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SKIMMED MILK POWDER LP0033		

SKIMMED MILK POWDER

LP0033

Description

A 10% mixture in distilled water can be used more conveniently in place of liquid skimmed milk and may be sterilized by autoclaving for 5 minutes at 121°C.

Physical and Chemical Characteristics

Appearance	Light cream, free-flowing powder
Colour on reconstitution	White
pH	6.0 – 7.0
Clarity	Opaque
Loss on drying	Less than or equal to 5.0%
Fat content	1.5% maximum
Protein in milk solids	34% minimum*
Standard Plate Count	Less than 20,000 per gram
Yeast and Mould	Less than 50 per gram
Thermophilic Spores	Less than 300 per gram
E. coli	Less than 10 cfu/g
Coliforms	Less than 10 cfu/g
Bacillus cereus	Less than 100 cfu/g
Coagulase positive Staphylococci	Less than 10 cfu/g
Salmonella per 375g DTS method	Negative (not detected)

* Kjeldahl method, protein with moisture and fat removed


Microbiological Characteristics

The following tests are carried out:

Incorporate Skimmed Milk Powder into Crossley Milk Medium (CM0213). Distribute into tubes and sterilize by autoclaving at 121°C for 5 minutes.

Inoculate 10ml volumes of medium with the following quality control organisms and incubate at 37°C for 3-4 days.

<i>Clostridium sporogenes</i>	ATCC®19404	Neutral or alkaline pH (purple colour), gas production, soft curd followed by rapid digestion of casein, often to a clear brown liquid, formation of black sediment,
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accompanied by typical foul odour.

<i>Clostridium sphenoides</i>	ATCC®19403	Slight acidity (pale yellow colour), formation of soft curd and whey. Slight gas production.
<i>Clostridium perfringens</i>	ATCC®13124	Acid, formation of 'stormy clot'.
<i>Bacillus subtilis</i>	ATCC®6633	Strong alkaline pH, with peptonisation commencing at the surface and spreading downwards. Digestion not complete, no blackening, no odour, no gas production.
<i>Bacillus cereus</i>	ATCC®10876	Acid and clot, or slightly acid only. Peptonisation in some cases.
<i>Pseudomonas aeruginosa</i>	ATCC®27853	Peptonisation of casein is seen whereby a distinct top layer is formed that exhibits a clearer solution when compared to the lower layer.
<i>Alcaligenes faecalis</i>	ATCC®19018	No colour change or alkaline reaction (blue colour).
<i>Salmonella typhimurium</i>	ATCC®14028	Alkaline reaction (either green/blue or blue colour).

Additional challenging strains are employed.

There shall be no thermophiles or mesophiles in sterilized media at 55°C and 37°C for 3 days.

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Revision History

Section / Step	Description of Change	Reason for Change	Reference
Physical and Chemical Characteristics	Addition of protein measurement method	Clarification of protein method	MOC-2025-0596