



# INTERNATIONAL STANDARD

**Household and similar electrical air cleaning appliances - Method for measuring the performance -  
Part 2-2: Particular requirements for determination of gas-phase pollutant reduction**

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## CONTENTS

|                                                                                                  |    |
|--------------------------------------------------------------------------------------------------|----|
| FOREWORD .....                                                                                   | 4  |
| 1 Scope .....                                                                                    | 6  |
| 2 Normative references .....                                                                     | 6  |
| 3 Terms, definitions and abbreviated terms .....                                                 | 6  |
| 3.1 Terms and definitions.....                                                                   | 6  |
| 3.2 Abbreviated terms.....                                                                       | 8  |
| 4 Test gases and initial concentrations for testing .....                                        | 8  |
| 4.1 General.....                                                                                 | 8  |
| 4.2 Representative test gases.....                                                               | 9  |
| 4.2.1 Formaldehyde.....                                                                          | 9  |
| 4.2.2 Toluene .....                                                                              | 9  |
| 4.2.3 <i>n</i> -heptane .....                                                                    | 9  |
| 4.2.4 <i>d</i> -limonene .....                                                                   | 9  |
| 4.2.5 Ammonia .....                                                                              | 10 |
| 4.2.6 Nitrogen dioxide .....                                                                     | 10 |
| 5 Methods for measuring the test gas concentration .....                                         | 10 |
| 5.1 General.....                                                                                 | 10 |
| 5.2 Measurement and analysis method for formaldehyde .....                                       | 10 |
| 5.3 Measurement and analysis method for toluene, <i>n</i> -heptane, and <i>d</i> -limonene ..... | 10 |
| 5.4 Measurement and analysis method for ammonia.....                                             | 10 |
| 5.5 Measurement and analysis method for nitrogen dioxide .....                                   | 10 |
| 6 Generation of initial gas concentrations .....                                                 | 10 |
| 6.1 General.....                                                                                 | 10 |
| 6.2 Gas cylinder method .....                                                                    | 11 |
| 6.3 Temperature-controlled vaporization method .....                                             | 11 |
| 7 Test chamber .....                                                                             | 11 |
| 8 Measurement of the CADR in maximum performance operation mode .....                            | 11 |
| 8.1 General.....                                                                                 | 11 |
| 8.2 Natural decay test.....                                                                      | 11 |
| 8.2.1 General .....                                                                              | 11 |
| 8.2.2 Setting the sampling point .....                                                           | 11 |
| 8.2.3 Cleaning of the test chamber .....                                                         | 12 |
| 8.2.4 Test chamber conditions.....                                                               | 12 |
| 8.2.5 Test gas injection .....                                                                   | 12 |
| 8.2.6 Measurement of the initial concentration.....                                              | 13 |
| 8.2.7 Measurement of the natural decay rate.....                                                 | 13 |
| 8.2.8 Calculation of the natural decay rate.....                                                 | 13 |
| 8.2.9 Acceptability of the run .....                                                             | 13 |
| 8.3 Total decay test .....                                                                       | 13 |
| 8.3.1 Pre-treatment and placement of the DUT .....                                               | 13 |
| 8.3.2 Setting the sampling point .....                                                           | 14 |
| 8.3.3 Cleaning of the test chamber .....                                                         | 14 |
| 8.3.4 Test chamber conditions.....                                                               | 14 |
| 8.3.5 Test gas injection .....                                                                   | 14 |
| 8.3.6 Measurement of the initial concentration.....                                              | 14 |
| 8.3.7 Operation of the DUT.....                                                                  | 14 |

