



# International Standard

**ISO 16000-11**

**Second edition  
2024-03**

**Indoor air —**

**Part 11:**

**Determination of the emission of  
volatile organic compounds from  
samples of building products and  
furnishing — Sampling, storage of  
samples and preparation of test  
specimens**

*Air intérieur —*

*Partie 11: Dosage de l'émission de composés organiques  
volatils d'échantillons de produits de construction et d'objets  
d'équipement — Échantillonnage, conservation des échantillons  
et préparation des éprouvettes d'essais*



**COPYRIGHT PROTECTED DOCUMENT**

© ISO 2024

All rights reserved. Unless otherwise specified, or required in the context of its implementation, no part of this publication may be reproduced or utilized otherwise in any form or by any means, electronic or mechanical, including photocopying, or posting on the internet or an intranet, without prior written permission. Permission can be requested from either ISO at the address below or ISO's member body in the country of the requester.

ISO copyright office  
CP 401 • Ch. de Blandonnet 8  
CH-1214 Vernier, Geneva  
Phone: +41 22 749 01 11  
Email: [copyright@iso.org](mailto:copyright@iso.org)  
Website: [www.iso.org](http://www.iso.org)

Published in Switzerland

Contents

Page

Foreword.....iv

Introduction.....v

1 Scope.....1

2 Normative references.....1

3 Terms and definitions.....1

4 Sampling the product and transport and storage of sample.....2

    4.1 Sampling of the product to be tested.....2

    4.2 Sample packaging and transport.....2

    4.3 Sample description.....2

    4.4 Storage of the sample prior to starting the testing.....2

5 Preparation of test specimens.....3

Annex A (informative) Solid products — Procedure for sampling and test specimen preparation.....4

Annex B (informative) Liquid products — Procedure for sampling and test specimen preparation.....7

Annex C (informative) Combined products.....11

Annex D (informative) Cut edges emission.....13

Bibliography.....14

## 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](http://www.iso.org/directives)).

ISO draws attention to the possibility that the implementation of this document may involve the use of (a) patent(s). ISO takes no position concerning the evidence, validity or applicability of any claimed patent rights in respect thereof. As of the date of publication of this document, ISO had not received notice of (a) patent(s) which may be required to implement this document. However, implementers are cautioned that this may not represent the latest information, which may be obtained from the patent database available at [www.iso.org/patents](http://www.iso.org/patents). ISO shall not be held responsible for identifying any or all such patent rights.

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](http://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 16000-11:2006), which has been technically revised.

The main changes are as follows:

- detailed descriptions for the preparation of samples of liquid products like paints, varnishes and impregnating primers have been added;
- the wet layer thickness instead of the dry film thickness for preparing liquid samples have been recommended;
- sample preparation instructions have been added to determine the cut edge emissions.

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](http://www.iso.org/members.html).

## Introduction

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

- 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.

Studies of the emission of volatile organic compounds from building products or furnishing in test chambers or cells require proper handling of the product prior to testing and during the testing period.

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

NOTE Depending on the non-homogeneity of the product, it can be necessary to make measurements on different test specimens to determine the specific emission rate.