NSAI Standards

Irish Standard
I.S. EN 13725:2022

Stationary source emissions - Determination of odour concentration by dynamic olfactometry and odour emission rate

I.S. EN 13725:2022

Incorporating amendments/corrigenda/National Annexes issued since publication:

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National Foreword

I.S. EN 13725:2022 is the adopted Irish version of the European Document EN 13725:2022, Stationary source emissions - Determination of odour concentration by dynamic olfactometry and odour emission rate

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EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN 13725

February 2022

ICS 13.040.99

Supersedes EN 13725:2003

English Version

Stationary source emissions - Determination of odour concentration by dynamic olfactometry and odour emission rate

Émissions de sources fixes - Détermination de la concentration d'odeur par olfactométrie dynamique et du taux d'émission d'odeurs émanant de sources fixes

Emissionen aus stationären Quellen - Bestimmung der Geruchsstoffkonzentration durch dynamische Olfaktometrie und die Geruchsstoffemissionsrate

This European Standard was approved by CEN on 12 December 2021.

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

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European foreword

This document (EN 13725:2022) has been prepared by Technical Committee CEN/TC 264 “Air quality”, the secretariat of which is held by DIN.

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of an identical text or by endorsement, at the latest by August 2022, and conflicting national standards shall be withdrawn at the latest by August 2022.

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

This document supersedes EN 13725:2003. The methods defined in the first edition and its associated quality criteria have been validated in numerous proficiency tests.

The main changes in this revision relative to the first edition EN 13725:2003 are listed in informative Annex N.

Annexes A, B, C, D, E, F, G, H, I, J, K, L, M and N are all informative.

Any feedback and questions on this document should be directed to the users’ national standards body. A complete listing of these bodies can be found on the CEN website.

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

1 Scope

This document specifies an objective method for the determination of the odour concentration of a gaseous sample using dynamic olfactometry with human assessors. The document also specifies a method for the determination of the odour emission rate from stationary sources, in particular:

a) point sources (conveyed or ducted emissions);

b) active area sources (e.g. biofilters).

The primary application of this document is to provide a common basis for evaluation of odour emissions.

When this document is used for the determination of the odour concentration or the odour emission rate of stationary source emissions, the other relevant European Standards concerning stationary source emissions apply, in particular EN 15259 and EN ISO 16911-1, especially when measurements have to comply with the relevant European Directives concerning industrial air emissions.

Even so, the analysis/quantification step of the measurement method described in this document (i.e. the determination of the odour concentration of an odorous gas sample, without respect to the origin of the sample itself) may be fully applied in many cases not related with industrial emission sources (e.g. the measurement of the mass concentration at the detection threshold of odorant substances, the determination of effectiveness of deodorising systems for indoor air). In those latter cases, the requirements in this document concerning the measurement planning and the sampling of stationary sources may be ignored or adapted.

This document is applicable to the measurement of odour concentration of odorous gas, mixtures of odorants of defined composition and undefined mixtures of odorants in air or nitrogen, using dynamic olfactometry with a panel of human assessors being the sensor. The unit of measurement is the European odour unit per cubic metre: ou_E/m^3. The odour concentration is measured by determining the dilution factor required to reach the detection threshold. The odour concentration at the detection threshold is by definition 1 ou_E/m^3. The odour concentration is then expressed in terms of multiples of the detection threshold. The range of measurement is typically from 10^1 ou_E/m^3 to 10^7 ou_E/m^3 (including pre-dilution).

The field of application of this document includes:

1) the measurement of the mass concentration at the detection threshold of odorants in g/m^3;

2) the determination of the SROM value of secondary reference odorant gas, in mol;

3) the measurement of the odour concentration of mixtures of odorants in ou_E/m^3;

4) the measurement of the odour emission rate from point sources and active area sources, including pre-dilution during sampling;

5) the sampling of odorous gases from emissions of high humidity and temperature (up to 200 °C);

6) the determination of effectiveness of mitigation techniques used to reduce odour emissions.

   The determination of odour emissions requires measurement of gas velocity to determine the volume flow rate.

The field of application of this document does not include:

i. the measurement of odours potentially released by particles of odorous solids or droplets of odorous fluids suspended in emissions;

ii. the measuring strategy to be applied in case of variable emission rates;