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Technical specification for olfactory laboratory construction

恶臭嗅觉实验室建设技术规范

(English Translation)

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Foreword

In order to carry out "Law of the People's Republic of China on Environmental Protection" and "Law of the People's Republic of China on Prevention and Control of Atmospheric Pollution", prevent and control foul-smelling pollution and improve Environmental quality, standardize the construction of foul odor laboratory, the development of this standard.

This standard specifies the stench olfactory laboratory location, layout and internal design and other technical requirements.

This standard is released for the first time.

This standard by the Environmental Protection Department of Atmospheric Environment Management Division, Science and Technology Standards Division organization.

This standard is mainly drafted by. Tianjin Institute of Environmental Protection, Binhai New Area, Tianjin, Hangu Environmental Protection Monitoring Station.

This standard MEP approved on November 10, 2017.

This standard since November 10, 2017 onwards.

This standard is interpreted by the MEP.

Odor and smell laboratory construction technical specifications

1 Scope of application

This standard specifies the stench olfactory laboratory location, layout and internal design and other technical requirements.

This standard applies to the construction of foul smell laboratory.

2 Normative references

This standard references the following documents in the terms. For undated references, the effective version applies this standard.

GB/T 14675 air quality malodor three points comparison Odor bag method Architectural Design Code of Science Laboratory

3 Terms and definitions

The following terms and definitions apply to this standard.

3.1 Foul odor

All odorous gases that irritate olfactory organs cause unpleasant feelings and damage the living environment.

3.2 Foul smell laboratory olfactory laboratory

Smell smell and smell were measured by three-point comparative smelly bag method, olfactometer determination method, malodour strength determination method and other methods of the laboratory, mainly for sample preparation equipment, sample preparation, olfactory determination and recovery of the smell.

3.3 Odor concentration odor concentration

Dilution factor for serial dilution of odorous samples to odor threshold with odorless air.

3.4 Transfer window delivery window

A window used to pass samples in malodour tests.

3.5 Olfactometer

In the determination of malodour, the odor sample is diluted with odorless air at a predetermined rate and passed to the instrument of the sniffer.

3.6 Sniff table sniff table

Sightholder for malodour determination of the workbench.

3.7 Sniff position sniff position

Opaque partition separated by an opaque partition into separate olfactory spaces.

4 New laboratory site

4.1

foul smell Laboratory should be far away from odor sources and noise sources, as adjacent to other laboratories, should be effectively isolated, and set independent access.

4.2

foul smell When the site is located in the laboratory, it is necessary to measure the odor concentration of the air outside the foul smell building laboratory, the maximum concentration should be less than 10.

5 Laboratory layout

5.1

Stench Olfactory Laboratory shall have a sampling preparation room, sample preparation room, three functional areas sniffing chamber, equipped with olfactory instrument Laboratory to be set olfactory pump room. Conditional laboratory can be additional lounge. The layout of the functional areas should be concentrated and compact Clear, easy to contact, do not interfere with each other. The foul odor laboratory layout can refer to Figure 1.

Figure 1 smelling smell laboratory layout diagram

5.2

Stench Olfactory Laboratory's functional area and main functions. Sampling preparation room for the storage of sampling equipment, sampler prior to use Preparation, after the determination of the sample processing, sampling equipment cleaning; sample preparation room for the determination of equipment storage, sample short-term deposit Release, odorless air preparation, sample preparation, etc .; sniffing chamber for sniffing samples sniffing identification; lounge for sniffers to provide air Clean rest environment, alleviating the sense of smell fatigue.

5.3

Sample preparation rooms can be shared with other laboratories, but need to meet the laboratory's internal design (6) requirements. Sample with Room should be adjacent to the sniffing chamber, and set the transfer window. Transmission window length of not less than 0.60 m, a height of not less than 0.40 m, refer to Figure 2 design.

Figure 2 transfer window design diagram

6.1 Construction and Decoration

6.1.1

Sampling preparation room, sample preparation room use area of not less than 8.0 m², sniffing room use area of not less than 12 m², with Smell room smell olfactory use of not less than 17 m². Indoor clear height of not less than 2.4 m.

6.1.2

laboratory interior walls, doors and windows to be tasteless, low-absorbent material, the floor laying tasteless, low-absorbent Surface material. Olfactory pump room should be effective noise.

6.2 Internal facilities

6.2.1

Sampling preparation room The internal facilities include a test bed, a shelf, a sink, a fume hood or a mechanical ventilation device. The layout may be Test map 3. Sample preparation room interior facilities include a laboratory bench, racks, cabinets, layout can refer to Figure 4. Sniff room inside Facilities include sniffing table, chairs, layout can refer to Figure 5. Laboratory with olfactory instrument should also increase the olfactory instrument test bed, cloth Bureau can refer to Figure 6. The above facilities are tasteless, low adsorption material.

Figure 3 Sampling preparation room layout diagram Figure 4 sample preparation room layout diagram

Figure 5 sniffing room layout schematic Figure 6 set sniffing room olfactory room layout diagram

6.2.2

Test bench width of not less than 0.75 m, sample preparation laboratory bench total length of not less than 1.5 m, sample preparation room bench the total length of not less than 4.0 m. The height of the sniffing platform is 0.80 m, separated by a partition into 6 independent sniffing positions, each sniffing Bit length of not less than 1.0 m, width of not less than 0.50 m, baffle height of not less than 0.30 m. Olfactory Taiwan's design can refer to the map 7.

Figure 7 sniffing platform design schematic

6.2.3

Sampling preparation room and sample preparation room configuration of experimental equipment with reference to GB/T 14675 related requirements.