



# MILK-O-LAC

## Product Data Sheet

Date of issue: 19 September 2022

### Lactase enzyme for the production of low lactose dairy products

**Description:** MILK-O-LAC is a highly-purified, standardized liquid neutral  $\beta$ -galactosidase (lactase) preparation, produced by submerged fermentation of a selected strain of *Kluyveromyces lactis*. MILK-O-LAC hydrolyses lactose to glucose and galactose, and thus allows the production of lactose free/reduced products or prevent lactose crystallization in ice cream or other dairy products.

**Properties:**

Enzyme: lactase	IUBMB: 3.2.1.23
Activity: >5000 NL units/g	Form: liquid
Density: 1.1–1.3 g/ml	Colour: brown

Colour and appearance may vary from batch to batch. Colour intensity or turbidity is not an indication of enzyme activity.

**Application:** MILK-O-LAC has been primarily developed for use in the production of low-lactose milk and whey products and other dairy products.

**Conditions of use:** MILK-O-LAC can be dispersed in water and then added directly to the process tank. Efficacy of MILK-O-LAC depends on temperature and time combinations. Dosage of the product depends on the initial lactose concentration. As calcium and sodium ions can inhibit the enzyme, it is advised to treat products such as condensed milk or other dairy products with lactase before evaporation.

Application	Dosage	Conditions
Lactose hydrolysis in milk, whey, condensed milk or other milky products	3000 - 9000 NLU units per litre of milk	Optimum temp: 35 - 45 °C Optimum pH: 6.0 - 7.0 Above 50 °C, lactase is inactivated

**GM Status:** The product and its constituent enzymes are not genetically modified. Enzyme proteins are produced by fermentation of classical microorganisms, which are removed and not present in the final product. Only agricultural raw materials of non-genetically modified (non-GM) origin are used for the fermentation process and in the final formulation.

**Composition:** MILK-O-LAC is stabilised with glycerol.

**Packaging and storage:** MILK-O-LAC is available in 5 kg polyethylene drums. The product is best stored in the original and unopened packaging under refrigerated conditions (0–10 °C) in order to retain maximum activity during storage. Under optimal conditions the shelf-life is 24 months.

**Safety and caution:** Enzyme products need to be handled with care. Please consult the separately available Safety Data Sheet for further information.



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**Compliance and legal:** Our enzyme products are used as processing aids in the food manufacturing process and are thus free from any labelling provisions in the European Union. The product does not fall within the scope of EU regulations (EC) 1829/2003 and (EC) 1830/2003 on genetically modified food and feed.

The product is manufactured to comply with recommended purity specifications given by the Joint FAO/WHO Expert Committee on Food Additives (JECFA), and conforms with the recommended specifications of the Food Chemical Codex for food enzymes.

<b>Purity criteria:</b>	Total plate count	≤ 100 CFU per ml
	Coliforms	negative in 1 ml
	<i>Escherichia coli</i>	negative in 25 ml
	Salmonella	negative in 25 ml
	<i>Listeria monocytogenes</i>	negative in 25 ml
	<i>Staphylococcus aureus</i>	negative in 1 ml
	Heavy Metals (as Pb)	< 30 ppm
	Lead	< 5 ppm
	Arsenic	< 3 ppm
	Cadmium	< 0.5 ppm
Mercury	< 0.5 ppm	
<b>Special diet information:</b>	Kosher:	certifiable on request
	Halal:	certifiable on request
	Vegan/Vegetarian:	enzyme product or any constituents are not of animal origin

**Certification:** WeissBioTech GmbH has a certified quality management system according to ISO 9001:2015 and a certified Food Safety Management System according to FSSC 22000 incl. HACCP, which are reviewed in regular audits.

Made by WeissBioTech GmbH, Germany

To the best of our knowledge, the information contained herein is accurate and complete. However, nothing herein contained shall be construed to imply any warranty or guarantee.

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This document contains product specifications that may be altered without prior notice.