

Indian Standard
DAIRY PRODUCTS — YOGHURT —
SPECIFICATION

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BUREAU OF INDIAN STANDARDS
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NEW DELHI 110002

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Price Group 2

FOREWORD

This Indian Standard was adopted by the Bureau of Indian Standards on 22 December 1989, after the draft finalized by the Dairy Products Sectional Committee had been approved by the Food and Agriculture Division Council.

There has been a growing awareness the worldover regarding several nutritional and therapeutic attributes of fermented milk products. Therefore, these are becoming popular as a health food in several countries. Several varieties of yoghurt, for example, plain, sweetened, flavoured, fruit, liquid and frozen, have been developed in recent years with varying fat percentage.

This standard is being developed to assist the manufacturers in the production and quality control of this product and to encourage new manufacturers to take up the production of this newly introduced product in the Indian Market.

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 the *Standards of Weights and Measures (Packaged Commodities) Rules, 1977*. This standard is however, subject to the restrictions imposed under these Acts, 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.

Indian Standard

DAIRY PRODUCTS — YOGHURT — SPECIFICATION

1 SCOPE

1.1 This standard prescribes the requirements and the methods of test for yoghurt.

1.2 This standard applies to fermented milk products, where cultures of *Lactobacillus bulgaricus* and *Streptococcus thermophilus* are mainly employed for the fermentation process. In addition the yoghurt may also contain cultures of *Bifidobacterium bifidus* and *Lactobacillus acidophilus* and if added, the declaration to this effect shall be made on the label.

2 REFERENCES

2.1 The Indian Standards listed in Annex A are necessary adjuncts to this standard.

3 TERMINOLOGY

3.1 Plain Yoghurt

It is a yoghurt complying with **1.2** with a minimum fat content of 3.0 percent.

3.2 Skimmed Yoghurt

It is a yoghurt complying with **1.2** with a maximum fat content of 0.5 percent.

3.3 Low Fat Yoghurt

It is a yoghurt complying with **1.2** with a maximum fat content of 1.5 percent.

3.4 Sweetened Yoghurt

These are yoghurts complying with **3.1**, **3.2** or **3.3** containing one or more sweetening agents such as cane or beat sugar. Cane sugar may be replaced up to 25 to 30 percent by corn syrup or glucose syrup.

3.5 Flavoured Yoghurt

These are yoghurts complying with **3.1**, **3.2** or **3.3** with the addition of permitted flavouring and colouring materials with or without the addition of sweetening agents.

3.6 Fruit Yoghurt

These are yoghurts complying with **3.1**, **3.2** or **3.3** with the addition of fruit (in the recommended range of 5-25 percent, depending upon the type of fruit). These may further

contain permitted flavours, colours and sweetening agents.

4 RAW MATERIAL

4.1 The following are the essential raw materials for the manufacture of yoghurt.

4.1.1 Milk

Toned, recombined or concentrated milk or a combination of two or more of these products.

4.1.2 Bacterial Culture

Cultures of *Lactobacillus bulgaricus* and *Streptococcus thermophilus* at the rate of 2 to 3 percent shall be used for the fermentation of yoghurt.

4.2 Optional Ingredients

Following optional ingredients may also be added:

- a) Milk powder, skimmed milk powder, unfermented buttermilk, concentrated whey, whey powder, whey proteins, whey protein concentrate, water-soluble milk proteins, edible casein, caseinates manufactured from pasteurized products and lactase enzyme preparation.
- b) Sugars, corn syrup or glucose syrup in case of sweetened, flavoured and fruit yoghurt only.
- c) Fruits—fruit (fresh, canned, quick frozen, powdered), fruit puree, fruit pulp, jam, fruit syrup, fruit juice, etc.
- d) Permitted colours in flavoured and fruit yoghurt only.

4.2.1 Stabilizers

Stabilizers as permitted under the PFA Act, 1954 and the rules framed thereunder may be used in the manufacture of yoghurt up to a maximum limit of 0.5 percent. However, it is recommended to obtain the satisfactory consistency and viscosity of yoghurt by using adequate technical and technological measures rather than by using stabilizers.

5 REQUIREMENTS

5.1 Description

The product shall have a smooth, procelain like

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surface with no whey separation and a custard like consistency. It shall have a typical nut like flavour and a pleasant distinctive sourish taste. The flavour and taste for the flavoured yoghurt shall be typical of the flavour used with a mild to light sourish tinge.

