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STANDARD

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Plastics — Determination of ash —

Part 5 :
Poly(vinyl chloride)

Plastiques — Détermination du taux de cendres —

Partie 5 : Poly(chlorure de vinyle)



Reference number
ISO 3451-5:1989(E)

Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established 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. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

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. They are approved in accordance with ISO procedures requiring at least 75 % approval by the member bodies voting.

International Standard ISO 3451-5 was prepared by Technical Committee ISO/TC 61, *Plastics*.

ISO 3451 consists of the following parts, under the general title *Plastics — Determination of ash*:

- *Part 1: General methods*
- *Part 2: Polyalkylene terephthalates*
- *Part 3: Unplasticized cellulose acetate*
- *Part 4: Polyamides*
- *Part 5: Poly(vinyl chloride)*

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Plastics — Determination of ash —

Part 5 : Poly(vinyl chloride)

WARNING — Poly(vinyl chloride) evolves hydrogen chloride on thermal decomposition, and precautions should be taken to avoid inhalation of fumes.

1 Scope

This part of ISO 3451 specifies two methods for the determination of the ash of poly(vinyl chloride). The general procedures given in ISO 3451-1 are followed — method A (ash) or method B (sulfated ash). These methods may be used for resins, compositions and finished products.

2 Normative reference

The following standard contains provisions which, through reference in this text, constitute provisions of this part of ISO 3451. At the time of publication, the edition indicated was valid. All standards are subject to revision, and parties to agreements based on this part of ISO 3451 are encouraged to investigate the possibility of applying the most recent edition of the standard indicated below. Members of IEC and ISO maintain registers of currently valid International Standards.

ISO 3451-1:1981, *Plastics — Determination of ash — Part 1: General methods.*

3 Principle

Method A

Direct calcination, i.e. by burning the organic matter and treating the residue at 850 °C until constant mass is reached.

Method B

Calcination, with sulfuric acid treatment after combustion, i.e. by burning the substance and transforming the residue into sulfates using concentrated sulfuric acid and, finally, heating the residue at 850 °C until constant mass is reached. Should lead compounds be present, method B is recommended.

4 Reagents (for method B only)

4.1 Sulfuric acid, ρ 1,84 g/ml, of recognized analytical grade.

5 Apparatus

Apparatus specified in ISO 3451-1, and in particular:

5.1 Crucible of silica or platinum, diameter of upper part 45 mm to 75 mm, height equal to the diameter. The size shall be sufficient so that the crucible is no more than half-filled by the test portion.

5.2 Bunsen burner, with silica triangle and tripod, or other suitable heating device.

5.3 Muffle furnace, capable of being controlled thermostatically at 850 °C \pm 50 °C.

5.4 Pipette, of appropriate capacity (for method B only).

5.5 Desiccator, containing an effective drying agent that does not react chemically with the ash components.

NOTE 1 In some cases, the affinity of the ash for water may be greater than that of drying agents commonly used.