
INTERNATIONAL STANDARD



3513

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Spices and condiments — Chillies — Determination of Scoville index

Épices — Piment enragé (piment dit «de Cayenne») — Détermination de l'indice Scoville

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FOREWORD

ISO (the International Organization for Standardization) is a worldwide federation of national standards institutes (ISO member bodies). The work of developing International Standards is carried out through ISO technical committees. Every member body interested in a subject for which a technical committee has been set up 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.

Draft International Standards adopted by the technical committees are circulated to the member bodies for approval before their acceptance as International Standards by the ISO Council.

International Standard ISO 3513 was developed by Technical Committee ISO/TC 34, *Agricultural food products*, and was circulated to the member bodies in March 1974.

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It has been approved by the member bodies of the following countries :

Austria	Hungary	ISO 3513:1977
Bulgaria	Iran	South Africa, Rep. of
Czechoslovakia	Israel	Thailand
Egypt, Arab Rep. of	Netherlands	Turkey
Ethiopia	Poland	United Kingdom
France	Romania	Yugoslavia
Germany	Spain	

The member bodies of the following countries expressed disapproval of the document on technical grounds :

Canada
India
Mexico

Spices and condiments – Chillies – Determination of Scoville index

1 SCOPE AND FIELD OF APPLICATION

This International Standard specifies a method for the determination of the Scoville index of chillies (*Capsicum frutescens* Linnaeus).

2 REFERENCES

ISO 2825, *Spices and condiments – Preparation of a ground sample for analysis*.

ISO 3972, *Sensory analysis – Determination of sensitivity of taste*.¹⁾

ISO 5492, *Sensory analysis – Vocabulary*.¹⁾

3 DEFINITION

Scoville index: The greatest dilution, expressed as the denominator of the dilution fraction, at which a pungent sensation from chillies is perceived, under the conditions of the method described.

4 PRINCIPLE

Investigation, under defined conditions, of the greatest dilution at which the stimulus threshold (see ISO 5492) of the pungent sensation can be determined.

5 REAGENTS

5.1 Ethanol, 94 to 97 % (V/V).

5.2 Sucrose solution, obtained by dissolving 50 g of sucrose in distilled water and diluting to 1 000 ml.

6 APPARATUS

Usual laboratory apparatus not otherwise specified, and the following items:

6.1 Graduated pipette, capacity 10 ml, complying with the requirements of ISO/R 835.

6.2 One-mark volumetric flasks, capacities 500 ml and 1 000 ml, class B, complying with the requirements of ISO 1042.

6.3 Beakers, glasses and spoons.

6.4 Analytical balance.

7 PROCEDURE

7.1 Test portion

Weigh, to the nearest 0,001 g, 10 g of ground chillies, prepared in accordance with ISO 2825.

7.2 Determination

7.2.1 Preparation of the test solution and dilutions

Transfer the test portion to a 500 ml volumetric flask (6.2) and add ethanol (5.1) up to the mark. Allow to soak at 20 °C for 24 h, stirring from time to time; allow to settle. Take samples of determined quantities of the supernatant liquid, using a 10 ml pipette (6.1), and prepare a series of dilutions with the sucrose solution (5.2).

Use, for example, the following series:

Ethanol extract	Sucrose solution	Corresponding dilution
ml	ml	
1	to 1 000	1 in 50 000
2	to 1 000	1 in 25 000
5	to 1 000	1 in 10 000
10	to 1 000	1 in 5 000

1) At present at the stage of draft.

7.2.2 Tasting¹⁾

Each assessor shall take a portion of approximately 5 ml of each dilution in turn, using a beaker, a glass or a spoon (6.3), starting, compulsorily, with the most dilute solution; the portion shall be swallowed and the assessor shall note the presence or absence of pungent sensation in the mouth or throat.

If a positive response is obtained, record the value of the Scoville index, corresponding to the dilution ratio.

The period between successive tastings of dilutions shall be at least 5 min.

Wait for 30 min then repeat the tasting in the same conditions.

7.2.3 Number of assessors

Tasting shall be carried out by at least five selected assessors.

8 EXPRESSION OF RESULTS

Take as the result the highest value of the Scoville index recorded in accordance with 7.2.2 obtained by at least three assessors.

9 TEST REPORT

The test report shall show the method used and the result obtained. It shall also mention all operating details not specified in this International Standard, or regarded as optional, as well as any circumstances which may have influenced the result.

The report shall give all details required for the complete identification of the sample.

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1) See ISO 3972.