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**Plastics — Determination of thermal stability of poly(vinyl chloride), related chlorine-containing homopolymers and copolymers and their compounds — Discoloration method**

*Plastiques — Détermination de la stabilité thermique du poly(chlorure de vinyle), des homopolymères et copolymères chlorés apparentés et de leurs compositions — Méthode du changement de couleur*

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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.

The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular, the different approval criteria needed for the different types of ISO documents should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see [www.iso.org/directives](http://www.iso.org/directives)).

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights. Details of any patent rights identified during the development of the document will be in the Introduction and/or on the ISO list of patent declarations received (see [www.iso.org/patents](http://www.iso.org/patents)).

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For an explanation of the voluntary nature of standards, the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the World Trade Organization (WTO) principles in the Technical Barriers to Trade (TBT) see [www.iso.org/iso/foreword.html](http://www.iso.org/iso/foreword.html).

This document was prepared by Technical Committee ISO/TC 61, *Plastics*, Subcommittee SC 9, *Thermoplastic materials*.

This third edition cancels and replaces the second edition (ISO 305:1990), of which it constitutes a minor revision. The changes compared to the previous edition are as follows:

- editorial changes have been applied to align the document with the ISO structure;
- [Clauses 2](#) and [3](#) have been added and subsequent clauses have been renumbered.

Any feedback or questions on this document should be directed to the user's national standards body. A complete listing of these bodies can be found at [www.iso.org/members.html](http://www.iso.org/members.html).

# Plastics — Determination of thermal stability of poly(vinyl chloride), related chlorine-containing homopolymers and copolymers and their compounds — Discoloration method

## 1 Scope

This document specifies two methods for the determination of the thermal stability of products and compounds based on vinyl chloride homopolymers and copolymers (referred to simply as PVC in the following text) by the extent of the discoloration that occurs when they are exposed, in the form of sheet, to elevated temperatures. The two methods are:

- Method A: Oil-bath method;
- Method B: Oven method.

These methods are particularly applicable to the determination of the resistance of PVC to degradation by heat, as assessed by the change in colour after different times of heating under standardized conditions. The results are comparative only, and can be unsatisfactory when coloured PVC materials are tested.

The stability times given by the two methods might not be similar and cannot be used for direct-comparison purposes.

## 2 Normative references

There are no normative references in this document.

## 3 Terms and definitions

No terms and definitions are listed in this document.

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

- ISO Online browsing platform: available at <https://www.iso.org/obp>
- IEC Electropedia: available at <http://www.electropedia.org/>

## 4 Principle

### 4.1 Method A: Oil-bath method

Method A is a simple method, which requires little expenditure on apparatus and permits materials to be tested almost in the absence of air.

A series of test specimens is heated at an elevated temperature for different lengths of time in a temperature-controlled oil bath. The test specimens are placed between an aluminium block and an aluminium cylinder to promote heat transfer and restrict air access.