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# INTERNATIONAL STANDARD



# 1578

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

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## Tea — Determination of alkalinity of water-soluble ash

*Thé — Détermination de l'alcalinité des cendres solubles dans l'eau*

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**Descriptors** : agricultural products, tea, chemical analysis, determination of content, alkalinity, ash content.

## 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 1578 and found it technically suitable for transformation. International Standard ISO 1578 therefore replaces ISO Recommendation R 1578-1970 to which it is technically identical.

ISO Recommendation R 1578 was approved by the Member Bodies of the following countries :

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

No Member Body expressed disapproval of the Recommendation.

No Member Body disapproved the transformation of ISO/R 1578 into an International Standard.

# Tea — Determination of alkalinity of water-soluble ash

## 1 SCOPE AND FIELD OF APPLICATION

This International Standard specifies a method for the determination of the alkalinity of water-soluble 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 1576, *Tea — Determination of water-soluble ash and water-insoluble ash*.

## 3 DEFINITION

For the purpose of this International Standard, the following definition applies:

**alkalinity of the water-soluble ash:** Either the amount of acid required to neutralize the aqueous extract of the total ash, or the amount of alkali equivalent to this acid, when determined under the conditions specified.

## 4 PRINCIPLE

Titration of the filtrate from the determination of water-soluble ash, with standard hydrochloric acid solution, using methyl orange as indicator.

## 5 REAGENTS

**5.1 Hydrochloric acid**, 0,1 N standard volumetric solution (see note to 7.1.1).

**5.2 Methyl orange indicator**, containing 0,5 g of methyl orange per litre.

## 6 PROCEDURE

### 6.1 Test portion

Use the filtrate obtained from the determination specified in ISO 1576.

### 6.2 Determination

Cool the test portion and titrate it with the hydrochloric acid solution (5.1), using the methyl orange indicator (5.2).

Carry out two determinations using the filtrate obtained from two determinations of water-soluble ash and water-insoluble ash.

## 7 EXPRESSION OF RESULTS

### 7.1 Method of calculation and formulae

Express the alkalinity in terms of milliequivalents, i.e. of the number of millilitres of normal acid required per 100 g of ground sample (see ISO 1572), on the dry basis, or as a percentage by mass of potassium hydroxide (KOH) in the ground sample, on the dry basis.

**7.1.1** The alkalinity of the water-soluble ash, expressed as milliequivalents per 100 g of ground sample, on the dry basis, is given by the formula

$$\frac{V}{10} \times \frac{100}{m_0} \times \frac{100}{RS}$$

where

$V$  is the volume, in millilitres, of 0,1 N hydrochloric acid solution required (see note below);

$m_0$  is the mass, in grams, of the test portion of the ground sample used for the determination of total ash (see ISO 1575);

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

NOTE — If the standard volumetric solution used is not of exactly the strength indicated in 5.1, a suitable correction factor should be used in calculating the results.

**7.1.2** The alkalinity of the water-soluble ash, expressed as a percentage by mass of potassium hydroxide, in the ground sample, on the dry basis, is given by the formula

$$\frac{56 V}{10\,000} \times \frac{100}{m_0} \times \frac{100}{RS}$$

where  $V$ ,  $m_0$  and  $RS$  have the same meanings as in 7.1.1.

**7.1.3** Take as the result the arithmetic mean of the two determinations.