultures.
<b>Service</b>	Please contact your distributor for guidance and instructions for your choice of culture and processing. Information about additional package sizes and sales units is also available upon request.
<b>Liability</b>	This information is based on our knowledge trustworthy and presented in good faith. No guarantee against patent infringement is implied or inferred.