

This document is a preview generated by EVS

Emission safety of combustible air fresheners - Test methods

EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

See Eesti standard EVS-EN 16738:2015 sisaldab Euroopa standardi EN 16738:2015 ingliskeelset teksti.	This Estonian standard EVS-EN 16738:2015 consists of the English text of the European standard EN 16738:2015.
Standard on jõustunud sellekohase teate avaldamisega EVS Teatajas	This standard has been endorsed with a notification published in the official bulletin of the Estonian Centre for Standardisation.
Euroopa standardimisorganisatsioonid on teinud Euroopa standardi rahvuslikele liikmetele kättesaadavaks 25.11.2015.	Date of Availability of the European standard is 25.11.2015.
Standard on kättesaadav Eesti Standardikeskusest.	The standard is available from the Estonian Centre for Standardisation.

Tagasisidet standardi sisu kohta on võimalik edastada, kasutades EVS-i veebilehel asuvat tagasiside vormi või saates e-kirja meiliaadressile standardiosakond@evs.ee.

ICS 13.040.20

Standardite reprodutseerimise ja levitamise õigus kuulub Eesti Standardikeskusele

Andmete paljundamine, taastekitamine, kopeerimine, salvestamine elektroonsesse süsteemi või edastamine ükskõik millises vormis või millisel teel ilma Eesti Standardikeskuse kirjaliku loata on keelatud.

Kui Teil on küsimusi standardite autorikaitse kohta, võtke palun ühendust Eesti Standardikeskusega:

Aru 10, 10317 Tallinn, Eesti; koduleht www.evs.ee; telefon 605 5050; e-post info@evs.ee

The right to reproduce and distribute standards belongs to the Estonian Centre for Standardisation

No part of this publication may be reproduced or utilized in any form or by any means, electronic or mechanical, including photocopying, without a written permission from the Estonian Centre for Standardisation.

If you have any questions about copyright, please contact Estonian Centre for Standardisation:

Aru 10, 10317 Tallinn, Estonia; homepage www.evs.ee; phone +372 605 5050; e-mail info@evs.ee

ICS 13.040.20

English Version

Emission safety of combustible air fresheners - Test methods

Sécurité des émissions des désodorisants à combustion
- Méthodes d'essais

Emissionssicherheit brennbarer Lufterfrischer -
Testverfahren

This European Standard was approved by CEN on 17 October 2015.

CEN members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration. Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the CEN-CENELEC Management Centre or to any CEN member.

This European Standard exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CEN member into its own language and notified to the CEN-CENELEC Management Centre has the same status as the official versions.

CEN members are the national standards bodies of Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, Former Yugoslav Republic of Macedonia, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and United Kingdom.



EUROPEAN COMMITTEE FOR STANDARDIZATION
COMITÉ EUROPÉEN DE NORMALISATION
EUROPÄISCHES KOMITEE FÜR NORMUNG

CEN-CENELEC Management Centre: Avenue Marnix 17, B-1000 Brussels

Contents	Page
European foreword.....	3
1 Scope	4
2 Normative references	4
3 Terms and definitions	5
4 Test methods	6
4.1 Principles	6
4.2 Apparatus	7
4.3 General test conditions	7
4.3.1 General	7
4.3.2 Test chamber volume	7
4.3.3 Number of test specimens at the same time in the test chamber	7
4.3.4 Positioning of test specimens in the test chamber	8
4.3.5 Air supply quality and background concentration	9
4.3.6 Test specimen preparation and ignition	9
4.3.7 Temperature inside the test chamber during the test	10
4.3.8 Relative air humidity inside the test chamber during the test	10
4.3.9 Oxygen concentration inside the test chamber during the test	10
4.3.10 Control of the burning process	10
4.3.11 Burn rates	11
4.3.12 Sampling and analysis of VOC (benzene, naphthalene)	11
4.3.13 Sampling and analysis of formaldehyde	11
4.3.14 Sampling and analysis of NO₂ (nitrogen dioxide)	12
4.3.15 Sampling and analysis of SO₂ (sulfur dioxide)	12
4.3.16 Sampling analysis of CO	12
4.4 Procedures of testing	12
4.5 Calculation of results	12
5 Test report	13
Annex A (informative) Description of sorbent types	14
Bibliography	15

European foreword

This document (EN 16738:2015) has been prepared by Technical Committee CEN/TC 421 “Project Committee - Emission safety of combustible air fresheners”, the secretariat of which is held by UNI.

