# INTERNATIONAL STANDARD

ISO 2253

Third edition 1999-12-15

### **Curry powder — Specification**

Poudre de curry — Spécifications

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#### **Foreword**

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

International Standards are drafted in accordance with the rules given in the ISO/IEC Directives, Part 3.

Draft International Standards adopted by the technical committees are circulated to the member bodies for voting. Publication as an International Standard requires approval by at least 75 % of the member bodies casting a vote.

Attention is drawn to the possibility that some of the elements of this International Standard may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights.

International Standard ISO 2253 was prepared by Technical Committee ISO/TC 34, *Agricultural food products*, Subcommittee SC 7, *Spices and condiments*.

This third edition cancels and replaces the second edition (ISO 2253:1986), which has been technically revised.

Annexes B and C form a normative part of this International Standard. Annex A is for information only.

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### **Curry powder — Specification**

#### 1 Scope

This International Standard specifies the requirements for curry powder, which is used as a flavouring ingredient in the preparation of foods and is traded internationally.

Recommendations relating to conditions for storage and transport are given in annex A.

#### 2 Normative references

The following normative documents contain provisions which, through reference in this text, constitute provisions of this International Standard. For dated references, subsequent amendments to, or revisions of, any of these publications do not apply. However, parties to agreements based on this International Standard are encouraged to investigate the possibility of applying the most recent editions of the normative documents indicated below. For undated references, the latest edition of the normative document referred to applies. Members of ISO and IEC maintain registers of currently valid International Standards.

ISO 676, Spices and condiments — Botanical nomenclature.

ISO 928, Spices and condiments — Determination of total ash.

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ISO 930, Spices and condiments — Determination of acid-insoluble ash.

ISO 939, Spices and condiments — Determination of moisture content — Entrainment method.

ISO 948, Spices and condiments — Sampling.

ISO 1208, Spices and condiments — Determination of filth.

ISO 6571, Spices, condiments and herbs — Determination of volatile oil content.

#### 3 Specifications

#### 3.1 Description and composition

- **3.1.1** Curry powder is the product obtained by grinding and mixing clean, dry and sound spices and condiments. Any of the spices and condiments listed in ISO 676 may be used.
- **3.1.2** The proportion of spices and condiments used in curry powder shall be not less than 85 % (mass fraction). The spices and condiments comprising the mixture shall be in conformity with the requirements of relevant International Standards, if these exist.

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**3.1.3** Curry powder may contain edible starchy material (the nature of which shall be declared), and the extent of which shall be determined in accordance with the method given in annex B. It may contain food-grade sodium chloride in a proportion not exceeding 5 % (mass fraction) when determined in accordance with the method given in annex C. Curry powder shall be free from artificial colourings (unless specifically authorized by national legislation).

#### 3.2 Odour and flavour

The flavour of the curry powder shall be typical of the product, clean, fresh and pungent. It shall have no foreign odour and shall be free from rancidity or mustiness.

NOTE The curry powder may be more or less pungent according to its composition.

#### 3.3 Freedom from insects, moulds, etc.

The curry powder shall be free from dead insects, insect fragments and rodent contamination visible to the naked eye (corrected, if necessary, for abnormal vision) or with such magnification as may be necessary in any particular case. If the magnification exceeds  $10 \times$ , this fact shall be mentioned in the test report.

In case of dispute, the contamination of the curry powder shall be determined by the method described in ISO 1208.

#### 3.4 Freedom from coarse particles

The curry powder shall be free from coarse particles and shall be of the fineness specified in national standards or as required by the buyer.

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#### 3.5 Chemical requirements

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The curry powder shall also comply with the requirements given in Table 21 (when tested by the specified methods. 0fc90a05bbd0/iso-2253-1999

Characteristic	Requirement	Test method
Moisture content, % (mass fraction), max.	10	ISO 639
Acid-insoluble ash, % (mass fraction), on dry basis, max.	2,0	ISO 930
Volatile oil content, ml/100 g, on dry basis, min.	0,25	ISO 6571

Table 1 — Chemical requirements for curry powder

#### 4 Sampling

Sampling shall be carried out by the method specified in ISO 948.

