



**PRODUCT MANUAL
FOR
MALTED MILK FOODS- SPECIFICATION
ACCORDING TO IS 1806 : 2018**

This Product Manual shall be used as reference material by all Regional/Branch Offices & licensees to ensure coherence of practice and transparency in operation of certification under Scheme-I of Bureau of Indian Standards (Conformity Assessment) Regulations, 2018 for various products. The document may also be used by prospective applicants desirous of obtaining BIS certification licence/certificate.

1.	Product	:	IS 1806: 2018
	Title	:	Malted Milk Foods- Specification
	No. of Amendments	:	Nil
2.	Sampling Guidelines:		
a)	Raw material	:	NA
b)	Grouping guidelines	:	None
c)	Sample Size	:	<u>2 X 500 g</u>
3.	List of Test Equipment	:	Please refer ANNEX – <u>A</u>
4.	Scheme of Inspection and Testing	:	Please refer ANNEX – <u>B</u>
5.	Possible tests in a day :		
	(i) Description		
	(ii) Total Fat		
	(iii) Solubility		
	(iv) Moisture		
	(v) Total Protein		
	(vi) Total Ash.		
	(vii) Test for Starch		
6.	Scope of the Licence :		
	“Licence is granted to use Standard Mark as per IS 1806: 2018 with the following scope:		
	Name of the product	Malted Milk Foods	
	Type	Type I (Without Cocoa Powder) Type II (With Cocoa Powder)	

ANNEX A**List of Test Equipment***Major test equipment required to test as per the Indian Standard*

Sl. No.	Tests used in with Clause Reference	Test Equipment
1	Moisture, percent by weight [Cl. 4.3, Table 1, Sl no (i)]	Flat Bottom Moisture Dish with cover, Vacuum Oven, Weighing Balance (with LC 0.1 mg), Desiccator.
2	Total protein ($N \times 6.25$) (on dry basis), percent by weight [Cl. 4.3, Table 1, Sl no (ii)]	Kjeldahl Flasks (500-800 ml capacity), Heating Device (Gas/Electric), Boiling Chips/Glass Beads, Distillation Flask with rubber Stopper, 500 ml Erlenmeyer Flask, Concentrated Sulphuric Acid, Mercuric Oxide/ Metallic Mercury, Potassium Sulphate/ Anhydrous Sodium Sulphate, Zinc Granules, Sulphite/Thiosulphate Solution, Sodium Hydroxide Pellets, HCl/H ₂ SO ₄ Standard Solution- 0.1 N or 0.5 N, NaOH Standard Solution- 0.1 N, Methyl Red Indicator, Weighing Balance.
3	Total fat (on dry basis), percent by weight [Cl. 4.3, Table 1, Sl no (iii)]	Ammonia Solution, Ethanol, Congo Red Solution, Diethyl Ether, Light Petroleum Solvent, 30-60°C boiling point (like Hexane), Analytical Balance (with LC- 0.1 mg), Distillation/Evaporation Apparatus, Drying Oven with fitted thermometer, Water-Bath, Mojonier- type Fat- extraction Flasks with stopper, Fat-Collecting Vessels, Rack, Wash Bottle, Measuring Cylinders, Pipettes, Tongs, Volumetric Flasks, Centrifuge (Recommended), Boiling Aids (Recommended).
4	Total ash (on dry basis),	Flat- Bottom Dish,

