

## Technical Information

### Buffered Skim Milk (Twin Pack)

**Product Code: DM 2745**

**Application:** - Buffered skim milk is used for the cultivation and differentiation of microorganisms based on coagulation and proteolysis of casein.

### Composition\*\*

Ingredients	Gms / Litre
<b>Part A</b>	-
Skim milk powder	100.000
<b>Part B</b>	-
Disodium hydrogen orthophosphate ( $\text{Na}_2\text{HPO}_4$ )	1.300
Potassium dihydrogen orthophosphate ( $\text{KH}_2\text{PO}_4$ )	0.800
Final pH ( at 25°C)	6.7±0.1

\*\*Formula adjusted, standardized to suit performance parameters

### Principle & Interpretation

Skim Milk is recommended for the demonstration of coagulation and proteolysis of casein (1). The medium is used for cultivation and enumeration of microorganisms encountered in dairy industry. Skim Milk is sometimes used as a complete medium or as an ingredient in other media used for propagation of organisms occurring in milk products like *Mycobacterium tuberculosis*, *Corynebacterium diphtheriae* etc. Proteolytic bacteria hydrolyze casein to form soluble nitrogenous compounds indicated as clear zone surrounding the colonies on Agar media and shows separation of solids in liquid media.

Skim milk acts as a good source of lactose, casein and other nutrients for the growth of microorganisms while phosphates buffer the medium.

### Methodology

Suspend 100 grams of dehydrated media skim milk (**Part A**) in a little amount of distilled water to make a smooth paste. Gradually add more distilled water to make a final volume of 1000 ml. To this add 2.1grams of **part B** and shake well to dissolve the medium completely. Dispense and sterilize by autoclaving at 15 lbs pressure (121°C) for 15 minutes.

### Quality Control

#### Appearance

**Part A** : White to cream homogeneous free flowing powder

**Part B** : White to cream homogeneous free flowing powder

#### Colour and Clarity

Off white coloured opaque solution forms in tubes.

#### Reaction

Reaction of 10.2 %w/v aqueous solution of Part B at 25°C. pH : 6.7±0.1

#### pH Range

6.60-6.80

#### Cultural Response

DM 2745: Cultural characteristics observed after an incubation at 35-37°C for 24-48 hours.



Dehydrated Culture Media  
Bases / Media Supplements

### Cultural Response

Organism	Inoculum (CFU)	Growth	Recovery	Proteolytic activity
<b>Cultural Response</b> <i>Escherichia coli</i> ATCC 25922	50-100	luxuriant	>=50%	Negative
<i>Pseudomonas aeruginosa</i> ATCC 27853	50-100	luxuriant	>=50%	Positive
<i>Bacillus subtilis</i> ATCC 6633	50-100	luxuriant	>=50%	Positive
<i>Proteus mirabilis</i> ATCC 10975	50-100	luxuriant	>=50%	Positive
<i>Enterococcus faecalis</i> ATCC 29212	50-100	luxuriant	>=50%	Negative
<i>Serratia marcescens</i> ATCC 8100	50-100	luxuriant	>=50%	Positive
<i>Clostridium perfringens</i> ATCC 12924	50-100	luxuriant	>=50%	Positive

## Storage and Shelf Life

**Dried Media:** Store below 30°C in tightly closed container and use freshly prepared medium. Use before expiry date on the label.

**Prepared Media:** 2-8° in sealable plastic bags for 2-5 days.

## Further Reading

1. Frazier W.C. and Ripp P., 1928, J. Bact., 16 : 57.

## Disclaimer :

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