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मानक

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“जानने का अधिकार, जीने का अधिकार”

Mazdoor Kisan Shakti Sangathan

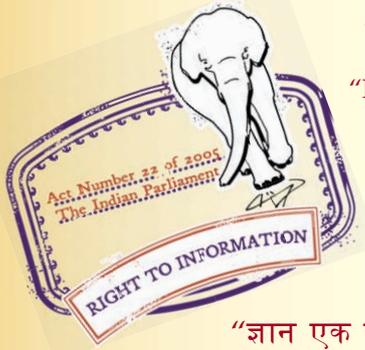
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“पुराने को छोड़ नये के तरफ”

Jawaharlal Nehru

“Step Out From the Old to the New”

IS 14542 (1998): Partly Skimmed milk Powder [FAD 19: Dairy Products and Equipment]



“ज्ञान से एक नये भारत का निर्माण”

Satyanarayan Gangaram Pitroda

“Invent a New India Using Knowledge”



“ज्ञान एक ऐसा खजाना है जो कभी चुराया नहीं जा सकता है”

Bhartrhari—Nitiśatakam

“Knowledge is such a treasure which cannot be stolen”



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भारतीय मानक

आंशिक मलाईरहित दूध पाउडर — विशिष्टि

*Indian Standard*

**PARTLY SKIMMED MILK POWDER —  
SPECIFICATION**

ICS 67.100.01

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**BUREAU OF INDIAN STANDARDS**  
MANAK BHAVAN, 9 BAHADUR SHAH ZAFAR MARG  
NEW DELHI 110002

## FOREWORD

This Indian Standard was adopted by the Bureau of Indian Standards, after the draft finalized by the Dairy Products and Equipment Sectional Committee had been approved by the Food and Agriculture Division Council.

The milk production in our country is characterized by seasonal variations and drying of milk, an important method of preservation, facilitates later consumption during the lean season. The dried milk products, thus, have become an essential part of the chain between the producer and the consumer.

Keeping this in view, a number of Indian Standards have been formulated on dried milk products. The Government of India, vide Gazette Notification No. G.S.R. 41(E) dated 29 January 1997, has amended *Sub Rule 16 of Rule 49 of PFA Rules, 1955*, thereby, including partly skimmed milk powder, among other products, under mandatory BIS Certification. This standard has, therefore, been published to cover the requirements of partly skimmed milk powder.

While finalizing the standard, the committee felt that the requirements of Type II 'Partly Skimmed Milk Powder (Sour)' should not be covered in the standard in view of its potential misuse in blending with other types of milk powder and in the reconstitution of liquid milk. However, as the requirements of this type of powder have already been covered under the provision of the *PFA*, the committee agreed to retain it till the requirements of this type of powder is deleted from the *PFA*.

While formulating this standard, due consideration has been given to the relevant rules prescribed by the Government of India under the *Prevention of Food Adulteration Act, 1954* and *Rules, 1955* and *Standards of Weights and Measures (Packaged Commodities) Rules, 1977*. This standard is however, subject to the restrictions imposed under these, wherever applicable.

For the purpose of deciding whether a particular requirement of this standard is complied with, the final value, observed or calculated, expressing the result of a test or analysis, shall be rounded off in accordance with IS 2 : 1960 'Rules for rounding off numerical values (*revised*)'. The number of significant places retained in the rounded off value should be the same as that of the specified value in this standard.

**AMENDMENT NO. 1 NOVEMBER 2012**  
**TO**  
**IS 14542 : 1998 PARTLY SKIMMED MILK POWDER —**  
**SPECIFICATION**

*(Page 2, Table 1, Sl No. (i), col 5)* — Substitute ‘IS 11623 for reference purpose and IS 16072 for routine purpose’ for ‘IS 11623’.

*(Page 2, Table 1, Note)* — Substitute the following in place of the existing note:

‘NOTE – From the mass of residue, as obtained in the method prescribed in IS 11623 or IS 16072, calculate the percentage of total solids.’

*(Page 3, Annex A)* — Insert the following at the end:

<i>‘IS No.</i>	<i>Title</i>
16072 : 2012	Determination of moisture content in milk powder and similar products (Routine method).’

## *Indian Standard*

# PARTLY SKIMMED MILK POWDER — SPECIFICATION

### 1 SCOPE

This standard prescribes the requirements, methods of sampling and test for partly skimmed milk powder.