	percent by weight [Cl. 4.3, Table 1, Sl no (iv)]	Muffle Furnace, Drying Oven, Desiccator, Weighing Balance.
5	Acid insoluble ash (on dry basis) (in dilute HCl), percent by weight [Cl. 4.3, Table 1, Sl no (v)]	Dilute Hydrochloric Acid- 5N, Water-Bath, Whatman filter paper No. 42, Other Requirements same as Total Ash.
6	Solubility, percent by weight [Cl. 4.3, Table 1, Sl no (vi)]	Silicone anti-foaming agent, Thermometers- Capable of measuring a temperature of 24°C/ 50°C, Water- Bath, Mixing Jar- 500 ml, Electric Mixer, Measuring Cylinder- 100 ml, Balance (with LC- 0.01 g), Scoop, Brush, Spoon Spatula, Centrifuge Tubes, Centrifuge, Stop-watch, Siphon Fitting/ Suction Tube attached to Water Pump, Stirring Rod, Magnifying Lens.
7	Test for starch [Cl. 4.3, Table 1, Sl no (viii)]	0.1 % Iodine solution in Potassium Iodide
8	Bacterial Count, per gram, [Cl. 4.3, Table 1, Sl no (ix)]	Plate Count Agar (PCA), Overlay Medium, Oven, Autoclave, Incubator (Capable of operating at 30°C ± 1°C), Petri Dishes (90 mm to 100 mm in diameter), Pipettes of nominal capacity 1 ml, Water bath (Capable of operating at 44°C to 47°C), Colony-counting equipment, pH-meter, Test tubes, flasks or bottles.
9	Coliform Count, per gram, [Cl. 4.3, Table 1, Sl no (x)]	Crystal Violet Neutral Red Bile Lactose (VRBL) Agar, Brilliant Green Lactose Bile Broth (Confirmatory Media), Durham Tubes, Loop,

		Other requirements same as Bacterial Count.
10	<i>E. coli</i> , per 0.1 g [Cl. 4.3, Table 1, Sl no (xi)]	MacConkey Agar/ EMB Agar/ Tergitol-7 Agar, MacConkey Broth/ Peptone Water Medium, Durham Tubes, Incubator (Capable of operating at 37°C ± 1°C), Other requirements same as Bacterial Count.
11	Yeast and mould count, per 0.1 g [Cl. 4.3, Table 1, Sl no (xii)]	Yeast Extract Dextrose Chloramphenicol Agar, Incubator (Capable of operating at 25°C ± 1°C), Other requirements same as Bacterial Count.

The above list is indicative only and may not be treated as exhaustive.

Note 1- The list does not cover the following requirements, as these parameters are got to be tested from outside BIS approved lab;

- i) *Salmonella*,
- ii) *Shigella*,
- iii) *Vibrio cholerae* and *V. parahaemolyticus*,
- iv) *Faecal streptococci* and *Staphylococcus aureus*.

ANNEX B
Scheme of Inspection and Testing

1. LABORATORY - A laboratory shall be maintained which shall be suitably equipped (as per the requirement given in column 2 of Table 1) and staffed, where different tests given in the specification shall be carried out in accordance with the methods given in the specification.

1.1 The manufacturer shall prepare a calibration plan for the test equipments.

2. TEST RECORDS – The manufacturer shall maintain test records for the tests carried out to establish conformity.

3. PACKING AND MARKING – The Standard Mark, as given in the Schedule of the licence, shall be stenciled/printed on each container of Malted Milk Foods or printed on the label applied to it, as the case may be, provided always that the material in each container to which this mark is thus applied, conform to every requirement of the specification.

3.1 Packing and marking shall be done as per the provision of the Indian Standard. In addition, the following details shall be mentioned on each container legibly and indelibly:

a) BIS Licence No. CM/L_____ .

b) BIS website details i.e –“For details of BIS certification please visit www.bis.gov.in”.

4. CONTROL UNIT – For the purpose of this scheme, the quantity of each type of Malted Milk Foods manufactured during 24 hours, shall constitute a Control Unit.

5. LEVELS OF CONTROL - The tests as indicated in column 1 of Table 1 and the levels of control in column 3 of Table 1, shall be carried out on the whole production of the factory which is covered by this plan and appropriate records maintained in accordance with paragraph 2 above.

5.1 All the production which conforms to the Indian Standards and covered by the licence should be marked with Standard Mark.

6. HYGIENIC CONDITIONS– The factory should be maintained in a clean and hygienic condition as given in IS 2491. All the processing equipment should be properly cleaned and care should be taken to prevent infestation.

