



### Lactoferm EM-4 Cheese-Tek®

#### Description:

Concentrated, lyophilized lactic starter culture for Direct Vat Inoculation (DVI ®) ideal to make cow's and goat's milk cheeses, such as Ementhal, Grouvier, Grev.  
 Natural mesophilic- thermophilic culture composed in decreasing order by:

- Lactococcus lactis subsp. lactis*
- Lactococcus lactis subsp. cremoris*
- Streptococcus salivarius subsp. thermophilus*
- Lactobacillus helveticus*
- Lactobacillus delbrueckii subsp. lactis*

#### Dosage:

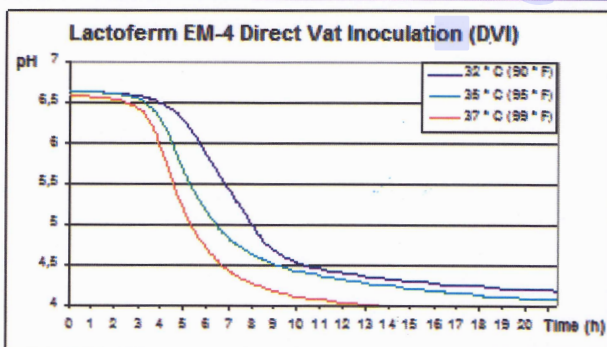
The culture is supplied in polyethylene/aluminium packet containing a single dose, for direct inoculation, relevant phage-specific rotations. Code, units, production batch and expiry date are indicated on each packet.

Recommended dosage:	1U for 100 lt of milk
Phage –specific rotation:	1-4-5-6

#### Modality of Use:

Take the culture from the freezer and use a sanitising agent to sanitise both the upper side of the packet and the tool used to open it. Inoculate culture directly in the milk treated, without any preliminary reactivation. Shake for some minutes to distribute culture evenly.

#### Fermenting activity:



Method: ISO 26323/IDF 213:2009	Substrate: Reconstituted skim milk 9,5% RSM
Heat treatment: 110°C x30'	Inoculation: 1 Ux100 lt of milk

The information contained in this document is based on our laboratory and field studies. The statements contained in this document do not grant any express or implied warranty of any kind. Our company shall not be liable for any patent or brand infringement

#### Declaration of GMO and Allergens:

The product EM-4 does not contain any genetically modified microorganisms and is produced in compliance with Regulation (EC) No. 1829-1830/2003 and 1169/2011 as further amendments.

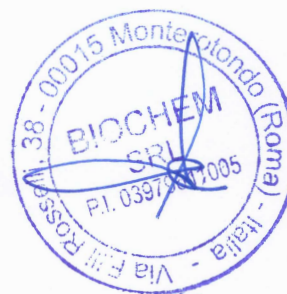
Allerges	Yes	No
Cereals containing gluten		X
Crustaceans		X
Eggs		X
Fish		X
Peanuts		X
Soy (GMO-free)		X
Milk	X	
Nuts		X
Celery		X
Mustard		X
Sesame seeds		X
Sulphur dioxide and Sulphits (>10mg/kg)		X
Lupins		X
Shellfish		X

#### Culture characteristics:

Optimum temperature for growth:	32 - 35 °C
Maximum temperature of heating:	37 °C
Gas production:	-
Proteolytic activity:	++++
Fermenting activity:	+++
Salt Tolerance (Expressed as 50 % inhibition):	2%

#### Storage and Expiry:

If is stored in its original sealed packaging at a temperature of -18°C, the product keeps its characteristics unaltered for 24 months or for 3 months at +5°C.





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#### Microbiological controls:

Microorganisms	Method	Result
Total cell count	UNI EN ISO 4833	>=5.0 E+10 CFU/g
Non lactic acid bacteria	ISO 27205/IDF149:2010	< 500 CFU/g
Coliform bacteria	ISO 4832:2006	<10 CFU/g
Enterobacteriaceae	ISO 21528-2:2004	<10 CFU/g
Yeasts	ISO 21527-1:2008	<10 CFU/g
Moulds	ISO 21527-1:2008	<10 CFU/g
Heteroferm. lactobacilli	INT. MET. 010	<10 CFU/g
Coagulase positive staphylococci	UNI ISO 6888-2:2004	<10 CFU/g
Salmonella spp.	UNI ISO 6579:2004	None/25 g
Listeria monocytogenes	UNI EN ISO 11290-1:2005	None/25 g
E. coli	ISO 118666-1:2005/IDF170-1:2005	Neg.
Mycotoxins	ISO 14675:2003/IDF186:2003	Neg.
Antibiotics	ISO 10932:2010/IDF223:2010	Neg.

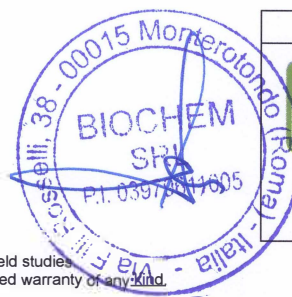
#### Heavy metal controls:

Metal tested	EU Limits (except Arsenic) stated for final products (EC 1881/2006)	Results in final food product (inoculation rate of 0,02 %)
Cadmium (Cd)	< 0.05 mg/Kg	< 0,00013 mg/kg
Lead (Pb)	< 0,020 mg /kg	< 0,000009 mg /kg
Arsenic (As)	< 3 mg /kg	< 0,0012 mg /kg
Mercury (Hg)	< 0,1 mg/kg	< 0,0007 mg /kg

#### Chemical controls:

Chemical element	Ref. Min-Max	Average
Carbohydrate %	30-38	32
Fat %	0-2	0,6
Protein (Nx6.25) %	40-45	42
Energy (Kj/100g) calc.	1300-1500	1380
Sodium (Na) mg/kg	No limits	25000
Water %	5-15	8

Invoice n°	
Lot n°	
Date of production	
Date of Expiry	



Company certified			Technical datasheet Rev 00 on 30.05.16
HALAL CERTIFICATE HIA - ITA 00322-009 Product certified Halal by HIA			Biochem s.r.l.