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IS 2322 (2010): Spices and Condiments - Chillies, Whole and Ground (Powdered)-Specification [FAD 9: Spices and Condiments]



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Bhartrhari—Nitiśatakam

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मिर्च एवं मसाले — मिर्च, साबुत और
पिसी (पाउडर) — विशिष्टि
(तीसरा पुनरीक्षण)

Indian Standard
SPICES AND CONDIMENTS — CHILLIES, WHOLE AND
GROUND (POWDERED) — SPECIFICATION
(*Third Revision*)

ICS 67.220.10

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BUREAU OF INDIAN STANDARDS
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FOREWORD

This Indian Standard (Third Revision) was adopted by the Bureau of Indian Standards, after the draft finalized by the Spices and Condiments Sectional Committee had been approved by the Food and Agriculture Division Council.

Chillies (*Lal Mirch*) is one of the important and commonly used material for spicing in the Indian dietary and are also one of the important commodities exported from India. They are marketed as dry whole pods as well as in ground form. This standard has been brought out in order to help in quality control of the product. A separate standard has been formulated for chillies oleoresins (*see* IS 13663 : 1993 'Chilli oleoresin — Specification').

Indian Standards on chillies, whole and ground were originally issued in 1963 as IS 2322 and IS 2445 respectively and both were revised in 1984. In the second revision of IS 2322 in 1998, the requirements of ground chillies in IS 2445 : 1984 were incorporated in IS 2322 on the line of corresponding ISO Standard (ISO 972 : 1982 'Spices and condiments — Determination of extraneous matter content'). Consequently, IS 2445 was withdrawn. In this third revision, the requirements have been updated to align with the standards for chillies, whole and ground, laid down under the *Prevention of Food Adulteration Rules, 1955* and also with the ISO Standard on the subject, ISO 972 : 1997. The categorization of chillies, whole, into various grades has been removed and only a single specification has been prescribed for chillies, whole, in this revision.

Due consideration has also been given to the *Prevention of Food Adulteration Rules, 1955* and *Standard of Weights and Measures (Packaged Commodities) Rules, 1977*. However, this standard is subject to restrictions imposed under these rules, 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

SPICES AND CONDIMENTS — CHILLIES, WHOLE AND GROUND (POWDERED) — SPECIFICATION

(*Third Revision*)

1 SCOPE

This standard specifies requirements and methods of test for chillies whole and in ground (powdered) form. Two main species *Capsicum frutescens* Linnaeus and *Capsicum annum* Linnaeus of chillies are covered by this standard.

2 REFERENCES

The following standards 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 the standards indicated below:

<i>IS No.</i>	<i>Title</i>
1070 : 1992	Reagent grade water (<i>third revision</i>)
1797 : 1985	Methods of test for spices and condiments (<i>second revision</i>)
5887 (Part 3) : 1999/ISO 6579 : 1993	Methods for detection of bacteria responsible for food poisoning: Part 3 General guidance on methods for the detection of <i>salmonella</i> (<i>second revision</i>)
8104 : 1996/ ISO 3513 : 1995	Method for test for pungency of chillies by Scoville heat units (<i>first revision</i>)
13145 : 1993	Spices and condiments — Methods of sampling (<i>first revision</i>)
14216 : 1994	Code for hygienic conditions for spices and condiments processing units

3 DEFINITIONS

3.1 Unripe Fruits — Fruits not yet mature, the colour of which is considerably different from that of the batch under consideration. Generally the fruits are green or pale yellow in colour.

3.2 Marked Fruits — Black or black-stained fruits.

3.3 Broken Fruits — Fruits which are broken during

handling and of which a part of the pod is missing.

3.4 Fragments — Small pieces of fruits coming from broken fruits.

4 DESCRIPTION

4.1 Chillies shall be dried, riped fruits or pods of species *Capsicum frutescens* Linnaeus and *Capsicum annum* Linnaeus. The chillies may be with or without stalk.

4.2 Ground chillies is the product obtained by grinding whole chillies without any added matter.

5 REQUIREMENTS

5.1 Odour and Flavour

Chillies, shall have a characteristic pungent taste. It shall be free from foreign taste and flavour including rancidity and mustiness.

5.2 Freedom from Moulds, Insects, etc

Chillies, whole or ground (powdered), shall be free from living insects and shall be practically free from mould growth, dead insects, insect fragments and rodent contamination, visible to the naked eye (corrected, if necessary, for abnormal vision), or using the required magnifying instrument. If the magnification exceeds $\times 10$, this fact shall be mentioned in the test report. The proportion of insect damaged matter shall not exceed 1 percent (*m/m*).

5.3 Colour

The whole and gound chillies may vary in colour from dark blackish red to orange yellow according to the variety.

5.4 Extraneous Matter

Extraneous matter includes,

- a) all matter present in the sample which is not from chillies of the variety under consideration; and
- b) all other foreign matter and, in particular, stalks, leaves, soil and sand.

Extraneous matter does not include unripe, marked or broken fruits of the variety under consideration (see 5.5). The proportion of extraneous matter, when determined by the method described in 4 of IS 1797, shall not exceed 1 percent (*m/m*).