|                       |                                                                          |    |
|-----------------------|--------------------------------------------------------------------------|----|
| 8.3.8                 | Measurement of the total decay rate .....                                | 14 |
| 8.3.9                 | Calculation of the total decay rate.....                                 | 14 |
| 8.3.10                | Acceptability of the run .....                                           | 15 |
| 8.4                   | Calculation of the clean air delivery rate .....                         | 15 |
| 9                     | Calculation procedures .....                                             | 15 |
| 9.1                   | Criteria for the acceptance of data points.....                          | 15 |
| 9.1.1                 | Outliers from the regression line .....                                  | 15 |
| 9.1.2                 | Concentration below 3 % of the initial concentration .....               | 15 |
| 9.2                   | Calculation of decay constants.....                                      | 15 |
| 9.3                   | Sample standard deviation of the slope of the regression line .....      | 16 |
| 9.4                   | Calculation of the clean air delivery rate .....                         | 17 |
| 9.5                   | Sample standard deviation of the clean air delivery rate.....            | 17 |
| Annex A (informative) | Information on the choice of the test gases .....                        | 18 |
| A.1                   | General.....                                                             | 18 |
| A.2                   | Representative test gases.....                                           | 18 |
| A.2.1                 | General .....                                                            | 18 |
| A.2.2                 | Formaldehyde.....                                                        | 18 |
| A.2.3                 | Toluene .....                                                            | 18 |
| A.2.4                 | <i>n</i> -heptane .....                                                  | 18 |
| A.2.5                 | <i>d</i> -limonene .....                                                 | 18 |
| A.2.6                 | Ammonia .....                                                            | 19 |
| A.2.7                 | Nitrogen dioxide .....                                                   | 19 |
| A.3                   | Optional test gases .....                                                | 19 |
| A.3.1                 | General .....                                                            | 19 |
| A.3.2                 | Acetaldehyde.....                                                        | 19 |
| A.3.3                 | $\alpha$ -pinene .....                                                   | 20 |
| A.3.4                 | Acetic acid.....                                                         | 20 |
| A.3.5                 | Isovaleric acid .....                                                    | 20 |
| A.3.6                 | Hydrogen sulfide .....                                                   | 20 |
| A.3.7                 | Methyl mercaptan .....                                                   | 20 |
| A.3.8                 | Indole .....                                                             | 20 |
| A.4                   | Alternative measurement techniques for the test gas .....                | 20 |
| Annex B (informative) | Calculation of the 99 % prediction interval of the regression line ..... | 22 |
| Annex C (informative) | Test report information.....                                             | 24 |
| C.1                   | General.....                                                             | 24 |
| C.2                   | General data .....                                                       | 24 |
| C.3                   | Description of the DUT.....                                              | 24 |
| C.4                   | Test chamber .....                                                       | 24 |
| C.5                   | Generation method of test gases .....                                    | 24 |
| C.6                   | Test gas measurement instrumentation.....                                | 24 |
| C.7                   | Test conditions .....                                                    | 25 |
| C.8                   | Test execution .....                                                     | 25 |
| C.9                   | Results .....                                                            | 25 |
| Annex D (informative) | Background concentration .....                                           | 26 |
| Annex E (normative)   | Limits of measurability .....                                            | 27 |
| E.1                   | General.....                                                             | 27 |
| E.2                   | Maximum clean air delivery rate.....                                     | 27 |
| E.3                   | Minimum clean air delivery rate.....                                     | 27 |

|                                                                                                                                                 |        |
|-------------------------------------------------------------------------------------------------------------------------------------------------|--------|
| Annex F (informative) Schematic representation of a CADR measurement.....                                                                       | 28     |
| Annex G (normative) Particular requirements for determination of ozone reduction.....                                                           | 29     |
| G.1 General.....                                                                                                                                | 29     |
| G.2 Measurement method for test gas concentration .....                                                                                         | 29     |
| G.3 Generation of initial gas concentrations .....                                                                                              | 29     |
| G.4 Measurement of the CADR in maximum performance operation mode .....                                                                         | 29     |
| Bibliography.....                                                                                                                               | 30     |
| <br>Figure F.1 – Schematic representation of the CADR measurement in accordance with<br>Clause 8 .....                                          | <br>28 |
| <br>Table 1 – Representative test gases .....                                                                                                   | <br>9  |
| Table 2 – Target of the background concentration of test gases.....                                                                             | 12     |
| Table 3 – Limits for the sample standard deviation of the slope of the regression line<br>for the natural decay .....                           | 13     |
| Table 4 – Limits for the sample standard deviation of the slope of the regression line<br>for the total decay.....                              | 15     |
| Table A.1 – Test gases .....                                                                                                                    | 19     |
| Table A.2 – Alternative instruments .....                                                                                                       | 21     |
| Table B.1 – Values of the Student $t$ -distribution with $df=n-2$ degrees of freedom for<br>different numbers of pairs of data points $n$ ..... | 23     |
| Table D.1 – Background concentration measurement results .....                                                                                  | 26     |
| Table E.1 – Minimum CADR measurable for the test gases .....                                                                                    | 27     |

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

**Household and similar electrical air cleaning appliances - Method for  
measuring the performance -  
Part 2-2: Particular requirements for determination of gas-phase pollutant  
reduction**

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IEC 63086-2-2 has been prepared by subcommittee 59N: Electrical air cleaners for household and similar purposes, of IEC technical committee 59: Performance of household and similar electrical appliances, in co-operation with ISO technical committee 142: Cleaning equipment for air and other gases and ISO technical committee 146: Air quality. It is an International Standard.

