
INTERNATIONAL STANDARD



1576

INTERNATIONAL ORGANIZATION FOR STANDARDIZATION • МЕЖДУНАРОДНАЯ ОРГАНИЗАЦИЯ ПО СТАНДАРТИЗАЦИИ • ORGANISATION INTERNATIONALE DE NORMALISATION

Tea — Determination of water-soluble ash and water-insoluble ash

Thé — Détermination des cendres solubles et des cendres insolubles dans l'eau

First edition — 1975-12-01

iTeh STANDARD PREVIEW
(standards.iteh.ai)

ISO 1576:1975

<https://standards.iteh.ai/catalog/standards/sist/2714f72f-fe75-43dd-9acd-e096a6a8fcc6/iso-1576-1975>

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.

Prior to 1972, the results of the work of the Technical Committees were published as ISO Recommendations; these documents are now in the process of being transformed into International Standards. As part of this process, Technical Committee ISO/TC 34 has reviewed ISO Recommendation R 1576 and found it technically suitable for transformation. International Standard ISO 1576 therefore replaces ISO Recommendation R 1576:1970 to which it is technically identical.

ISO Recommendation R 1576 was approved by the Member Bodies of the following countries :

Australia	India	South Africa, Rep. of
Brazil	Iran	Sri Lanka
Chile	Israel	Spain
Colombia	Korea, Rep. of	Thailand
Czechoslovakia	Netherlands	Turkey
Egypt, Arab Rep. of	Poland	United Kingdom
France	Portugal	U.S.A.
Hungary	Romania	U.S.S.R.

No Member Body expressed disapproval of the Recommendation.

No Member Body disapproved the transformation of ISO/R 1576 into an International Standard.

Tea — Determination of water-soluble ash and water-insoluble ash

1 SCOPE AND FIELD OF APPLICATION

This International Standard specifies a method for the determination of the water-soluble ash and the water-insoluble ash of tea.

2 REFERENCES

ISO 1572, *Tea — Preparation of ground sample of known dry matter content.*

ISO 1575, *Tea — Determination of total ash.*

ISO/R 1577, *Tea — Determination of acid-insoluble ash.*

ISO 1578, *Tea — Determination of alkalinity of water-soluble ash.*

3 DEFINITIONS

For the purpose of this International Standard, the following definitions apply :

3.1 water-soluble ash : The part of the total ash dissolved by water under the conditions specified.

3.2 water-insoluble ash : The part of the total ash remaining after treatment with water under the conditions specified.

4 PRINCIPLE

Extraction of the total ash with hot water, filtration through ashless filter paper, ignition and weighing of the residue to determine the insoluble ash; calculation of the soluble ash by difference.

5 APPARATUS

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

5.1 Dish, capacity 50 to 100 ml, used for the determination of total ash.

5.2 Furnace, capable of being controlled at 525 ± 25 °C.

5.3 Steam bath.

5.4 Filter paper, ashless.

5.5 Desiccator, containing an effective desiccant.

5.6 Analytical balance.

6 PROCEDURE

6.1 Test portion

Use the total ash obtained from the determination specified in ISO 1575.

6.2 Determination

6.2.1 Add 20 ml of distilled water (or water of at least equal purity) to the total ash in the dish (5.1), heat nearly to boiling and filter through the filter paper (5.4). Wash the dish and the filter paper with hot distilled water (or water of at least equal purity) until the volume of the combined filtrate and washings is about 60 ml. Return the filter and contents to the dish (5.1), evaporate the water carefully on the steam bath (5.3), and heat in the furnace (5.2) at 525 ± 25 °C until the ash is free from visible carbon particles. Cool in the desiccator (5.5) and weigh. Heat again in the furnace for 30 min, cool and weigh, and repeat these operations, if necessary, until the difference between two successive weighings is less than 0,001 g. Note the lowest mass.

6.2.2 Carry out two determinations, using the residues obtained from two determinations of total ash.

6.2.3 Reserve the filtrate for the determination of the alkalinity of the water-soluble ash (see ISO 1578). Reserve the water-insoluble ash for the determination of acid-insoluble ash (see ISO/R 1577), if required.

7 EXPRESSION OF RESULTS

7.1 Method of calculation and formulae

7.1.1 Water-insoluble ash

The percentage, by mass, of water-insoluble ash yielded by the ground sample, on the dry basis, is given by the formula

$$m_2 \times \frac{100}{m_0} \times \frac{100}{RS}$$

where

m_0 is the mass, in grams, of the test portion of the ground sample used for the determination of total ash;

m_2 is the mass, in grams, of the water-insoluble ash;

RS is the dry matter content, as a percentage by mass, of the ground sample, determined in accordance with ISO 1572.

Take as the result the arithmetic mean of the two determinations, if the requirement of 7.2 is satisfied.

7.1.2 Water-soluble ash

The percentage, by mass, of water-soluble ash yielded by the sample, on the dry basis, is given by the formula

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

where

m_0 , m_2 and RS have the same meanings as in 7.1.1;

m_1 is the mass, in grams, of the total ash.

7.1.3 Percentage of water-soluble ash in total ash

This percentage is given by the formula

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

7.2 Repeatability

The difference between the results of two determinations carried out simultaneously or in rapid succession by the same analyst should not exceed 0,2 g of water-insoluble ash per 100 g of ground sample.

8 TEST REPORT

The test report shall show the method used and the result obtained. It shall also mention any operating details 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.

iTeh STANDARD PREVIEW (standards.iteh.ai)

ISO 1576:1975

<https://standards.iteh.ai/catalog/standards/sist/2714f72f-fe75-43dd-9acd-e096a6a8fcc6/iso-1576-1975>