

ISO

INTERNATIONAL ORGANIZATION FOR STANDARDIZATION

ISO RECOMMENDATION R 928

SPICES AND CONDIMENTS

DETERMINATION OF TOTAL ASH

1st EDITION
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BRIEF HISTORY

The ISO Recommendation R 928, *Spices and condiments – Determination of total ash*, was drawn up by Technical Committee ISO/TC 34, *Agricultural food products*, the Secretariat of which is held by the Magyar Szabványügyi Hivatal (MSZH).

Work on this question by the Technical Committee led, in 1966, to the adoption of a Draft ISO Recommendation.

In January 1967, this Draft ISO Recommendation (No. 1201) was circulated to all the ISO Member Bodies for enquiry. It was approved, subject to a few modifications of an editorial nature, by the following Member Bodies :

Australia	Greece	Romania
Brazil	Hungary	South Africa, Rep. of
Bulgaria	India	Thailand
Chile	Iran	Turkey
Colombia	Israel	U.A.R.
Czechoslovakia	Korea, Rep. of	United Kingdom
France	Poland	U.S.S.R.
Germany	Portugal	Yugoslavia

No Member Body opposed the approval of the Draft.

The Draft ISO Recommendation was then submitted by correspondence to the ISO Council, which decided, in January 1969, to accept it as an ISO RECOMMENDATION.

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SPICES AND CONDIMENTS
DETERMINATION OF TOTAL ASH

INTRODUCTION

This ISO Recommendation 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 and other methods will be indicated in the ISO Recommendations giving specifications for the spices and condiments in question.

1. SCOPE

This ISO Recommendation describes a method for the determination of total ash in spices and condiments.

2. DEFINITION

By *total ash* is meant the residue obtained after incineration at 500 ± 25 °C under the conditions described.

3. PRINCIPLE

Destruction of organic matter by heating the test portion in contact with air to constant mass at a temperature of 550 ± 25 °C (see also clause 9.1).

4. REAGENT

Ethanol, 95 % (v/v) solution.

5. APPARATUS

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

- 5.1 *Dish*, flat-bottomed, having a surface area of at least 15 cm², made of platinum or of other material unaffected by the conditions of the test.
- 5.2 *Muffle furnace*, regulated at 550 ± 25 °C (see also clause 9.1).
- 5.3 *Hotplate*.
- 5.4 *Steam-bath*.
- 5.5 *Desiccator*, provided with an efficient desiccant.
- 5.6 *Filter paper*, ashless, medium-fine.
- 5.7 *Analytical balance*.

6. SAMPLING

Sample the material by the method described in ISO Recommendation R 948, *Spices and condiments—Sampling*.

7. PROCEDURE

7.1 Preparation of sample

Prepare the sample as described in ISO Recommendation R ...*, *Spices and condiments — Preparation of sample for test*.

7.2 Test portion

Weigh, to the nearest 0.001 g, about 2 g of the prepared sample into the tared flat-bottomed dish (5.1).

7.3 Determination

Pour about 2 ml of ethanol on the material in the tared dish (5.1) and ignite it. When the ethanol is burnt off, heat the dish carefully over a small flame to char the material. Then ignite in the muffle furnace (5.2) at 550 ± 25 °C for 2 hours. Cool and wet the ash with several drops of water, evaporate carefully to dryness and heat in the muffle furnace for further 1 hour at 550 ± 25 °C. If the wetting shows the ash to be carbon free, remove the dish to the desiccator (5.5) containing fresh, efficient desiccant, allow to cool to room temperature, and weigh without delay. If the wetting shows the presence of carbon, repeat the wetting and heating until no specks of carbon are visible and ignite in the muffle furnace for 1 hour after the disappearance of carbon. If carbon is still visible, leach the ash with hot water, filter through an ashless filter paper (5.6), wash the filter paper thoroughly, transfer the filter paper and contents to the ashing dish, dry and ignite in the muffle furnace at 550 ± 25 °C until the ash is white. Cool the dish, add the filtrate and evaporate it to dryness on the steam-bath (5.4). Heat in the muffle furnace again at 550 ± 25 °C, cool in the desiccator (5.5) and weigh as previously. Heat again in the muffle furnace at 550 ± 25 °C for 1 hour, cool and weigh. Repeat these operations until the difference in mass between two successive weighings is less than 0.002 g. Record the lowest mass. Retain the total ash (residue *A*) for determining the water-insoluble ash and the acid-insoluble ash.

* In course of preparation.