#### 5 Test methods

The samples of curry powder shall be analysed to assure their conformity to the requirements of this International Standard, following the test methods indicated in 3.1.3, 3.3 and Table 1.

#### 6 Packaging and marking

#### 6.1 Packaging

Curry powder shall be packed in sealed, clean and sound containers made of a material which does not affect the product and which protects it from the ingress of moisture and from loss of volatile matter.

The packaging shall also comply with any national legislation relating to environmental protection.

#### 6.2 Marking

The following indications shall be marked directly on each package or shall be marked on a label attached to the package:

- a) name of the product, tradename or brand name, if applicable;
- b) name and address of the manufacturer or the packer;
- c) batch or code number;
- d) net mass;
- e) producing country;
- f) in countries where legislation make this obligatory, the names of the spices, condiments and other ingredients used in the preparation of the curry powder, in descending order of their proportion by mass;
- g) declaration of starch, if added, and its nature;
- h) any other information required by the purchaser such as the date of packing and possible reference to this International Standard.

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### Annex A (informative)

#### Recommendations relating to conditions of storage and transport

The curry powder should be manufactured and packed under hygienic conditions.

The packs of curry powder should be stored in covered premises, well protected from the sun, rain and excessive heat.

The storeroom should be dry, free from objectionable odour, and proofed against entry of insects and vermin. The ventilation should be controlled so as to give good ventilation under dry conditions and to be fully closed under damp conditions. In a storage warehouse, suitable facilities should be available for fumigation.

The packs should be so handled and transported that they are protected from rain, from sun or any other source of excessive heat, from objectionable odours and from cross-infestation, especially in the holds of ships.

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#### Annex B

(normative)

#### Determination of starch — Acid hydrolysis method

#### **B.1 Principle**

Extracted starch from the curry powder is hydrolysed and titrated against standard Fehling's solution and the dextrose content in the sample is initially determined. The dextrose content is determined from the titre value and the starch content is calculated from this.

#### **B.2 Reagents**

- B.2.1 Diethyl ether
- B.2.2 Ethanol, 10 % (volume fraction).
- **B.2.3 Hydrochloric acid**, 2,5 % (volume fraction), prepared by mixing 20 ml of concentrated hydrochloric acid ( $\rho$  = 1,16 g/ml) and 200 ml of water. **STANDARD PREVIEW**
- B.2.4 Sodium carbonate solution, of concentration 20 g/l. (Standards.iteh.ai)
- **B.2.5** Stock solution of dextrose

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Weigh accurately 10 g of anhydrous dextrose into a one-mark 1,000 mb graduated flask and dissolve it in water. Add to this solution 2,5 g of benzoic acid. Shake to dissolve the benzoic acid and dilute to the mark with water. This solution should not be used after 48 h.

#### B.2.6 Standard solution of dextrose

Dilute a known aliquot portion of the stock solution of dextrose (B.2.5) with water containing 0,25 g/l of benzoic acid to such a concentration that more than 15 ml but less than 50 ml of it will be required to reduce all the copper in the Fehling's solution (B.2.8) taken for titration. Note the concentration of anhydrous dextrose in this solution in milligrams per 100 ml (see note). Prepare a fresh solution everyday.

NOTE When 10 ml of Fehling's solution are taken for titration, a standard dextrose solution containing 0,11 g/l to 0,30 g/l of anhydrous dextrose is convenient for use.

#### **B.2.7** Methylene blue indicator solution

Dissolve 0,2 g of Methylene blue in water and dilute to 100 ml.

#### **B.2.8** Fehling's solution (Soxhlet modification)

#### **B.2.8.1** Preparation

Mix immediately before use, equal volumes of solution A and solution B which are prepared as follows.

a) Solution A: dissolve 34,64 g of copper sulfate pentahydrate (CuSO<sub>4</sub>·5H<sub>2</sub>O) in water in a 500 ml volumetric flask. Add 0,5 ml of concentrated sulfuric acid ( $\rho$  = 1,84 g/ml) and dilute to 500 ml. Filter or decant, if necessary.

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