



Technical Data Sheet

Format no: RDM/TD/S-02

Revision: 01 / 2024

Lactose Monohydrate

RDM-S-02

CAS no.: 63-42-3

Principle: Lactose monohydrate is utilized as a carbon and energy source in many bacteriological media. Many microorganisms have capability to ferment lactose to produce energy, acids and gas. Due to lactose breakdown by enzymatic dehydrogenation reaction to yield energy in the form of ATP. Lactose is also used for identification and classification bacteria on basis of lactose fermentation. The most commonly lactose based bacteriological media are lactose broth, MacConkey's agar and broth etc.

Use: Recommended for media ingredient of basic, selective or differential media and used as carbohydrate source in biochemical characterization of microorganisms etc.

Quality Control

Appearance	White colored, crystals or powder or powder free flowing with dry lumps
Solubility (2%)	Soluble in distilled water.
Clarity (2%)	Clear solution.
Loss on drying	NMT 2 %
Residue on ignition	NMT 2 %

Bacteriological testing Bacteriological tests are carried out as per USP 32, NF26 where respective medium is prepared by using lactose under test.

Microbial Parameters:

Total Plate Count	NMT 10000 cfu per gram.
Yeast & Molds	Absent per 10 grams.
<i>Escherichia coli</i>	Absent per 10 grams.
<i>Salmonella</i>	Absent per 10 grams.
<i>Staphylococcus aureus</i>	Absent per 10 grams.

Culture response: The carbohydrate fermentation reactions observed in phenol red both base (RDM-PRBB-01) with 0.5% lactose after an incubation at 35±2°C for 18-24 hours. Inoculum 50-100 CFU.

Organism	ATCC	Growth	Acid production	Gas production
<i>Escherichia coli</i>	25922	Luxuriant	Positive (yellow color)	Positive
<i>Salmonella typhimurium</i>	14028	Poor	Negative (No color change)	Negative

Storage and Shelf Life: The product is highly hygroscopic; keep the container tightly closed at all times and store it properly as per the conditions mentioned on the label. The declared expiry is valid only when stored as per the conditions mentioned on the label.

Note: Sterilize media immediately after reconstitution.

Disposal: To avoid the contamination or propagation of any hazardous microbes used, unusable or modified preparation of this product must be disposed after autoclaving or incineration after completion of task.

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