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Plastics — Homopolymer and copolymer resins of vinyl chloride — Determination of residual vinyl chloride monomer by gas-chromatographic analysis of dry powder

Plastiques — Résines d'homopolymères et de copolymères de chlorure de vinyle — Dosage du chlorure de vinyle résiduel par chromatographie en phase gazeuse sur poudre sèche

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ISO copyright office
Case postale 56 • CH-1211 Geneva 20
Tel. + 41 22 749 01 11
Fax + 41 22 749 09 47
E-mail copyright@iso.org
Web www.iso.org

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Foreword

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International Standards are drafted in accordance with the rules given in the ISO/IEC Directives, Part 2.

The main task of technical committees is to prepare International Standards. 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 document may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights.

ISO 24538 was prepared by Technical Committee ISO/TC 61, *Plastics*, Subcommittee SC 5, *Physical-chemical properties*.

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SAFETY STATEMENT — Persons using this document should be familiar with normal laboratory practice, if applicable. This document does not purport to address all of the safety concerns, if any, associated with its use. It is the responsibility of the user to establish appropriate safety and health practices and to ensure compliance with any regulatory requirements.

1 Scope

This International Standard specifies a method for the determination of residual vinyl chloride monomer in homopolymer and copolymer resins of vinyl chloride.

The method is based on a static headspace gas-chromatographic technique (i.e. the analysis of the vapour phase in equilibrium with the solid phase at constant temperature) and is suitable for all kinds of homopolymer and copolymer resin. It is done directly on the resin in powder form.

For compounded material, granulate, extrudate, films, etc., use ISO 6401.

NOTE In the case of compounded material, it is necessary to dissolve the sample in a suitable solvent in order to reach complete headspace equilibrium.

2 Normative references

The following referenced documents are indispensable for the application of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ISO 472, *Plastics — Vocabulary*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO 472 apply.

4 Principle

A weighed amount of the sample is sealed into a glass vial. After thermal conditioning for a certain period of time to permit the vinyl chloride monomer (VCM) to equilibrate between the powder and the vapour phase, a gas sample is taken from the headspace, e.g. by automatic injection, into the gas chromatograph. The components are separated on a column and detected using a flame-ionization detector.