भारतीय मानक

Indian Standard

IS 9532 : 2023

चक्का और श्रीखंड — विशिष्टि

(पहला पुनरीक्षण)

Chakka and *Shrikhand* — Specification

(First Revision)

ICS 67.100.30

भारतीय मानक ब्यूरो
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February 2023 **Price Group 6**

Dairy Products and Equipment Sectional Committee, FAD 19

FOREWORD

This Indian Standard (First Revision) 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.

Chakka is an indigenous milk product obtained after draining off the whey from the curd (*Dahi*) or Yoghurt obtained by the lactic fermentation of milk. It is generally prepared by imparting heat treatment like pasteurization, boiling to the milk and preparing curd from it. The curd is hung in a muslin cloth, pressed or broken down to slurry and passed through a centrifugal separator to separate the whey. *Chakka* can also be made from reconstituted skimmed milk, recombined milk or standardized milk. The colour of *Chakka* depends on the type of milk used; it is yellowish from cow's milk and whitish from buffalo's milk. *Chakka* forms an important base for the preparation of milk sweet popularly known as *Shrikhand* in the States of Gujarat, Maharashtra and other adjoining areas. It is also used for the preparation of *Shrikhand Vadi* intended for preservation and extended use.

Shrikhand is an indigenous sweet, made by mixing *Chakka* with sugar and other permitted non-dairy ingredients. *Shrikhand* may or may not be heat treated. It is a slightly sourish-sweet product

This standard was originally published in 1980. This revision has been brought out to incorporate the following major changes:

a) Product description, physical characteristics of *Chakka* and *Shrikhand* have been updated;
b) Requirements of full cream *Chakka* and full cream *Shrikhand* have also been incorporated in line with the *Food Safety and Standards (Food Products Standards and Food Additives) Regulations*, 2011;
c) Total ash of *Chakka* made from skim milk has been modified; and
d) Microbiological requirements of *Chakka* and *Shrikhand* have been aligned with the *Food Safety and Standards (Food Products Standards and Food Additives) Regulations*, 2011.

In the formulation of this standard, due consideration has been given to the provisions of the *Food Safety and Standards Act*, 2006 and the *Rules* and *Regulations* framed thereunder and the *Legal Metrology (Packaged Commodities) Rules*, 2011. However, this standard is subject to the restrictions imposed under these, wherever applicable.

The composition of the committee responsible for formulation of the standard is listed in Annex C.

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 : 2022 'Rules for rounding off numerical values (*second revision*)'. 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
CHAKKA AND *SHRIKHAND* — SPECIFICATION
(First Revision)

1 SCOPE

This standard prescribes the requirements and methods of sampling and test for *Chakka* and *Shrikhand*.

2 REFERENCES

The standards listed in Annex A contain provisions which, through reference in this text, constitute provisions 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 these standards.

3 TERMINOLOGY

3.0 For the purpose of this standard, the following definitions shall apply:

3.1 *Chakka*

The semi-solid product obtained by draining off the whey from the *dahi* or yoghurt obtained by the lactic fermentation of milk (as defined under **4** of IS 13688) which has been subjected to minimum heat-treatment equivalent to that of pasteurization. *Chakka* shall not contain any ingredient foreign to milk.

3.2 *Shrikhand*

An indigenous sweet, made by mixing *Chakka* with other dairy and permitted non-dairy ingredients (*see* **5.2**).

4 TYPES

4.1 *Chakka* shall be of following three types based on the source milk used for its manufacture:

a) Skimmed milk *Chakka*;
b) *Chakka*; and
c) Full cream *Chakka*.

4.2 *Shrikhand* shall be of following three types based on the source milk and ingredients used for its manufacture:

a) *Shrikhand*;
b) Full cream *Shrikhand*; and
c) Fruit *Shrikhand*.

5 RAW MATERIALS

5.1 The following products may be used as the raw materials for the manufacture of *Chakka* and *Shrikhand*:

a) *Dahi* or Yoghurt;
b) Milk (as defined in IS 13688);
c) Concentrated milk and dried milk;
d) Cream, butter, butter oil and anhydrous milk fat; and
e) Potable water (conforming to IS 10500) for use in reconstitution or recombination.