This European Standard shall be given the status of a national standard, either by publication of an identical text or by endorsement, at the latest by May 2016, and conflicting national standards shall be withdrawn at the latest by May 2016.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CEN [and/or CENELEC] shall not be held responsible for identifying any or all such patent rights.

According to the CEN-CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, Former Yugoslav Republic of Macedonia, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

1 Scope

This European standard specifies a test method for the determination of emissions resulting from the use of combustible air fresheners into indoor air by means of chamber operation according to EN ISO 16000-9.

This standard defines specific testing conditions for the measurement of the emissions from combustible air fresheners which minimize the effect of the testing on the combustion process.

This standard provides a measurement method for the determination of the following non-exhaustive list of target substances emitted directly from the burning process:

- VOC;
- Benzene;
- Naphthalene;
- Formaldehyde.

The measurement method can allow the determination of other substances.

This standard provides additional information on the optional measurement of the following substances:

- SO₂;
- NO_x;
- CO.

This standard is not suitable for the quantitative determination of particulate matter.

This standard does not apply to non-combustible air fresheners and loose incenses.

Any scented candle with burning time shorter than 2,5 h is outside the scope of the standard.

2 Normative references

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

EN 717-1, *Wood-based panels - Determination of formaldehyde release - Part 1: Formaldehyde emission by the chamber method*

EN 14211, *Ambient air - Standard method for the measurement of the concentration of nitrogen dioxide and nitrogen monoxide by chemiluminescence*

EN 14212, *Ambient air - Standard method for the measurement of the concentration of sulphur dioxide by ultraviolet fluorescence*

EN 14626, *Ambient air - Standard method for the measurement of the concentration of carbon monoxide by non-dispersive infrared spectroscopy*

EN 14789, *Stationary source emissions - Determination of volume concentration of oxygen (O₂) - Reference method - Paramagnetism*

EN 14792, *Stationary source emissions - Determination of mass concentration of nitrogen oxides (NO_x) - Reference method: Chemiluminescence*

EN 15058, *Stationary source emissions - Determination of the mass concentration of carbon monoxide (CO) - Reference method: Non-dispersive infrared spectrometry*

EN 15426, *Candles - Specification for sooting behaviour*

EN ISO 16000-9, *Indoor air - Part 9: Determination of the emission of volatile organic compounds from building products and furnishing - Emission test chamber method (ISO 16000-9)*

EN 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 (ISO 16017-1)*

ISO 16000-3, *Indoor air — Part 3: Determination of formaldehyde and other carbonyl compounds in indoor air and test chamber air — Active sampling method*

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 or MS-FID*

3 Terms and definitions

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

3.1

combustible air freshener

product constituted by a fragranced combustible material which by action of combustion releases in the air smelling substances which it contains (e.g.: scented candle, incense, catalytic lamp, etc.)

3.2

candle

one or more combustible wicks supported by a material that constitutes a fuel, which is solid, semisolid or quasi-rigid at room temperature (20 °C to 27 °C), the combined function of which is to sustain a light-producing flame

Note 1 to entry: It can also contain additives, which are used for colour, odour, stability, or to modify the burning characteristics; including candles with decoration attached to or contained within them.

3.2.1

scented candle

candle in the fuel of which a fragrance intended to be released is added

3.3

indoor air

air within an enclosed space, e.g. dwelling or public building

3.4

scented oil lamp (for indoor use)

container in which scented oil is burned at the wick