It is published as a double logo International Standard.

The text of this International Standard is based on the following documents:

| Draft        | Report on voting |
|--------------|------------------|
| 59N/100/FDIS | 59N/103/RVD      |

Full information on the voting for its approval can be found in the report on voting indicated in the above table.

The language used for the development of this International Standard is English.

This document was drafted in accordance with ISO/IEC Directives, Part 2, and developed in accordance with ISO/IEC Directives, Part 1 and ISO/IEC Directives, IEC Supplement, available at [www.iec.ch/members\\_experts/refdocs](http://www.iec.ch/members_experts/refdocs). The main document types developed by IEC are described in greater detail at [www.iec.ch/publications](http://www.iec.ch/publications).

A list of all parts in the IEC 63086 series, published under the general title *Household and similar electrical air cleaning appliances - Methods for measuring the performance*, can be found on the IEC website.

The committee has decided that the contents of this document will remain unchanged until the stability date indicated on the IEC website under [webstore.iec.ch](http://webstore.iec.ch) in the data related to the specific document. At this date, the document will be

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Sample Document

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## 1 Scope

This part of IEC 63086 specifies test methods for measuring the performance of electrically powered household and similar air cleaners intended for the reduction of **gas-phase pollutants**.

This document is intended for measuring the reduction of the concentration of specific **gas-phase pollutants**. This does not necessarily correlate with the reduction of odour intensity in the case of odorous **gas-phase pollutants**. Such a reduction can only be tested by olfactory tests, which are not part of this document.

NOTE Test methods for the determination of possible gas-phase by-products are under consideration.

## 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.

IEC 63086-1:2020, *Household and similar electrical air cleaning appliances - Methods for measuring the performance - Part 1: General requirements*

IEC 63086-2-1:2024, *Household and similar electrical air cleaning appliances - Methods for measuring the performance - Part 2-1: Particular requirements for determination of reduction of particles*

ISO 16000-3:2022, *Indoor air — Part 3: Determination of formaldehyde and other carbonyl compounds in indoor and test chamber air — Active sampling method*

ISO 16000-6, *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 MSFID*

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

## 3 Terms, definitions and abbreviated terms

### 3.1 Terms and definitions

For the purposes of this document, the terms and definitions given in IEC 63086-1:2020 and the following apply.

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

- IEC Electropedia: available at <https://www.electropedia.org/>
- ISO Online browsing platform: available at <https://www.iso.org/obp>

#### 3.1.1

##### **gas-phase pollutant**

gaseous compound found in indoor environments as a result of outdoor air infiltration, indoor human activities, or emissions from indoor materials

**3.1.2****test gas**

[gas-phase pollutant \(3.1.1\)](#) selected for measuring the performance of air cleaners

**3.1.3****natural decay rate**

reduction rate of the [test gas \(3.1.2\)](#) in the test chamber due to natural factors, such as surface adsorption, chemical reaction, and air exchange

Note 1 to entry: The unit is per hour ( $\text{h}^{-1}$ ).

**3.1.4****total decay rate**

reduction rate of the [test gas \(3.1.2\)](#) in the test chamber due to the combined effect of the [natural decay rate \(3.1.3\)](#) and the operation decay rate

Note 1 to entry: The unit is per hour ( $\text{h}^{-1}$ ).

**3.1.5****background concentration**

concentration of [test gases \(3.1.2\)](#) in the test chamber after cleaning, but prior to the injection of [test gases \(3.1.2\)](#)

**3.1.6****initial concentration**

concentration measured inside the test chamber after the injection and mixing of [test gases \(3.1.2\)](#)

**3.1.7****TVOC**

total volatile organic compounds

sum of the concentrations of identified and unidentified volatile organic compounds eluting between and including n-hexane and n-hexadecane (in accordance with ISO 16000-9)

**3.1.8****real-time measurement method**

method for determining the concentration of the [test gas \(3.1.2\)](#) using a direct reading instrument

Note 1 to entry: A chemiluminescence analyser is an example for an instrument using a [real-time measurement method \(3.1.8\)](#).

**3.1.9****integrated sampling method**

method for determining the concentration of the [test gas \(3.1.2\)](#) by a periodic process of air capture and subsequent analysis of the sample

Note 1 to entry: High performance liquid chromatography (HPLC) is an example of an instrument using an [integrated sampling method \(3.1.9\)](#).