INTERNATIONAL STANDARD

ISO 16000-6

Third edition
2021-08

Indoor air —

Part 6: Determination of organic compounds (VVOC, VOC, SVOC) in indoor and test chamber air by active sampling on sorbent tubes, thermal desorption and gas chromatography using MS or MS FID

Air intérieur —

Partie 6: Dosage des composés organiques (COTV, COV, COSV) dans l'air intérieur et l'air de chambre d'essai par prélèvement actif sur tubes à sorbant, désorption thermique et chromatographie en phase gazeuse avec détection MS ou MS-FID

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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).

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).

Any trade name used in this document is information given for the convenience of users and does not constitute an endorsement.

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*.

This third edition cancels and replaces the second edition (ISO 16000-6:2011), which has been technically revised. The main changes compared to the previous edition are as follows:

— other sorbents than Tenax TA® are allowed to be used;

— descriptions of VVOC and SVOC measurements are included in the mandatory part of the document.

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.

Introduction

ISO 16000-1 establishes general requirements relating to the measurement of indoor air pollutants and the important conditions to be observed before or during the sampling of individual pollutants or groups of pollutants. Aspects of the determination (sampling and analysis) and the sampling strategy of specific pollutants or groups of pollutants are specified in the subsequent parts of ISO 16000 (see Foreword).

ISO 16000-5 (dealing with VOC sampling strategy) is a link between ISO 16000-1 (a generic standard establishing the principles) and this part of ISO 16000, which deals with sampling and analytical measurements.

ISO 16017 (see Clause 2 and Reference [8]) and ISO 12219 [3]-[7] also focus on measuring vapour-phase organic chemicals in air.

This document can be applied to measure vapour phase organic compounds in indoor environments that include buildings with varying designs and purposes and cabins for different modes of transport, as well as measurement in product emission test chambers. These measurements can be for a range of purposes as described in ISO 16000-1 and ISO 16000-5, therefore the requirement for the measurement may be well defined by the task descriptor or may be quite open. For example, the task may be to determine a specific list of target chemicals with a defined sampling time and sensitivity of measurement or it may be to investigate the cause of a reported and poorly understood indoor air quality problem. Depending upon the task of measurement the user of this document should select the most appropriate sampling and analytical instrumentation and conditions. This document provides that information in the normative part combined with informative guidance. Figure 1 refers to the most critical parts of the standard with regard to selection of the most appropriate methodology for the task to be undertaken. Tenax TA®[1] only or multisorbents can be used to capture ranges of vapour phase organic compounds. Multisorbents are used for wider ranges and may improve recovery of compounds.

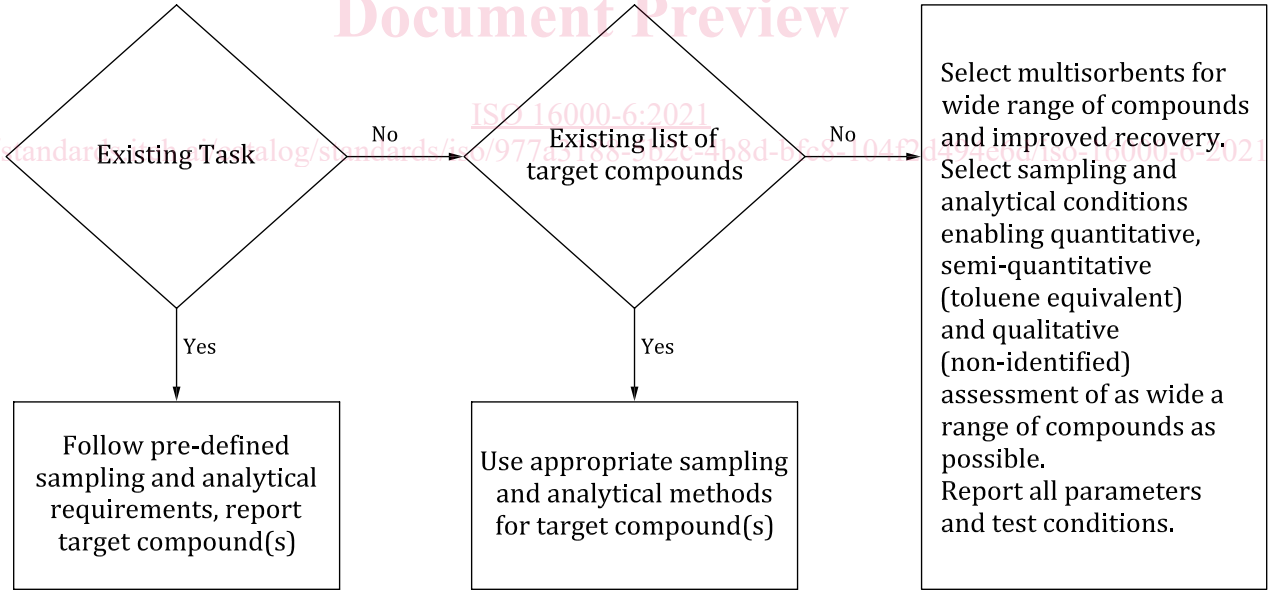

Figure 1 — Measurement scheme showing different ways of analysing air samples depending on the respective task including target compounds

1) Tenax TA® is a trade name of a product supplied by Buchem. This information is given for the convenience of users of this document and does not constitute an endorsement by ISO of the product named. Equivalent products may be used, if they can be shown to lead to the same results.