

# Lactose Monohydrate EP

Cat. 1902

Ingredients (Carbohydrates and Glycosides)

## Practical information

Applications	Categories
Carbon source	General use

Industry: Culture media ingredients / Manufacturing process

Regulations: European Pharmacopoeia

## Principles and uses

Lactose is a disaccharide composed of the monosaccharides glucose and galactose, and it is synthesized only by the cells of the lactating mammary gland. Its empirical formula is C<sub>12</sub>H<sub>22</sub>O<sub>11</sub>. Lactose is one of the three major solid components of milk and its only carbohydrate.

Lactose is used in microbiology as a source of carbon and energy, and also allows differentiating bacteria that can ferment lactose from non-fermenting lactose bacteria. Lactose utilization is the primary function of lactic acid bacteria used in industrial dairy fermentation.

Disaccharides are sweet, water soluble and crystalline. This disaccharide, along with dextrose, constitute the most commonly used carbohydrates used in biology today.

## Physical-chemical characteristics

Description	Specification
Particle size (A.S.T.M) over sieve 200	18-30%
Identification	European Pharmacopoeia
Specific optical rotation	+54,4° to +55,9°
Heavy metals	<5 ppm
Appearance of solution	European Pharmacopoeia
Sulfated ash	max.0,1%
Water (KF)	4,5%-5,5%
Absorbance: proteins and light-absorbing impurities [A], 1%, 1 cm at 400 nm	<0,04
Absorbance: proteins and light-absorbing impurities, [A] 1%, 1 cm at 210 to 220 nm	<0,03
Absorbance: proteins and light-absorbing impurities, [A] 1%, 1 cm at 270 to 300 nm	<0,07
Acidity or alkalinity	European Pharmacopoeia

## Microbiological test

Description	Specification
Total aerobic microbial count	max. 100 CFU/g
Escherichia coli in 1g	Neg.

## Storage

Temp. Min.:2 °C  
Temp. Max.:25 °C