

ISO

INTERNATIONAL ORGANIZATION FOR STANDARDIZATION

ISO RECOMMENDATION

R 872

PLASTICS

iTeh STANDARD PREVIEW

(standards.iteh.ai)

OF UNPLASTICIZED CELLULOSE ACETATE

<https://standards.iteh.ai/catalog/standards/sist/8c65badd-38ed-4caf-9918-3e64138c05a3/iso-r-872-1968>

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*To be withdrawn
(to become ISO 2459/3-1984)*

BRIEF HISTORY

The ISO Recommendation R 872, *Plastics – Determination of ash of unplasticized cellulose acetate*, was drawn up by Technical Committee ISO/TC 61, *Plastics*, the Secretariat of which is held by the United States of America Standards Institute (USASI).

Work on this question by the Technical Committee began in 1964 and led, in 1965, to the adoption of a Draft ISO Recommendation.

In March 1967, this Draft ISO Recommendation (No. 1003) 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 | Hungary | Romania |
| Austria | India | South Africa, Rep. of |
| Belgium | Iran | Spain |
| Brazil | Ireland | Sweden |
| Bulgaria | Israel | Turkey |
| Canada | Italy | U.A.R. |
| Czechoslovakia | Japan | United Kingdom |
| Finland | Korea, Rep. of | U.S.A. |
| France | Netherlands | U.S.S.R. |
| Germany | New Zealand | Yugoslavia |
| Greece | Poland | |

One Member Body opposed the approval of the Draft :

Switzerland

The Draft ISO Recommendation was then submitted by correspondence to the ISO Council, which decided, in November 1968, to accept it as an ISO RECOMMENDATION.

PLASTICS
DETERMINATION OF ASH
OF UNPLASTICIZED CELLULOSE ACETATE

1. SCOPE

- 1.1 This ISO Recommendation describes a method for determining the ash of unplasticized cellulose acetate. The ash is formed from the inorganic matter which is present in the product.
- 1.2 The method is intended for cellulose acetate without plasticizers and free of additives, fillers, dyes or other materials which may affect the test.
- 1.3 When plasticizers, additives, fillers or dyes which may affect the test are present, they should be separated by a method agreed between the contracting parties.

2. PRINCIPLE OF THE METHOD

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A suitable quantity of cellulose acetate is ignited and then ashed in a muffle furnace at 600 °C. The residue obtained is weighed.

3. APPARATUS

The apparatus consists of the following :

- 3.1 *Crucible*, of silica, platinum or porcelain, capacity between 50 ml and 200 ml.
- 3.2 *Bunsen burner*, with silica triangle and tripod.
- 3.3 *Muffle furnace*, thermostatically controlled at 600 ± 15 °C.
- 3.4 *Analytical balance*, accurate to the nearest 0.0001 g.
- 3.5 *Desiccator*, containing a drying agent, for example, anhydrous calcium chloride.

4. TEST SAMPLE

The moisture content of the test sample should be known, and determined according to ISO Recommendation R 585, *Plastics – Determination of the moisture content of non-plasticized cellulose acetate*.

5. PROCEDURE

- 5.1 Put the crucible (3.1) in the muffle furnace (3.3) at 600 ± 15 °C. After 1 hour remove it, allow it to cool in the desiccator (3.5), and weigh it to the nearest 0.0001 g.
- 5.2 Weigh 10 ± 0.5 g of cellulose acetate, or more, depending on the expected ash quantity, to the nearest 0.01 g. Put it into the weighed crucible, in portions if necessary, and ignite successively (see clause 5.3).
- NOTE. — If the sample is very bulky, it may be compressed into pellets of about 15 mm diameter before weighing.
- 5.3 Heat the crucible directly over the Bunsen burner (3.2) until the cellulose acetate ignites. Continue the heating slowly until burning is ended.
- 5.4 Place the crucible in the muffle furnace at 600 ± 15 °C and leave it there until all the carbonaceous matter is burnt. The ash should have a light and uniform colour.
- 5.5 Allow the crucible to cool on the silica triangle (3.2), and complete the cooling to room temperature in the desiccator.
- 5.6 Weigh the crucible containing the ash to the nearest 0.0001 g.
- 5.7 Make two complete determinations. If the difference between the determinations is greater than 10 % of the mean, the test should be repeated.

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6. CALCULATION AND EXPRESSION OF RESULTS

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- 6.1 The ash quantity expressed in grammes per 100 g of dry cellulose acetate, is calculated from the following formula :

$$\frac{A}{B} \times 100$$

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where

- A* is the mass, in grammes, of ash,
- B* is the mass, in grammes, of dry cellulose acetate, calculated from the actual mass of the sample and its moisture content as determined according to section 4.

- 6.2 The ash quantity is reported as the mean of two determinations.

7. TEST REPORT

The test report should include the following :

- (a) complete identification of the sample including type, manufacturer's code number, source, trade name, etc.;
- (b) treatment of the sample before the test, if any;
- (c) ash quantity;
- (d) test date.