5.2 Permitted Ingredients

The product may contain the following ingredients:

a) Starter cultures of harmless microorganisms (symbiotic cultures of *Streptococcus thermophilus* and *Lactobacillus delbrueckii* sub sp. *bulgaricus*);

b) Sugar (white, clean, granular and free from lumps and black particles and preferably conforming to IS 5982) (only in *Shrikhand*);

c) Nutritive sweeteners other than sugar (only in *Shrikhand*);

d) Non-dairy ingredients such as fruits and vegetables and products thereof such as juices, purees, pulps, preparations and preserves derived therefrom, cereals and cereal products, coconut and coconut products, honey, chocolate, nuts, coffee, spices, condiments, culinary herbs and other harmless natural flavouring foods (only in *Shrikhand*);

e) Prebiotics and Probiotics [for the use of probiotics and prebiotics in dairy products, the provisions specified in the *Food Safety and Standards (Health Supplements, Nutraceuticals, Food for Special Dietary Use, Food for Special Medical Purpose, Functional Food and Novel Food) Regulations*, 2016 shall be complied].

5.3 *Chakka* and *Shrikhand* may contain permitted food additives within the limits as specified under

the *Food Safety and Standards (Food Products Standards and Food Additives) Regulations*, 2011.

6 REQUIREMENTS

6.1 *Chakka*

6.1.1 The milk used for the preparation of *Chakka*, shall be free from adulterants, preservatives and any matter foreign to milk, when tested as per IS 1479 Part 1.

6.1.2 *Appearance and Colours*

The material shall be free from any signs of free-fat, water seepage and mouldiness. It shall be white to pale yellow. No extraneous colour shall be added.

6.1.3 *Odour and Flavour*

The material shall have a pleasant yoghurt or *Dahi* like flavour. It shall be free from objectionable flavours and odour.

6.1.4 *Texture and Consistency*

The material shall have smooth and uniform consistency. It shall be free from lumps and coarseness.

6.1.5 The material shall be manufactured and packed in equipment and premises maintained under hygienic conditions (*see* IS 2491). It shall also be stored and distributed under hygienic conditions.

6.1.6 The material shall also comply with the requirements specified in Table 1 and Table 2.

Table 1 Requirements for *Chakka*
(*Clause* 6.1.6)

Sl No.	Characteristic	Requirement			Method of Test, Ref to
		Skimmed Milk *Chakka*	***Chakka***	**Full Cream *Chakka***	
(1)	(2)	(3)	(4)	(5)	(6)
i)	Total solids, percent by mass, *Min.*	20	30	28	IS 11622
ii)	Milk fat (on dry basis), percent by mass	5 (*Max*)	33 (*Min*)	38 (*Min*)	IS 11762
iii)	Milk protein (on dry basis), percent by mass, *Min.*	60	37	30	IS 11917
iv)	Titratable acidity (as lactic acid), percent by mass, *Max.*	2.5	2.5	2.5	**12** of IS 1479 (Part 1)
v)	Total ash (on dry basis), percent by mass, *Max.*	3.5	3.5	3.5	Annex C of IS 14433

Table 2 Microbiological Requirements for *Chakka* and *Shrikhand*
(*Clauses* 6.1.6 *and* 6.2.6)

Sl No.	Characteristic	Requirement				Method of test, Ref to
		Sampling Plan		Limit (cfu)		
		n	*c*	*m*	*M*	
(1)	(2)	(3)	(4)	(5)	(6)	(7)
i)	Coliform count	5	2	10/g	1×10^2 /g	IS 5401 (Part 1)
ii)	*Staphylococcus aureus* (Coagulase positive)	5	2	10/g	1×10^2 /g	IS 5887 (Part 8/Sec 1* or Sec 2)
iii)	Yeast and mold count	5	3	50/g	1×10^2 /g	IS 16069 Part 1
iv)	*Escherichia coli*	5	0	Absent/g	–	IS 5887 (Part 1)

Table 2 (*Concluded*)

Sl No.	Characteristic	Requirement				Method of test, Ref to
		Sampling Plan		Limit (cfu)		
		n	*c*	*m*	*M*	
(1)	(2)	(3)	(4)	(5)	(6)	(7)
v)	*Salmonella sp*.	5	0	Absent/25 g	–	IS 5887 (Part 3/Sec 1)
vi)	*Listeria monocytogenes*	5	0	Absent/g	–	IS 14988 (Part 1)

NOTES
1 For sampling plan, *see* Annex B.
2 In case of dispute, the method indicated by '*' shall be the referee method.

