
International Standard



1108

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Spices and condiments — Determination of non-volatile ether extract

Épices — Détermination de l'extrait étheré non volatil

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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 1108 was developed by Technical Committee ISO/TC 34, *Agricultural food products*.

It was submitted directly to the ISO Council, in accordance with clause 5.10.1 of part 1 of the Directives for the technical work of ISO. It cancels and replaces ISO Recommendation R 1108-1969, which had been approved by the member bodies of the following countries :

Australia	France	Portugal
Brazil	Greece	Romania
Bulgaria	Hungary	South Africa, Rep.of
Canada	India	Thailand
Chile	Iran	Turkey
Colombia	Israel	United Kingdom
Czechoslovakia	Korea, Rep. of	USSR
Egypt, Arab Rep. of	Poland	Yugoslavia

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

Germany, F. R.
Netherlands

Spices and condiments — Determination of non-volatile ether extract

0 Introduction

This International Standard is applicable to most spices and condiments. In view of the number and variety of such products, however, it may be necessary in particular cases to modify the method or even to choose a more suitable method.

Such modifications or other methods will be indicated in the International Standards giving specifications for the spices and condiments in question.

1 Scope and field of application

This International Standard specifies a method for the determination of the non-volatile ether extract in spices and condiments.

2 References

ISO 948, *Spices and condiments — Sampling*.

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

3 Definition

non-volatile ether extract: The whole of the non-volatile substances extracted by diethyl ether under the conditions specified in this International Standard.

4 Principle

Extraction of the material with diethyl ether, removal of the volatile fractions, drying of the non-volatile residue and weighing.

5 Reagent

5.1 Diethyl ether, anhydrous, analytical reagent quality.

6 Apparatus

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

6.1 Apparatus for continuous extraction.

6.2 Oven, capable of being controlled at 110 ± 1 °C.

6.3 Analytical balance.

7 Sampling

Sample the product by the method specified in ISO 948.

8 Procedure

8.1 Preparation of test sample

Prepare the laboratory sample by the method specified in ISO 2825.

8.2 Test portion

Weigh, to the nearest 0,001 g, about 2 g of the test sample (8.1).

8.3 Determination

8.3.1 Extract the test portion (8.2) with the diethyl ether (5.1) in the continuous extraction apparatus (6.1) for 18 h. Remove the ether by distillation, followed by blowing a stream of air into the flask on a boiling-water bath. Dry the flask in the oven (6.2) at 110 °C until the difference in mass between two consecutive weighings is less than 0,005 g.

8.3.2 Gently shake the residue in the flask with 2 to 3 ml of the diethyl ether (5.1) at laboratory temperature, allow to settle and decant the ether. Repeat this procedure until no more of the residue dissolves. Dry the flask again as before until the dif-

ference in mass between two consecutive weighings is less than 0,005 g.

9 Expression of results

The non-volatile ether extract, expressed as a percentage by mass on the dry basis, is equal to

$$(m_1 - m_2) \times \frac{100}{m_0} \times \frac{100}{100 - H}$$

where

m_0 is the mass, in grams, of the test portion;

m_1 is the mass, in grams, of the flask and residue obtained after drying at 110 °C (8.3.1);

m_2 is the mass, in grams, of the flask and final residue (8.3.2);

H is the moisture content, expressed as a percentage by mass, of the sample as received.

10 Test report

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

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

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