



Update on the revised European standard EN13725

Presentation

by

A.P. van Harreveld

Convenor CEN/TC264/WG2 "Olfactometry"

Odournet, Amsterdam, The Netherlands

ton@odournet.com



Standardisation is a slow process.....

- Timeline
 - 1991 CEN/TC264/WG2 work item approved by TC264 Air Quality on March 13, 1991
 - 2003 EN13725:2003 published
 - 2012 Revision initiated, WG2 reactivated
 - 2021 Final draft submitted in March for voting by TC264 'Air Quality',
 - 2022 revised standard expected to become available 2022 Q1
- Experts in the working group
 - Nominated by CEN members > the national standardisation organisations
 - On a volunteer basis (not funded by CEN)
 - On personal title (not representing an entity)
 - National mirror groups can be instated to maintain contact with profession
 - Organised by a secretariat (NEN, Netherlands) and a convenor



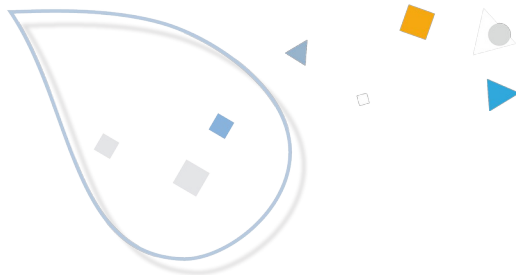
Main themes represented in dedicated task groups

- Task group 1: Sample storage and materials for olfactometry
- Task group 2: Reference material for panel selection and panel management procedures
- Task group 3: Sampling of passive area sources (without flow)
- Task group 4: Sampling of active area sources (biofilters)
- Task group 5: Dynamic dilution during stack sampling
- Task group 6: Implications of EN 15259 air quality - measurement of stationary source emissions and other relevant sampling standards
- Task group 7: Calculation of uncertainty
- Task group 8: Compatibility of Yes/No and Forced Choice methods
- Task group 9: Health and safety issues



Drafting process now completed, final working draft submitted March 2021

- Enquiry version of the revised EN13725 was published in 2019
- Enquiry phase closed 12 August 2019
- Enquiry comments were processed and the final draft text was discussed, and the content finalised and adopted in decisions subclause by subclause
- Final editing for editorial consistency by convenor, secretariat and another revision by WG members comments
- Final working draft submitted to CEN TC264 in March 2021

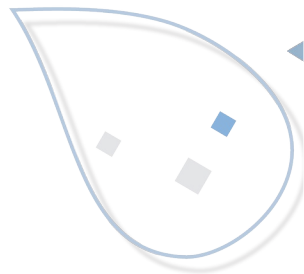


**Revisions are
listed in new
Annex N**

Annex N (informative)

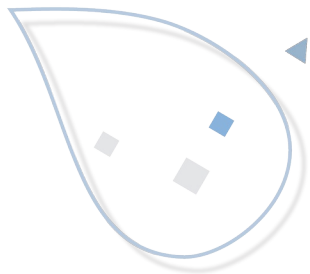
Significant technical changes

(Sub)clause	Title	Technical change
1	Scope	The scope has been revised. The determination of emission rate from passive area sources has been excluded from the scope. References to EN15259 and EN ISO 16911-1 have been added to the scope. The following additional topic was included in the field of application: c) the determination of the SROM value of secondary reference odorant gas reference materials, in mol; The following additional topics have been excluded from the field of application: 6. direct olfactometry, including field olfactometry; 7. static olfactometry; 9. the determination of odour emission rate from volume sources, such as fugitive emissions from buildings; 10. the determination of odour emission rate from passive area sources.
2	Normative references	The reference to standard ISO10780 was removed and replaced by EN ISO 16911-1. The standards EN15259 and EN ISO 20988 were added to the normative references
3	Terms and definitions	Terms and definitions were categorised, adjusted, extended and in some cases based on more relevant references.