5.2 Hygienic Requirements

The product being obtained by natural fermentation, shall be processed, packed, stored and distributed under strict hygienic conditions as described in IS 2491 : 1972.

5.3 Microbiological Requirements

5.3.1 The microscopic examination of the product shall reveal the presence of *Lactobacillus bulgaricus* and *Streptococcus thermophilus*.

5.3.2 Specific Lactic Acid Bacteria

The specific lactic acid bacterial count per gram of the product shall not be less than 1 000 000 when determined according to the method prescribed in IS 12899 : 1989.

5.3.3 Esherichia Coli

The *E. coli* shall be absent in the product when tested according to the method prescribed in IS 5887 (Part 1) : 1976.

5.3.4 Staphylococcus aureus

S. aureus shall be absent in the product when tested according to the method prescribed in IS 5887 (Part 2) : 1976.

5.3.5 Salmonella and Shigella

Salmonella and *Shigella* shall be absent in the product when tested according to the method

prescribed in IS 5887 (Part 3) : 1976.

5.4 pH

The pH of the product shall be between 3.8 and 4.6.

5.5 Various yoghurt varieties shall also conform to the compositional requirements as given in Table 1.

6 PACKING AND LABELLING

6.1 Yoghurt shall be packed in HDPE, polystyrene (food grade) cups, glass jars, wax coated cardboard cups, or any other equivalent material with suitable lids/covers.

6.2 Labelling

The following particulars shall be clearly and indelibly marked/labelled on each container:

- a) Indication of the source of manufacture;
- b) Type of yoghurt;
- c) Batch or code number;
- d) Net mass;
- e) List of the ingredients in the descending order;
- f) Statement regarding the special cultures other than specific yoghurt cultures (see 1.2) added, if any;
- g) Any other requirement laid down under the standards of *Weights and Measures (Packaged Commodities) Rules, 1977*;
- h) Date of manufacture and data of expiry; and
- j) Storage instructions to be worded as 'Store at 4-6°C'.

Table 1 Requirements for Yoghurt
(Clause 5.5)

Sl No.	Characteristic	Plain	Low Fat	Skimmed	Sweetened	Flavoured	Fruit	Method of Test, Reference to
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
i)	Total milk solids, percent by mass, <i>Min</i>	13.5	12.0	11.0	13.5	13.5	10.0	IS 11622 : 1986
ii)	Milk fat, percent by mass	3.0 <i>Min</i>	1.5 <i>Max</i>	0.5 <i>Max</i>	3.0 <i>Min</i>	3.0 <i>Min</i>	1.5 <i>Min</i>	IS 11762 : 1986
iii)	Sugar, percent by mass, <i>Min</i>	—	—	—	6.0	6.0	6.0	Appendix C of IS 4079 : 1967
iv)	Titratable acidity	0.8-1.2	0.8-1.2	0.8-1.2	0.8-1.2	0.8-1.2	0.8-1.2	Clause 14 of IS 1479 (Part 2) : 1961
v)	Protein, percent by mass, <i>Min</i>	3.2	3.2	3.2	3.2	3.2	2.6	IS 7219 : 1973

ANNEX A
(*Clause 2.1*)

LIST OF REFERRED INDIAN STANDARDS

<i>IS No.</i>	<i>Title</i>	<i>IS No.</i>	<i>Title</i>
1479 (Part 2) : 1961	Methods of test for dairy industry: Part 2 Chemical analysis of milk	(Part 3) : 1976	Isolation and identification of <i>Salmonella</i> and <i>Shigella</i> (<i>first revision</i>)
2491 : 1972	Code for hygienic conditions for food processing units (<i>first revision</i>)	7219 : 1973	Methods for determination of protein in foods and feeds
4079 : 1967	Specification for canned <i>RASOGOLLA</i>	11622 : 1986	Method for determination of total solids content in condensed milk
5887	Methods for detection of bacteria responsible for food poisoning	11762 : 1986	Method for determination of fat content in condensed milk and evaporated milk
(Part 1) : 1976	Isolation, identification and enumeration of <i>Escherichia coli</i> (<i>first revision</i>)	12899 : 1989	Dairy Products—Yoghurt, enumeration of specific lactic acid bacteria—Method of test
(Part 2) : 1976	Isolation, identification and enumeration of <i>Staphylococcus aureus</i> and faecal streptococci (<i>first revision</i>)		

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