

HJ

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**Technical guidelines for fugitive emission monitoring of air
pollutants**

(English Translation)

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Foreword

In order to cooperate with the implementation of GB 16297-1996 Comprehensive Emission Standard of Air Pollutants, and to further standardize the technical requirements for fugitive emission monitoring of air pollutants, this standard is formulated.

This standard is linked up to Annex C of GB 16297-1996. Starting from the migration diffusion rules of air pollutants; and combining with various specific conditions of fugitive emission, this standard provides further regulations and guidance to the simple determination of meteorological conditions; determination of the suitability degree of meteorological conditions; and the selection of the monitoring period, the setting methods of monitoring site, etc.

This standard applies to Environmental Monitoring Station to implement the supervision

and monitoring to the stationary pollution source of fugitive emission; and the monitoring of completion acceptance of construction project environmental protection facilities. It is also applicable to the monitoring of stationary pollution source to perform self-management.

The standard was proposed by Department of Science, Technology and Standards of Ministry of Environmental Protection of the People's Republic of China.

The standard was responsibly drafted by Shanghai Environmental Monitoring Center, and Shanghai Institute of Meteorological Science.

The State Environmental Protection Administration is responsible for the interpretation of this standard.

Standards of State Environmental Protection Administration Technical guidelines for fugitive emission monitoring of air pollutants

1.1 Subject content

This standard specifies the regulations and guidance to setting methods of fugitive emission monitoring point; the determination and selection of monitoring meteorological conditions; the calculation of the monitoring results, etc. It is the supplement and detailed document of Annex C of GB 16297-1996 Comprehensive Emission Standard of Air Pollutants.

1.2 Scope of application

1.2.1

This standard applies to Environmental Monitoring Department to implement the supervision and monitoring to the stationary pollution source of fugitive emission, for the purpose of implementing Annex C of GB 16297-1996. It is also applicable to various pollution source's organizations to perform the similar monitoring for self-management.

1.2.2 This standard is a technical guidance document. The environmental monitoring

department shall implement the relevant regulations and requirements of this standard in accordance with the regulations and principles specified in Annex C of GB 16297-1996, with reference to the specific circumstances and needs.

1.2.3 The setting of the fugitive emission monitoring points for air pollutants generated from industrial furnace, coke oven and cement plant shall still be in compliance with the emission standard of air pollutants specified in GB 9078-1996, GB 16171-1996; and GB 4915-1996. The remaining relevant issues are implemented in accordance with the provisions of this standard.

2 Reference standards

The provisions contained in the following standard may, through the reference in this text, constitute part of this standard.

GB 16297-1996 Comprehensive Emission Standard of Air Pollutants

5.2 Basic situation investigation of monitored fugitive emission source

In addition to the categories and emission rate (estimated value) of emission pollutants, it shall also investigate the shape, size, height and the specific location in the building of the exhaust port of the fugitive emission source. There shall be photos of the exhaust port and the building.

5.3 Meteorological data investigation of emission source region

Under general situation, the local "all year round" meteorological data can be known from the meteorological observatory (station) of monitored pollution source, including.

- Monthly predominant wind-direction and wind-direction frequency;
- Monthly average wind-speed and the maximum and minimum wind-speed;
- Monthly average temperature and temperature changes and other situations.

If possible, it is the best to understand the local temperature inversion and atmospheric stability and other variations of meteorological elements of pollutants.

To understand the local "all year round" meteorological data is to guide the selection of monitoring period.

5.4.1 Preparation of monitoring data

GB 16297-1996 and this standard are the leading technical basis for the fugitive emissions monitoring. In the standard analysis methods for pollutants from stationary sources, the sampling methods and sample analysis method related to fugitive emission are the most important method basis, so the relevant contents shall be read and understood before monitoring.

5.4.2 Preparation of simple determining instruments of wind-direction and wind-speed on site Usually the three-cup portable anemorumbometer may be used. It may also adopt other portable anemorumbometer with the same function.

The performance of instrument shall be verified by the Metrological Supervision Department. And necessary commissioning and inspection shall be implemented before use.

5.4.3 Preparation of sampling instruments and reagent.

Make preparation in accordance with the instrument-equipment and reagent specified in the sampling section related to the fugitive emission monitoring in the standard analysis

7.4.4 Determining the boundary of eddy area by sight

Make ready for suitable artificial smoke source (for example, using incense stick with appropriate size). Place it in the upwind of the eddy boundary. Observe the movement of the smoke-flow by naked eyes to determine the boundary of the eddy zone.

8 Classification of suitability degree of each

meteorological factor to fugitive emission monitoring

8.1 Classification method of suitability degree

It is classified into four classes based on the value of each meteorological factor.

Class a. It is adverse to the diffusion and dilution of pollutants. It is suitable for carrying out fugitive emission monitoring;

Class b. It is less adverse to the diffusion and dilution of pollutants. It is relatively suitable for carrying out fugitive emission monitoring;

Class c. It is conducive to the diffusion and dilution of pollutants. It is relatively not suitable for carrying out fugitive emission monitoring;

Class d. It is very conducive to the diffusion and dilution of pollutants. It is not suitable for carrying out fugitive emission monitoring.

8.2 Classification of suitability degree of wind-direction changes

The average wind-direction itself means nothing to the diffusion and dilution of pollutants.

Use the standard deviation (7.1) of average wind-direction within 10 minutes to represent the range of wind-direction change. The classification of its suitability degree for fugitive emission monitoring is shown in Table 5.

Table 5 Classification of suitability degree of wind-direction changes

Size of wind-direction changes ($\pm S^\circ$)	< 15°	15°-29°	30°-45°	>45°	Classification of suitability degree
a	b	c	d		

8.3 Classification of suitability degree of wind-spee...