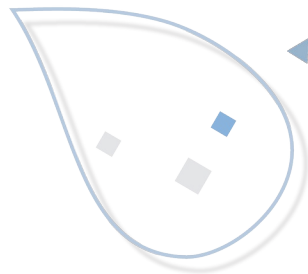
Changes per subclause

5	Principle of method	Replaces former clause 4 'Principle of measurement'. Former clause 3.3 'Unit of measurement' was incorporated in the new clause 5, while the information provided in the notes was included in a new informative Annex L. A new subclause 5.2 'Odorant gas sampling' was added. A new subclause 5.3.2 'Procedure for establishing a robust estimated value of the secondary reference odour mass (SROM)' was added. The SROM concept was introduced to allow the usage of secondary reference odorants, traceable to the primary reference odorant n-butanol.
6	Apparatus and materials	Modified text replaces former clause 6 'Material, gases and panel members'. The structure of the text has remained the same. In subclause 6.2.2 'Materials for sample equipment', the list of appropriate materials was modified by removing the material glass and adding titanium and aluminium (for sampling hoods and wind tunnels only). Stainless steel was modified into: '5) stainless steel with the technical properties to avoid inadequate recovery (e.g. passivated stainless steel), in particular of H₂S and reduced sulphur compounds'
6.3.1	Materials for sample container (bags)	A requirement for testing alternative materials was added, based on a recovery criterion specified in new subclause 9.5.1
6.4.2	Odorant reference materials	Requirements for secondary odorant reference materials were added
6.5.1	Construction of the olfactometer	Criteria for recovery of odorants and the instrumental response time were added
6.6.1	Olfactometry room	The recommended maximum temperature of 25°C was removed. A minimum set point temperature of 21°C was introduced. Upper and lower limit for relative humidity was introduced.
6.7.2	Selection of assessors on individual variability and sensitivity	A new requirement was introduced that the ITE data used for panel qualification shall not be older than 12 months
6.7.3	Monitoring of panel members on individual variability and sensitivity	The former content on this issue was moved to a separate subclause. The number of ITE values to be used for monitoring is now fixed to n=12. Additional guidance on managing panel composition based on monitoring data was added.



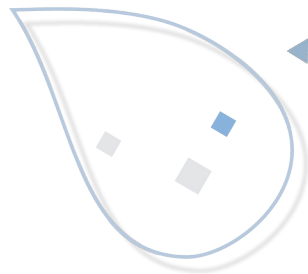
Changes per subclause

7	Performance characteristics and criteria	Former clause 6 'Performance quality requirements' has been extended to 'Performance characteristics and criteria'. The option to use additional secondary reference materials with known SROM value was introduced. A more comprehensive assessment of uncertainty was added, in clause 10.2. This implies that the uncertainty of a laboratory can only be assessed according to the method stated in subclause 10.2. The former subclause 5.5 'Quality requirements for sampling equipments' has been deleted and replaced by a requirement to determine the dilution factor when sampling as outlined in subclause 9.1.4.4
8	Measurement objective and measurement plan	New clause replaces former annex J 'Sampling strategy'. The normative reference to EN15259 has been introduced here. The revised text also replaces the informative former Annex J.
9	Measurement procedure	New clause has been added and replaces former annex A 'Working conditions and working platform for sampling'
9.1.	Sampling	Former subclause 7.2.1 'Sampling for direct olfactometry' was removed, as this topic was excluded from the scope.
9.1.1.	Health and safety issues during sampling	A normative reference to the requirements of EN15259 was introduced
9.1.3.	Sample collection method	The subclause was revised. The requirement for an integrity test (leak test) was added. A procedure for bag conditioning was added. New subclauses were added: 9.1.3.1. 'Sampling using the 'lung' method' 9.1.3.2 'Direct sampling method for sources at positive pressure' 9.1.3.3. 'Direct sampling using an open bag only' 9.1.3.4. 'Direct sampling method using a pump'
9.1.4	Pre-dilution during sampling	This subclause was revised and extended. The former requirement of calibration of dynamic dilution equipment using instrumental calibration was removed and replaced by the requirement to determine the emission factor in the sample using either flow measurements or concentration measurements of indicator gases, as outlined in subclause 9.1.4.4