### 2 REFERENCES

The Indian Standards listed in Annex A contain provisions which through reference in this text, constitute provision of this standard. At the time of publication, the editions indicated were valid. All standards are subject to revision and parties to agreements based on this standard are encouraged to investigate the possibility of applying the most recent editions of the standards indicated.

### 3 TERMINOLOGY

For the purpose of this standard, the following definitions shall apply.

#### 3.1 Partly Skimmed Milk Powder

The product obtained from partly skimmed milk of cow or buffalo or a combination thereof by the removal of water through spray drying or roller drying.

#### 3.2 Partly Skimmed Milk Powder (Sour)

The product obtained from partly skimmed milk of cow or buffalo or a combination thereof by the removal of water through spray drying or roller drying primarily for use by industry like bakery.

### 4 TYPES

4.1 The material shall be of following two types:

- a) Type I Partly Skimmed Milk Powder
- b) Type II Partly Skimmed Milk Powder (Sour)

### 5 DESCRIPTION

5.1 The product shall be white or white with a greenish tinge to light cream in colour. It shall be free from lumps except those that break up readily under slight pressure and shall be reasonably free from scorched particles.

### 6 REQUIREMENTS

6.1 The product shall be free from extraneous matter, added colours and flavours.

6.2 The Type I of product may contain added calcium chloride, citric acid and sodium citrate, sodium salts of orthophosphoric acid and polyphosphoric acid (as linear phosphate), not exceeding 0.3 percent by mass

of the finished product. Butylated hydroxyanisole (BHA) not exceeding 0.01 percent by mass of the finished product, may be added. Such additions need not be declared on the label.

6.3 The Type II of the product may also contain sodium bicarbonate as a neutralizer provided that the resultant product is labelled as 'Unfit for Direct Consumption'. The amount of food additives including neutralizers added shall, however, be same as prescribed under 6.2.

6.4 The flavour of the Type I of the product or of the reconstituted milk shall be pleasant and clean. It shall be free from off flavours. It may have slightly cooked but not the burnt flavour. It is recommended that the flavour and taste may be judged on the basis of their sensory characteristics (*see* IS 10030).

#### 6.5 Hygienic Conditions

The product shall be manufactured and packed under hygienic conditions (*see* IS 2491).

#### 6.6 Microbiological Requirements

##### 6.6.1 Bacterial Count

The bacterial count per gram of the product shall not be more than 50 000 when determined according to the method prescribed in IS 5402.

##### 6.6.2 Coliform Count

The coliform bacteria shall be absent per 0.1 g of the product when determined according to the method prescribed in IS 5401.

6.7 The product shall also conform to the requirements given in Table 1.

### 7 PACKING AND MARKING

#### 7.1 Packing

##### 7.1.1 Retail Packing

The product shall be packed in nitrogen or a mixture of nitrogen and carbon dioxide if the fat content exceeds 18 percent. The product shall be packed in clean and sound metal containers (*see* IS 11078) or in a food grade flexible pack made from a film or combination of any of the substrates made of board, paper, polyethylene, polyester metalized film or aluminium foil in such a way so as to protect it from deterioration. In the case of the plastic material, only food grade plastic (*see* IS 10171) shall be used.

## NOTES

1 For food grade plastic material, *Rule 49(5) (v) of PFA Rules* should also be referred.

2 In the case of flexible pack, the following information shall be marked on the label:

'Once opened, the entire product content should immediately be placed in a clean air tight container'.

**Table 1 Requirements for Partly Skimmed Milk Powder**  
(Clause 6.7)

SI No.	Characteristic	Requirement		Method of Test, Ref to
		Type I	Type II	
(1)	(2)	(3)	(4)	(5)
i)	Moisture, percent by mass, <i>Max</i>	4.0	4.0	IS 11623
ii)	Total solids (milk solids and added salts), percent by mass, <i>Min</i>	96.0	96.0	<i>see Note</i>
iii)	Milk fat, percent by mass, More than	1.5	1.5	IS 11721
	Less than	26.0	26.0	
iv)	Insolubility index, ml, <i>Max</i>			IS 12759
	a) Roller dried	15.0	—	
	b) Spray dried	1.5	25	
v)	Total ash (on dry basis), percent by mass, <i>Max</i>	8.2	8.2	Annex B of IS 14433 (Part 1)
vi)	Titrate acidity (as lactic acid), percent by mass, <i>Max</i>	1.5	1.5	IS 11766

NOTE — From the mass of residue, as obtained in the method prescribed in IS 11623 calculate the percentage of total solids.

