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**INTERNATIONAL STANDARD**



**1573**

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**Tea — Determination of loss in mass at 103 °C**

*Thé — Détermination de la perte de masse à 103 °C*

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**Descriptors** : agricultural products, tea, chemical analysis, determination of content, mass loss by heating.

## 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 1573 and found it technically suitable for transformation. International Standard ISO 1573 therefore replaces ISO Recommendation R 1573-1970 to which it is technically identical.

ISO Recommendation R 1573 was approved by the Member Bodies of the following countries :

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

The Member Body of the following country expressed disapproval of the Recommendation on technical grounds :

U.S.A.

No Member Body disapproved the transformation of ISO/R 1573 into an International Standard.

# Tea – Determination of loss in mass at 103 °C

## 0 INTRODUCTION

The loss in mass when tea is heated in air at a temperature near 100 °C is conventionally designated as *moisture*, the contribution made by small amounts of other volatile constituents being regarded as negligible for practical purposes. In some other International Standards for oven-drying methods, the expression *moisture and volatile matter* has been used, to take account of the fact that the loss in mass may not be wholly due to moisture. There is an objection to the use of this expression in the case of tea, however, since tea contains volatile compounds which do not contribute appreciably to the loss in mass on heating in air at a temperature near 100 °C but may be removed by other means, for example steam distillation. To avoid possible confusion, the expression **loss in mass at 103 °C** has been adopted in the present International Standard.

## 1 SCOPE AND FIELD OF APPLICATION

This International Standard specifies a method for the determination of the loss in mass when tea, as received, is heated in air at 103 °C.

## 2 PRINCIPLE

Heating a test portion of the tea in an oven at 103 ± 2 °C, to constant mass.

## 3 APPARATUS

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

- 3.1 Weighing bottle, squat form, with airtight lid.
- 3.2 Constant-temperature oven, capable of being controlled at 103 ± 2 °C.
- 3.3 Desiccator, containing an effective desiccant.
- 3.4 Analytical balance.

## 4 PROCEDURE

### 4.1 Preparation of sample

Thoroughly mix the sample of tea as received.

### 4.2 Test portion

Weigh, to the nearest 0,001 g, about 4 g of the prepared sample into the weighing bottle (3.1).

### 4.3 Determination

Heat the weighing bottle and contents, with the lid removed but alongside the bottle, in the oven (3.2) at 103 ± 2 °C for 6 h. Fit the lid, cool in the desiccator (3.3) and weigh. Heat again in the oven for 1 h, cool in the desiccator and weigh again; repeat these operations, if necessary, until the difference between two successive weighings does not exceed 0,005 g.

If the mass of the test portion increases after repeated heating, calculate the result from the weighing immediately before the mass started to increase.

Carry out two determinations on the same prepared sample.

### 4.4 Note on drying procedure

In general, a single 16 h period in the oven at 103 ± 2 °C gives equivalent results, but it is the responsibility of the analyst to confirm this in each particular case.

## 5 EXPRESSION OF RESULTS

### 5.1 Method of calculation and formula

The loss in mass at 103 °C, expressed as a percentage of the original mass of the sample, is given by the formula

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

where

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

$m_1$  is the mass, in grams, of the dried test portion.

Take as the result the arithmetic mean of the two determinations, if the requirement of 5.2 is satisfied.