Changes per subclause

9.1.5	Transport and storage of odorant gas samples before analysis	The text of the former subclause 7.3.3. was revised. The maximum storage time of 30 hours was maintained. However, guidance was included that the storage time for all samples should be similar to avoid differences in the degree of sample degradation, which is progressive with time. The maximum temperature limit during storage and transformation was removed. Guidance on relative humidity during transport was introduced
9.1.6	Sampling strategy	This subclause replaces the former subclause 7.4 and Annex J.
9.2	Sampling of a point source	This subclause is a new introduction in the standard
9.3.	Sampling of area sources	This subclause is a new introduction in the standard
9.4.2	Evaluation time and inter stimulus time	The minimum inter stimulus time interval of 30 s included in former subclause 8.2. was removed
9.4.3	Number and order of presentations	The requirements in the new subclause are more specific than those in the former subclause 8.3. The former subclause 8.5 was replaced by a note
9.5.	Occupational safety for sampling personnel, assessors and olfactometry operators	This is a new subclause, replacing former subclause 8.6. and normative former Annex A , The new subclause was introduced to provide a more comprehensive to risk assessment and health and safety measures to be observed for sampling staff, olfactometry operators and assessors
9.6.1	Calculation of odour concentration of a sample from a set of panel member responses	Replaces former subclause 9.2., without significant modifications
10	Quality assurance and quality control procedures	This is a new clause which has been added.
10.1	Field blank	This new subclause states the requirements for ensuring that no significant contamination occurs during sampling.
10.2	Measurement uncertainty	A new approach to uncertainty assessment within one laboratory using real world samples was introduced in the revised standard. The method is aligned with normative reference EN ISO 20988
10.3	Determination of the limit of detection (LoD) and the limit of quantification (LoQ)	The LoD and LoQ concepts replace the former subclause 6.5.4 'Decision limit of the olfactometric measurement'



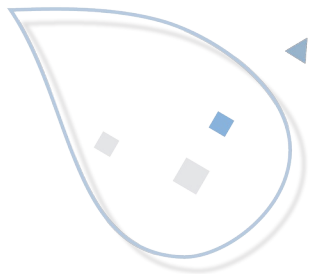
Changes per subclause

11	Measurement records and report	Revised text replaces former subclause 9.5 'Presentation and minimum requirements for reporting and archiving results'. The records and reporting requirements for emission sampling (subclause 11.1) and odour concentration measurement (subclause 11.2) are now in separate subclauses.
Annex D	Example of calculations for panel selection	The example was modified compared to the former Annex C to reflect the requirement to use n=12 ITE data points as opposed to the n=10 in the former example
Annex I	Example of the calculation of an SROM value for a new defined odorant from an EROM comparison	This new informative annex has been added providing an example for the data treatments of the method described in subclause 5.3.2.
Annex J	Example of the calculation of measurement uncertainty	This new informative annex has been added providing an example for the data treatments of the method described in subclause 10.2.2.
Annex K	Dynamic dilution apparatus for sampling	This new informative annex was added
Annex L	Considerations for the interpretation of the odour concentration concept for air quality management	This new informative annex was added replacing the information provided in the notes of the former subclause 3.3
Annex M	Sampling of passive area sources	This new informative annex was included to reflect the information obtained in the drafting process. In the end the topic was excluded from the normative scope as it was insufficient to draft a normative approach.
Annex N	Significant technical changes	This new informative annex contains this table listing the significant technical changes in the revised standard, relative to the first edition, EN13725:2003



Current status

- Final draft submitted to TC264 Air Quality (via CCMC for editorial production)
- TC264 will hold a vote on the new EN13725 Working Draft
- If the vote is positive, publication can be expected in 2022
- I will step down as convenor once the revised standard EN13725 is published



Thank you for your attention!