**7.1.1.1** The product shall be packed in quantities as stipulated under the provisions of the *Standards of Weights and Measures (Packaged Commodities) Rules, 1977*.

**7.1.1.2** Further encasing of individual retail packs may be carried out in bags/cartons of adequate strength as outlined in **7.1.2**.

### 7.1.2 Bulk Packing

The product may be packed in quantities of 25 kg in bags of food grade polyethylene ( *see IS 10171*) of minimum thickness 0.05 mm. The bags should be properly closed by tying with a string or a rubber band and shall be subsequently encased in any of the following:

- Sacks conforming to IS 11824, and
- Multi-walled kraft paper, such as crepe kraft paper bags of not less than 80 g/m<sup>2</sup> (GSM) grade lined with Hessian cloth having a mass of 270 g/m<sup>2</sup> (GSM) and having two inner layers of plain kraft paper of not less than 80 g/m<sup>2</sup> (GSM) grade.

## 7.2 Marking

The package shall bear legibly and indelibly the following information:

- Name of the material and brand name, if any;
- Name and address of the manufacturer;
- Type of material;
- Batch or code number;
- Process of drying;
- Milk fat content;
- Month and year of manufacturing or packing;
- Net mass (*see 7.1.1.1*);
- Direction for storage;
- Best for consumption up to....(month and year in capital letters);

### OR

Best for consumption within ..... months from the date of packing/manufacture;

- Direction for reconstitution;
- The Container Contains equivalent of ..... litre of partly skimmed milk having ..... percent milkfat;
- Information given under Note 2 of **7.1.1**, if applicable;
- In case Type II partly skimmed milk powder (sour) contains sodium bicarbonate as a neutralizer, the following statement shall be labelled:  
'UNFIT FOR DIRECT CONSUMPTION'
- Any other requirements under the *Standards of Weights and Measure (Packaged Commodities) Rules, 1977* and the *Prevention of Food Adulteration Act, 1954* and *Rules* framed thereunder.

### 7.2.1 BIS Certification Marking

The product may also be marked with the Standard Mark.

**7.2.1.1** The use of the Standard Mark is governed by the provisions of *Bureau of Indian Standards Act, 1986* and the *Rules and Regulations* made thereunder. The details of conditions under which the licence for the use of Standard Mark may be granted to manufacturers or producers may be obtained from the Bureau of Indian Standards.

## 8 SAMPLING

Representative samples of the material shall be drawn and tested for conformity to this standard as prescribed in Annex B of IS 1165.

## ANNEX A

(Clause 2)

## LIST OF REFERRED INDIAN STANDARDS

<i>IS No.</i>	<i>Title</i>	<i>IS No.</i>	<i>Title</i>
1165 : 1992	Milk powder ( <i>fourth revision</i> )	11623 : 1986	Method for determination of moisture content in milk powder and similar products
2491 : 1972	Code for hygienic conditions for food processing units ( <i>first revision</i> )	11721 : 1986	Determination of fat content in milk powder and similar products
5401 : 1969	Methods for detection and estimation of coliform bacteria in foodstuffs	11766 : 1986	Method for determination of titratable acidity in milk powder and similar products
5402 : 1969	Method for plate count of bacteria in foodstuffs	11824 : 1986	Paper coated high density polyethylene woven sacks for packing skimmed milk powder
10030 : 1981	Method for sensory evaluation of milk powder	12759 : 1989	Dried milk and dried milk products — Determination of insolubility index
10171 : 1987	Guide on suitability of plastics for food packaging ( <i>first revision</i> )	14433 (Part 1) : 1992	Infant milk substitutes: Part 1 Milk protein based
11078 : 1984	Specification for round metal cans for milk powder		

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Amendments are issued to standards as the need arises on the basis of comments. Standards are also reviewed periodically; a standard along with amendments is reaffirmed when such review indicates that no changes are needed; if the review indicates that changes are needed, it is taken up for revision. Users of Indian Standards should ascertain that they are in possession of the latest amendments or edition by referring to the latest issue of 'BIS Handbook' and 'Standards: Monthly Additions'.

This Indian Standard has been developed from Doc : No. FAD 57 ( 888 ).

### Amendments Issued Since Publication

Amend No.	Date of Issue	Text Affected

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