LACTOSE

Cat. 1902

Others

Lactose is the sugar in milk, making up around 2 - 8% of the solids. The name comes from the Latin for milk, plus the -ose ending used to name sugars. Lactose is a disaccharide consisting of two subunits, a Galactose and a Glucose linked together. Its empirical formula is $C_{12}H_{22}O_{11}$.

Disaccharides are sweet, water soluble and crystalline.

This disaccharide, along with dextrose, constitute the most commonly used carbohydrates used in biology today.

Appearance – small, white crystals, with molecular weight of 342.30 and specific rotation range is +54.4 - 55.9°C.

Maximum list of impurities:

Insoluble matter in H_2O = 0.005%; Cl = 0.0035%; Sulphate and Sulphite = 0.0065%; Heavy Metals (as Pb) = 0.0005%; As = 0.0001%.

Lactose is free from dextrose, casein and other proteins, starches and alcohol. It does not contain traces of heavy metals and so can be used with great confidence in biological applications. Lactose is not fermented by *Salmonella* or *Shigella* which would indicate that it is free from dextrose.

It can be incorporated into media formulae alone or in combination with other fermentable substances, such as the differential and selective media for the detection of *coliforms* in products of sanitary interest (water, milk, and other foods). It is also one of the components of culture media used to detect the presence of enteropathenogenic bacteria.

SUCROSE

Cat. 1906

Sucrose or saccharose, $C_{12}H_{22}O_{11}$, is a disaccharide composed of a molecule of Glucose connected via an α (1–2) glycosidic bond to a molecule of Fructose.

It is a common addition to culture media formulations.

Disaccharides are sweet, water soluble and crystalline.

Appearance – small, white crystals, with molecular weight of 342.30 and specific rotation range is +66.3 - 67°C.

Maximum list of impurities:

Insoluble matter in H_2O = 0.005%; Glucose and Inverted Sugar = 0.04%; Cl = 0.0035%; Sulphate and Sulphite = 0.0065%; Heavy Metals (as Pb) = 0.0005%; As = 0.0001%.