6.2 ***Shrikhand***

6.2.1 *Shrikhand* shall be prepared from the *Chakka* conforming to the requirements given in **6.1**. *Shrikhand* shall not contain any ingredient foreign to milk except those permitted.

6.2.2 *Appearance and Colour*

The material shall be free from signs of free-fat, and whey/syrup separation, and uneven colour distribution.

6.2.3 *Odour and Flavour*

The material shall be free from objectionable flavours and odour.

6.2.4 *Texture and Consistency* The material should not be too thick or too thin. It shall have smooth or slightly granular texture and uniform consistency. There should not be any syrup pockets or separation in the body of the *Shrikhand*.

6.2.5 The material shall be manufactured and packed in equipment and premises maintained under hygienic conditions (*see* IS 2491). It shall also be stored and distributed under hygienic conditions.

6.2.6 The material shall also comply with the requirements specified in Table 2 and Table 3.

Table 3 Requirements for *Shrikhand*
(*Clause* 6.2.6)

Sl No.	Characteristic	Requirement			Method of Test, Ref to
		Shrikhand	**Full Cream *Shrikhand***	**Fruit *Shrikhand***	
(1)	(2)	(3)	(4)	(5)	(6)
i)	Total solids, percent by mass, *Min*	58	58	58	IS 11622
ii)	Milk fat (on dry basis), percent by mass, *Min*	8.5	10.0	7.0	IS 11762
iii)	Milk Protein (on dry basis), percent by mass, *Min*	10.5	7.0	6.0	IS 11917
iv)	Titratable acidity (as lactic acid), percent by mass, *Max*	1.4	1.4	1.4	**12** of IS 1479 (Part 1)
v)	Sugar (sucrose), (on dry basis), percent by mass, *Max*	72.5	72.5	72.5	Annex B of IS 4079
vi)	Total ash (on dry basis), percent by mass, *Max*	0.9	0.9	0.9	Annex C of IS 14433

7 PACKING AND MARKING

7.1 Packing

All the material used for wrapping or packaging the *Chakka* and *Shrikhand* shall be of such a nature as to impart no off-flavour or odour, nor in any other way contaminate the product packed under normal conditions of manufacture, storage and use. The packaging materials used shall be in conformance to any other requirements specified under the *Food Safety and Standards (Packaging) Regulations*, 2018.

7.2 Marking

The following information shall be marked legibly and indelibly on each container:

a) Name and type of the product;
b) List of the ingredients in the descending order;
c) Name and address of the manufacturer;
d) Batch or code number;
e) Date, Month and year of manufacturing or packing;
f) Net quantity;
g) Direction for storage;
h) Expiry/use by (date, month & year); and
j) Any other requirements under the *Food Safety and Standards (Labelling and Display) Regulations*, 2020 and the *Legal Metrology Act*, 2009 and Rules framed thereunder.

7.2.1 *BIS Certification Marking*

The product(s) conforming to the requirements of this standard may be certified as per the conformity assessment schemes under the provisions of the *Bureau of Indian Standards Act*, 2016 and the Rules and Regulations framed thereunder, and the products may be marked with the Standard Mark.

8 SAMPLING

Representative samples of the material shall be drawn and criteria for conformity of the material to the requirements of the specification shall be determined according to the procedure prescribed in Annex E of IS 1166.

