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Indoor air —

Part 9: Determination of the emission of volatile organic compounds from samples of building products and furnishing — Emission test chamber method

Air intérieur —

Partie 9: Dosage de l'émission de composés organiques volatils d'échantillons de produits de construction et d'objets d'équipement — Méthode de la chambre d'essai d'émission

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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 document 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).

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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.

This document was prepared by Technical Committee ISO/TC 146, *Air quality*, Subcommittee SC 6, *Indoor air,* in collaboration with the European Committee for Standardization (CEN) Technical Committee CEN/TC 264, *Air quality,* in accordance with the Agreement on technical cooperation between ISO and CEN (Vienna Agreement).

This second edition cancels and replaces the first edition (ISO 16000-9:2006), which has been technically revised.

The main change is as follows: detailed information about cut edge has been added.

A list of all parts in the ISO 16000 series can be found on the ISO website.

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.

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Introduction

The objectives of the determination of volatile organic compounds (VOCs) emitted from building products using emission test chambers in conjunction with the standardised sampling, storage of samples and preparation of test specimens are:

— to provide manufacturers, builders and end users with emission data useful for the evaluation of the impact of building products on the indoor air quality;

— to promote the development of improved products.

The method can in principle be used for most building products used indoors.

Sampling, transport and storage of materials to be tested, and preparation of test specimens are described in ISO 16000-11. Air sampling and analytical methods for the determination of VOCs are specified in ISO 16000-6 and ISO 16017-1.

A general description of an emission test chamber is given in Annex C.

For the determination of formaldehyde emissions from wood-based panels, refer to EN 717-1[1]. The measurement procedure for formaldehyde is described in ISO 16000-3[2].

The determination of the emission rates of cut edges is described in Annex D.

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Indoor air —

Part 9: Determination of the emission of volatile organic compounds from samples of building products and furnishing — Emission test chamber method

1 Scope

This document specifies a general laboratory test method for the determination of the area specific emission rate of volatile organic compounds (VOCs) from samples of newly produced building products or furnishing under defined climate conditions. The method can also, in principle, be applied to samples of aged products. The emission data obtained can be used to calculate concentrations in a model room (see Table B.1).

This document is applicable to various emission test chambers used for the determination of the emission of VOCs from building products or furnishing.

This document is also applicable to samples of wood-based panels and other building products, in order to determine the emission rate of formaldehyde.

NOTE In principle, this document can be applied to the study of any gas phase emissions from samples of building products and furnishing.

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements 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 554, *Standard atmospheres for conditioning and/or testing — Specifications*

ISO 16000-6, *Indoor air — Part 6: Determination of volatile organic compounds in indoor and test chamber air by active sampling on Tenax TA® sorbent, thermal desorption and gas chromatography using MS/FID*

ISO 16000-11, *Indoor air — Part 11: Determination of the emission of volatile organic compounds from building products and furnishing — Sampling, storage of samples and preparation of test specimens*

ISO 16017-1, *Indoor, ambient and workplace air — Sampling and analysis of volatile organic compounds by sorbent tube/thermal desorption/capillary gas chromatography — Part 1: Pumped sampling*

3 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

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

— ISO Online browsing platform: available at https://www.iso.org/obp

— IEC Electropedia: available at https://www.electropedia.org/

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