7. REJECTION– Disposal of non-conforming product shall be done in such a way so as to ensure that there is no violation of provisions of BIS Act, 2016.

TABLE 1
LEVELS OF CONTROL

(1)				(2)	(3)		
Test Details				Test equipment requirement R:required (or) S: Sub-contracting permitted	Levels of Control		
Clause	Requirements	Test Method Cl.Ref.	Test Method IS		No. of Samples	Frequency	Remarks
4.1	Malted Milk Foods without cocoa powder	4.1	IS 1806, IS 15347	R	One	Every four hours	If the samples fails in any of these parameters, the material be reprocessed till it conforms to ISS. Subsequently each control units shall be tested for these characteristics and when
4.2	Malted milk foods with cocoa powder	4.2	IS 1806	R	-do-	-do-	
4.3, Table 1, Sl no (i)	Moisture, percent by weight	Annex A	IS 1806	R	One	Every eight hours	
4.3, Table 1, Sl no (ii)	Total protein (N × 6.25) (on dry basis), percent by weight	-	IS 7219	R	Two	Each control unit	
4.3, Table 1, Sl no (iii)	Total fat (on dry basis), percent by weight	-	IS 11721	R	-do-	-do-	
4.3, Table 1, Sl no (iv)	Total ash (on dry basis), percent by weight	Annex B	IS 14433	R	-do-	-do-	
4.3, Table 1, Sl no (v)	Acid insoluble ash (on dry basis) (in dilute HCl), percent by weight	Annex C	IS 14433	R	-do-	-do-	
4.3, Table 1, Sl no (vi)	Solubility, percent by weight	-	IS 12759	R	-do-	-do-	

							all such seven successive control unit conform to the ISS, the original frequency restored. Appropriate records to be maintained.
4.3, Table 1, SI no (vii)	Cocoa powder (on dry basis), percent by weight	-	See Note 1 under Table 1	R	-do-	-do-	
4.3, Table 1, SI no (viii)	Test for starch	Annex B	IS 1806	R	-do-	-do-	
4.3, Table 1, SI no (ix)	Bacterial count, per gram,	-	IS 5402	R	One	Each control unit	
4.3, Table 1, SI no (x)	Coliform count, per gram,	-	IS 5401 (Part 1)	R	-do-	-do-	
4.3, Table 1, SI no (xi)	<i>E. coli</i> , per 0.1 g	-	IS 5887 (Part 1)	R	-do-	-do-	
4.3, Table 1, SI no (xii)	Yeast and mould count, per 0.1 g	-	IS 5403	R	-do-	-do-	
4.3, Table 1, SI no (xiii)	<i>Salmonella</i> , per 0.1 g	-	IS 5887 (Part 3)	S	One	Once in a month	
4.3, Table 1, SI no (xiv)	<i>Shigella</i> , per 0.1 g	-	IS 5887 (Part 7)	S	-do-	-do-	
4.3, Table 1, SI no (xv)	<i>Vibrio cholerae</i> and <i>V. parahaemolyticus</i> , per 0.1 g	-	IS 5887 (Part 5)	S	-do-	-do-	

4.3, Table 1, Sl no (xvi)	<i>Faecal streptococci</i> and <i>Staphylococcus aureus</i> , per 0.1 g	-	IS 5887 (Part 2)	S	-do-	-do-	
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Note-1: As there is no suitable and easily workable method for determining cocoa powder content, the manufacturers would be required to maintain a record showing the quantity of cocoa powder added to each control unit of malted milk foods with cocoa powder (Type II).

Note-2: Whether test equipment is required or sub-contracting is permitted in column 2 shall be decided by the Bureau and shall be mandatory. Sub-contracting is permitted to a laboratory recognized by the Bureau or Government laboratories empaneled by the Bureau.

Note-3: Levels of control given in column 3 are only recommendatory in nature. The manufacturer may define the control unit/batch/lot and submit his own levels of control in column 3 with proper justification for approval by BO Head.