ANNEX A
(*Clause* 2)
LIST OF REFERRED STANDARDS

IS No.	*Title*
IS 1166 : 2022	Sweetened condensed milk, sweetened condensed partly skimmed milk, sweetened condensed skimmed milk and sweetened condensed high fat milk — Specification (*third revision*)
IS 1479 (Part 1) : 2016	Methods of test for dairy industry: Part 1 Rapid examination of milk (*first revision*)
IS 2491 : 2013	Food hygiene — General principles — Code of practice (*third revision*)
IS 4079 : 2023	Packed *Rasogolla* — Specification (*first revision*)
IS 4884 : 2021	Sterilized/UHT Sterilized Cream — Specification (*first revision*)
IS 5401 (Part 1) : 2012/ISO 4832 : 2006	Microbiology of food and animal feeding stuffs — Horizontal method for the detection and enumeration of coliforms: Part 1 Colony count technique (*second revision*)
IS 5887	Methods for detection of bacteria responsible for food poisoning:
(Part 1) : 1976	Isolation, identification and enumeration of *Escherichia coli* (*first revision*);
(Part 3/Sec 1) : 2020/ISO 6579-1 : 2017	Horizontal Method for the Detection, Enumeration and Serotyping of Salmonella, Section 1 Detection of *Salmonella spp*. (*third revision*);
(Part 8/Sec 1) : 2002/ISO 6888-1 : 1999	Horizontal method for enumeration of coagulase-positive Staphylococci (*Staphylococcus aureus* and other species), Section 1 Technique using Baird-Parker agar medium;
(Part 8/Sec 2) : 2002/ISO 6888-2 : 1999	Horizontal method for enumeration of coagulase-positive (*Staphylococcus aureus* and other species), Section 2 Technique using rabbit plasma fibrinogen agar medium
IS 5982 : 2003	Plantation white sugar — Specification (*first revision*)
IS 10500 : 2012	Drinking water — Specification (*second revision*)
IS 11622 : 1986	Method for determination of total solids content in condensed milk
IS 11762 : 2013/ISO 1737 : 2008	Evaporated milk and sweetened condensed milk — Determination of fat content — Gravimetric method (reference method) (*second revision*)
IS 11917 : 2018/ISO 8968-1 : 2014	Milk and milk products — Determination of nitrogen content — Kjeldahl principle and crude protein calculation (*first revision*)
IS 13688 : 2020	Packaged pasteurized milk — Specification (*second revision*)
IS 13690 : 2021	Butter — Specification (*first revision*)
IS 14433 : 2022	Infant milk substitutes — Specification (*second revision*)
IS 14988 (Part 1) : 2020/ISO 11290-1 : 2017	Microbiology of the food chain — Horizontal method for detection and enumeration of *Listeria monocytogenes* and of *Listeria spp*.: Part 1 Detection method (*first revision*)
IS 16069 (Part 1) : 2013/ ISO 21527-1 : 2008	Microbiology of food and animal feeding stuffs — Horizontal method for the enumeration of yeasts and moulds: Part 1 Colony count technique in products with water activity greater than 0.95

ANNEX B
(*Table* 2)

SAMPLING PLAN FOR MICROBIOLOGICAL REQUIREMENTS

B–1 SAMPLING PLAN FOR MICROBIOLOGICAL REQUIREMENTS

The terms *n*, *c*, *m* and *M* used in this standard have the following meaning:

n = Number of units comprising a sample;
c = Maximum allowable number of units having microbiological counts above *m* for 2-class sampling plan and between *m* and *M* for 3-class sampling plan;
m = Microbiological limit that separates unsatisfactory from satisfactory in a 2-class sampling plan or acceptable from satisfactory in a 3-class sampling plan; and
M = Microbiological limit that separates unsatisfactory from satisfactory in a 3-class sampling plan.

B-2 INTERPRETATION OF RESULTS

2-Class Sampling Plan (where n, c and m are specified)	*3-Class Sampling Plan (where n, c, m and M are specified)*
a) Satisfactory, if all the values observed are $\leq m$	a) Satisfactory, if all the values observed are $\leq m$
b) Unsatisfactory, if one or more of the value observed are > *m* or more than *c* values are > *m*	b) Acceptable, if a maximum of *c* values are between *m* and *M* and the rest of the values are observed as $\leq m$
	c) Unsatisfactory, if one or more of the values observed are > *M* or more than *c* values are > *m*

ANNEX C
(*Foreword*)

COMMITTEE COMPOSITION
Dairy Products and Equipment Sectional Committee, FAD 19

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