

Lyofast LL 1

Description

Lyofast LL 1 consists of a specifically selected strain of *Lactobacillus delbruekii* ssp. *lactis* to ensure a uniform and controlled production of pasta filata and hard cheeses such as Emmental. Lyofast LL 1 gives a mild aroma with little bitterness, and enhances the growth of propionic bacteria.

Application

In the following product examples Lyofast LL 1 would normally be used with additional *Streptococcus thermophilus* and with and without other *Lactobacillus* spp. This may be used as inoculation guidelines:

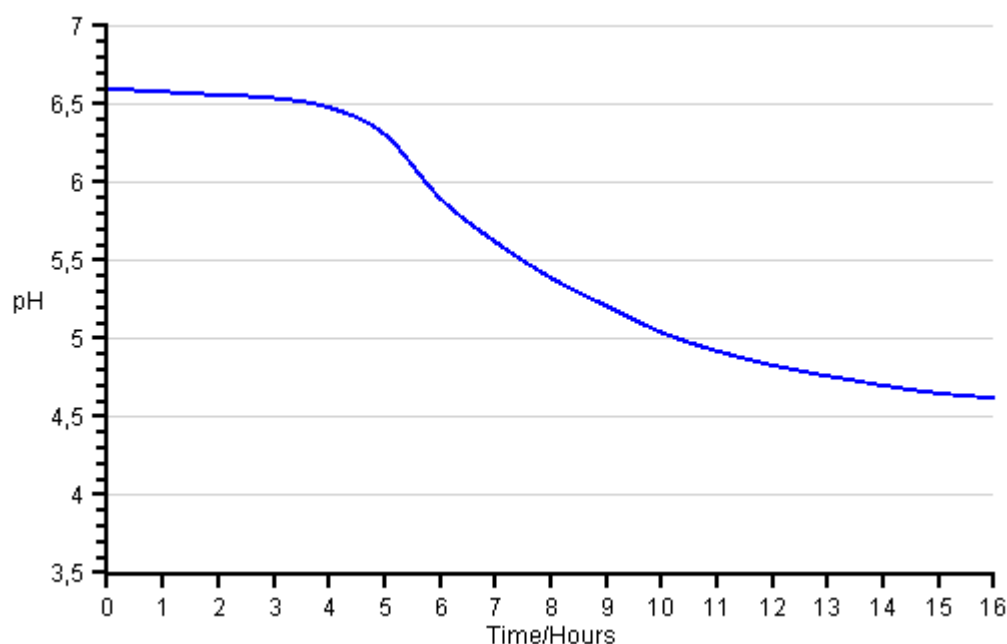
Product	UC/100 l	Product	UC/100 l
Swiss cheese	0.05-0.3	Grana cheese	0.2-1.0
Mozzarella	0.4-2.0		

Acidification information

Standardised laboratory acidification test is conducted in milk powder, reconstituted at 10%, at defined temperature.

Acidification profile: inoculation level corresponding to 1 UC per 100 litres milk.

Standard activity: expressed as temperature/time/pH relations: 43°C/7 hours/pH 5.6 ± 0.15.



Culture information

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

Optimal temperature for growth	37-45 °C	Scalding temperature	57°C
Acidification capability	pH 4.2	Aroma formation for yoghurt	++
Post-acidification	Δ pH 0.5	Proteolytic activity for cheese	+(+)

Storage

Unopened pouches should be kept below -17°C.

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Package data	The freeze-dried culture is packed in waterproof and airproof aluminium pouches. The packaging material is food grade. The product is available in 10 and 50 UC.		
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	
	<i>* Analysed on regular basis.</i>		
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 M2 (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 M3 (6)
	<i>Salmonella spp</i> *	Not detected in 25 g	Method: Sacco M12 (7)
	<i>* 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)ISO11866-1-2/IDF 170-1-2; (5)ISO 11290-1-2; (6)ISO 6611/IDF 94; (7)ISO 6785/IDF 93.</i>		
GMO	The microbial strains are not genetically modified (GMO) in accordance with the European Directive 2001/18/EC. The strains are isolated from natural sources. The raw materials used are also GMO free in accordance with Regulation (EC) No. 1829/2003 and Regulation (EC) No. 1830/2003. Statement available upon request.		
Allergens	The raw materials used are generally based on dairy ingredients. All materials are free of the following components and their derivatives: peanut, tree nut, sesame, egg, fish, shellfish, mollusc, crustacean, sulphite, cereals containing gluten, celery, mustard, soy and lupine. Statement available upon request.		
Safety information	Material Safety Data Sheet available on www.saccosrl.it		
Certificate	Lot certificate available upon request.		
ISO Kosher approval	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 approved except for surface ripening cultures.		
Service	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.		
Liability	This information is based on our knowledge trustworthy and presented in good faith. No guarantee against patent infringement is implied or inferred.		