

INTERNATIONAL  
STANDARD

**ISO**  
**10349-4**

First edition  
1992-12-15

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**Photography — Photographic-grade  
chemicals — Test methods —**

**Part 4:**

**Determination of residue after ignition  
(standards.iteh.ai)**

*Photographie — Produits chimiques de qualité photographique —  
Méthodes d'essai —*  
*Partie 4: Détermination du résidu après calcination*



Reference number  
ISO 10349-4:1992(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 voting. Publication as an International Standard requires approval by at least 75 % of the member bodies casting a vote.

International Standard ISO 10349-4 was prepared by Technical Committee ISO/TC 42, *Photography*.

ISO 10349 consists of the following parts under the general title *Photography — Photographic-grade chemicals — Test methods*:

- Part 1: *General*
- Part 2: *Determination of matter insoluble in water*
- Part 3: *Determination of matter insoluble in ammonium hydroxide solution*
- Part 4: *Determination of residue after ignition*
- Part 5: *Determination of heavy metals and iron content*
- Part 6: *Determination of halide content*
- Part 7: *Determination of alkalinity or acidity*
- Part 8: *Determination of volatile matter*
- Part 9: *Reaction to ammoniacal silver nitrate*
- Part 10: *Determination of sulfide content*

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- Part 11: *Determination of specific gravity*
- Part 12: *Determination of density*

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# Photography — Photographic-grade chemicals — Test methods —

## Part 4:

### Determination of residue after ignition

#### 1 Scope

This part of ISO 10349 specifies a general test method for the determination of the residue after ignition for photographic-grade chemicals.

NOTE 1 For many chemicals, the residue obtained from this determination is used subsequently in tests for heavy metals and/or iron.

#### 2 Normative reference

The following standard contains provisions which, through reference in this text, constitute provisions of this part of ISO 10349. 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 10349 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 10349-1:1992, *Photography — Photographic-grade chemicals — Test methods — Part 1: General*.

#### 3 Hazards

See ISO 10349-1 for general hazard warnings and for details of the hazard code system used in this part of ISO 10349.

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#### 4 Requirements

See ISO 10349-1 for requirements for reagents and glassware.

#### 5 Apparatus

**5.1 Ignition crucible**, made of porcelain, alumina, platinum or quartz, of capacity 100 ml or greater.

**5.2 Muffle furnace**, capable of maintaining a temperature of up to 600 °C.

**5.3 Desiccator**, containing a suitable desiccant.

#### 6 Sampling

See ISO 10349-1.

#### 7 Procedure

Weigh the test portion specified in the appropriate International Standard to the nearest 0,01 g and place in a prepared ignition crucible (5.1) (600 °C ± 50 °C, heat to a constant weight, 0,001 g)<sup>1)</sup>. Heat the crucible over a low flame to drive off any volatile matter, then incinerate in a furnace (5.2) for the specified time and temperature, being careful not to lose any of the ash. Cool to room temperature in a desiccator and reweigh to ± 0,001 g.

1) The notation system used for the drying of apparatus is described in ISO 10349-1.

## 8 Calculation

Calculate the residue after ignition, expressed as a percentage by mass, from the formula

$$100(m_2 - m_1)/m_0$$

where

- $m_0$  is the mass, in grams, of the test portion;
- $m_1$  is the mass, in grams, of the crucible;
- $m_2$  is the mass, in grams, of the crucible and residue after ignition.

## 9 Test report

The test report shall specify the method used and the test result obtained.

It shall also mention all operating details not specified in this part of ISO 10349, or regarded as optional, together with details of any incidents which may have influenced the test result.

The test report shall include all information necessary for the complete identification of the sample.

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