5.5 Unripe, Marked and Broken Fruits

In whole chillies, the proportion of unripe or marked fruits shall not exceed 2 percent (*m/m*) and the proportion of broken fruits and fragments shall not exceed 5 percent (*m/m*), when tested in accordance with the method given in Annex A.

5.6 Fineness

The chillies, ground (powdered) shall be ground to such fineness that all of it passes through 500 µm IS Sieve and nothing remains on the sieve.

5.7 Chemical and Microbiological Requirements

The chillies, whole and ground (powdered) shall also comply with the requirements given in Table 1.

5.8 Scoville Index

When tested in accordance with the method given in IS 8104, the *Scoville Index* in chillies, whole and ground (powdered) shall be not less than 24 000. The chilli of lower *Scoville Index* than those specified may be supplied as agreed to between the purchaser and the supplier.

5.9 Freedom from Added Colour, etc

The pods shall be free from extraneous colouring matter, coating of mineral oil and other harmful substances. The ground chillies shall be free from extraneous colouring matter and flavouring matter. However, it may contain any edible oil upto a maximum of 2 percent by mass. The amount and name of the oil used shall be declared on the label.

5.10 Hygienic Conditions

The chillies, whole and ground shall be processed and packed under hygienic conditions (see IS 14216).

5.11 Pesticide residues and metallic contaminants in the product shall not exceed the limits as prescribed in the *Prevention of Food Adulteration Act, 1954* and the Rules made thereunder.

6 PACKING AND MARKING

6.1 Packing

Chillies, whole or ground shall be packed in clean, sound and dry container made of metal glass, food grade polymers, wood or jute bags. The wooden boxes or jute bags shall be suitably lined with moisture-proof lining which does not impart any foreign smell to the product. The packing material shall be free from any fungal or insect infestation and should not impart any foreign smell. Each container shall be securely closed and sealed.

6.2 Marking

The following particulars shall be marked or labelled on each container/bag:

- a) Name and address of the manufacturer or packer;
- b) Name of the material (whole or ground);
- c) Trade-name or brand name, if any;
- d) Batch or Code number;
- e) Net mass;
- f) Best before.....(month/year);
- g) Year of the harvest (in case of whole);
- h) Month and year of packing (in case of ground); and
- j) Any other marking as required under the *Standards of Weights and Measures (Packaged Commodities) Rules, 1977* and the *Prevention of Food Adulteration Rules, 1955*.

7 SAMPLING

Representative samples shall be drawn and conformity of the product in the lot to the requirements of this standard shall be determined in accordance with the method given in IS 13145.

8 METHODS OF TEST

The samples of chillies, whole and ground shall be tested for ascertaining conformity of the material to the requirements in accordance with the relevant clauses given in col 5 of Table 1.

9 QUALITY OF REAGENTS

Unless specified otherwise, pure chemicals and distilled water (see IS 1070) shall be employed in tests.

NOTE — 'Pure chemicals' shall mean chemicals that do not contain impurities which effect the results of analysis.

Table 1 Requirements for Chillies, Whole and Ground (Powdered)
(Clauses 5.7 and 8)

SI No.	Characteristic	Requirement		Method of Test, Ref to
		Whole (3)	Ground (4)	
(1)	(2)			(5)
i)	Moisture, percent by mass, <i>Max</i>	11.0	11.0	9 of IS 1797
ii)	Total ash on dry basis, percent by mass, <i>Max</i>	8.0	8.0	6 of IS 1797
iii)	Acid insoluble ash on dry basis, percent by mass, <i>Max</i>	1.3	1.3	8 of IS 1797
iv)	<i>Salmonella</i> , in 25 g	Absent	Absent	IS 5887 (Part 3)
v)	Crude fibre, percent by mass, <i>Max</i>	—	30.0	13 of IS 1797
vi)	Non-volatile ether extract on dry basis, <i>Min</i>	—	12.0	14 of IS 1797

ANNEX A

(Clause 5.5)

DETERMINATION OF UNRIPE FRUITS, MARKED FRUITS, AND BROKEN FRUITS AND FRAGMENTS

A-1 Spread out the sample, the extraneous matter of which has been removed (as specified in 4 of IS 1797) on a white sheet of matt paper. Segregate the unripe fruits, the marked fruits, and the broken fruits and fragments by physical separation.

A-2 Weigh separately, to the nearest 0.1 g, these three categories of defective fruits. The masses m_0 , m_1 and m_2 are obtained for unripe, marked, and broken fruits and fragments, respectively. Their percentages are calculated from the expressions given below.

$$\text{A-2.1 Unripe fruits} = \frac{m_0}{M} \times 100$$

$$\text{A-2.2 Marked fruits} = \frac{m_1}{M} \times 100$$

$$\text{A-2.3 Broken fruits and fragments} = \frac{m_2}{M} \times 100$$

where

M = mass of the initial sample, in g;

m_0 = mass of unripe fruits, in g;

m_1 = mass of marked fruits, in g; and

m_2 = mass of broken fruits and fragments, in g.

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This Indian Standard has been developed from Doc No.: FAD 9 (1859).

Amendments Issued Since Publication

Amend No.	Date of Issue	Text Affected

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