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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)*



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## 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.

International Standards are drafted in accordance with the rules given in the ISO/IEC Directives, Part 3.

Draft International Standards adopted by the technical committees are circulated to the member bodies for voting. Publication as an International Standard requires approval by at least 75 % of the member bodies casting a vote.

Attention is drawn to the possibility that some of the elements of this part of ISO 3451 may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights.

International Standard ISO 3451-5 was prepared by Technical Committee ISO/TC 61, *Plastics*, Subcommittee SC 5, *Physical-chemical properties*.

This second edition cancels and replaces the first edition (ISO 3451-5:1989), which has been technically revised.

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

- Part 1: *General methods*
- Part 2: *Poly(alkylene terephthalate) materials*
- 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** — The use of this part of ISO 3451 may involve hazardous chemicals, materials, operations or equipment. This standard does not purport to address the safety problems associated with its use. It is the responsibility of the user of this standard to establish proper safety and health practices and determine the application of regulatory limitations prior to use.

Poly(vinyl chloride) evolves hydrogen chloride on thermal decomposition and precautions should be taken to avoid inhalation of these or other fumes.

## 1 Scope

This part of ISO 3451 specifies three methods for the determination of the ash of poly(vinyl chloride). The general procedures given in ISO 3451-1 are followed. For ash, method A is used. For sulfated ash, methods B and C are used. All three methods are applicable to resins, compounds and finished products. Methods B and C are applicable when lead-containing compounds are present.

## 2 Normative reference

The following normative document contains provisions which, through reference in this text, constitute provisions of this part of ISO 3451. For dated references, subsequent amendments to, or revisions of, this publication do not apply. However, parties to agreements based on this part of ISO 3451 are encouraged to investigate the possibility of applying the most recent edition of the normative document indicated below. For undated references, the latest edition of the normative document referred to applies. Members of ISO and IEC maintain registers of currently valid International Standards.

ISO 3451-1:1997, *Plastics — Determination of ash — Part 1: General methods*

## 3 Principle

### 3.1 Method A (direct calcination)

The organic matter in a test portion is burnt off and the residue is heated at 950 °C until constant mass is reached.

### 3.2 Method B (calcination, with sulfuric acid treatment after combustion)

The organic matter in a test portion is burnt off, the residue is converted into sulfates using concentrated sulfuric acid and, finally, the residue is heated at 950 °C until constant mass is reached.

### 3.3 Method C (calcination, with sulfuric acid treatment before combustion)

The organic matter in a test portion is burnt off after adding concentrated sulfuric acid and the residue is heated at 950 °C until constant mass is reached. This method is recommended over method B because of the better reproducibility of the results.