

Container number	Weight of particulate collected, mg		
	Final weight	Tare weight	Weight gain
Weight of particulate matter.			
	Volume of liquid water collected		
	Impinger volume, ml	Silica gel weight, g	
Final Initial Liquid collected			
Total volume collected .....	.....	g* ml	

\* Convert weight of water to volume by dividing total weight increase by density of water (1 g/ml).

$$\frac{\text{Increase, g}}{(1\text{g/ml})} = \text{Volume water, ml}$$

METHOD 5B—DETERMINATION OF NONSULFURIC ACID PARTICULATE MATTER EMISSIONS FROM STATIONARY SOURCES

NOTE: This method does not include all of the specifications (e.g., equipment and supplies) and procedures (e.g., sampling and analytical) essential to its performance. Some material is incorporated by reference from other methods in this part. Therefore, to obtain reliable results, persons using this method should have a thorough knowledge of at least the following additional test methods: Method 1, Method 2, Method 3, Method 5.

1.0 Scope and Application

1.1 Analyte. Nonsulfuric acid particulate matter. No CAS number assigned.

1.2 Applicability. This method is determining applicable for the determination of nonsulfuric acid particulate matter from stationary sources, only where specified by an applicable subpart of the regulations or where approved by the Administrator for a particular application.

1.3 Data Quality Objectives. Adherence to the requirements of this method will enhance the quality of the data obtained from air pollutant sampling methods.

2.0 Summary of Method

Particulate matter is withdrawn isokinetically from the source and collected on a glass fiber filter maintained at a temperature of 160 ±14 °C (320 ±25 °F). The collected sample is then heated in an oven at 160 °C (320 °F) for 6 hours to volatilize any condensed sulfuric acid that may have been collected, and the nonsulfuric acid particulate mass is determined gravimetrically.

3.0 Definitions [Reserved]

4.0 Interferences [Reserved]

5.0 Safety

5.1 Disclaimer. This method may involve hazardous materials, operations, and equipment. This test method may not address all of the safety problems associated with its use. It is the responsibility of the user of this test method to establish appropriate safety and health practices and to determine the applicability of regulatory limitations prior to performing this test method.

6.0 Equipment and Supplies

Same as Method 5, Section 6.0, with the following addition and exceptions:

6.1 Sample Collection. The probe liner heating system and filter heating system must be capable of maintaining a sample gas temperature of 160 ±14 °C (320 ±25 °F).

6.2 Sample Preparation. An oven is required for drying the sample.

7.0 Reagents and Standards

Same as Method 5, Section 7.0.

8.0 Sample Collection, Preservation, Storage, and Transport.

Same as Method 5, with the exception of the following:

8.1 Initial Filter Tare. Oven dry the filter at 160 ±5 °C (320 ±10 °F) for 2 to 3 hours, cool in a desiccator for 2 hours, and weigh. Desiccate to constant weight to obtain the initial tare weight. Use the applicable specifications and techniques of Section 8.1.3 of Method 5 for this determination.

8.2 Probe and Filter Temperatures. Maintain the probe outlet and filter temperatures at 160 ±14 °C (320 ±25 °F).

9.0 Quality Control

Same as Method 5, Section 9.0.

10.0 Calibration and Standardization

Same as Method 5, Section 10.0.

*11.0 Analytical Procedure*

Same as Method 5, Section 11.0, except replace Section

*11.2.2* With the following:

*11.1* Container No. 2. Note the level of liquid in the container, and confirm on the analysis sheet whether leakage occurred during transport. If a noticeable amount of leakage has occurred, either void the sample or use methods, subject to the approval of the Administrator, to correct the final results. Measure the liquid in this container either volumetrically to  $\pm 1$  ml or gravimetrically to  $\pm 0.5$  g. Transfer the contents to a tared 250 ml beaker, and evaporate to dryness at ambient temperature and pressure. Then oven dry the probe and filter samples at a temperature of  $160 \pm 5$  °C ( $320 \pm 10$  °F) for 6 hours. Cool in a desiccator for 2 hours, and weigh to constant weight. Report the results to the nearest 0.1 mg.

*12.0 Data Analysis and Calculations*

Same as in Method 5, Section 12.0.

*13.0 Method Performance* [Reserved]*14.0 Pollution Prevention* [Reserved]*15.0 Waste Management* [Reserved]*16.0 References*

Same as Method 5, Section 17.0.

*17.0 Tables, Diagrams, Flowcharts, and Validation Data.* [Reserved]

## METHOD 5C [Reserved]

## METHOD 5D—DETERMINATION OF PARTICULATE MATTER EMISSIONS FROM POSITIVE PRESSURE FABRIC FILTERS

NOTE: This method does not include all of the specifications (*e.g.*, equipment and supplies) and procedures (*e.g.*, sampling and analytical) essential to its performance. Some material is incorporated by reference from other methods in this part. Therefore, to obtain reliable results, persons using this method should have a thorough knowledge of at least the following additional test methods: Method 1, Method 2, Method 3, Method 5, Method 17.

*1.0 Scope and Application*

*1.1* Analyte. Particulate matter (PM). No CAS number assigned.

*1.2 Applicability.*

*1.2.1* This method is applicable for the determination of PM emissions from positive pressure fabric filters. Emissions are determined in terms of concentration ( $\text{mg}/\text{m}^3$  or  $\text{gr}/\text{ft}^3$ ) and emission rate ( $\text{kg}/\text{hr}$  or  $\text{lb}/\text{hr}$ ).

*1.2.2* The General Provisions of 40 CFR part 60, §60.8(e), require that the owner or operator of an affected facility shall provide performance testing facilities. Such perform-

ance testing facilities include sampling ports, safe sampling platforms, safe access to sampling sites, and utilities for testing. It is intended that affected facilities also provide sampling locations that meet the specification for adequate stack length and minimal flow disturbances as described in Method 1. Provisions for testing are often overlooked factors in designing fabric filters or are extremely costly. The purpose of this procedure is to identify appropriate alternative locations and procedures for sampling the emissions from positive pressure fabric filters. The requirements that the affected facility owner or operator provide adequate access to performance testing facilities remain in effect.

*1.3* Data Quality Objectives. Adherence to the requirements of this method will enhance the quality of the data obtained from air pollutant sampling methods.

*2.0 Summary of Method*

*2.1* Particulate matter is withdrawn isokinetically from the source and collected on a glass fiber filter maintained at a temperature at or above the exhaust gas temperature up to a nominal 120 °C ( $248 \pm 25$  °F). The particulate mass, which includes any material that condenses at or above the filtration temperature, is determined gravimetrically after the removal of uncombined water.

*3.0 Definitions* [Reserved]*4.0 Interferences* [Reserved]*5.0 Safety*

*5.1* Disclaimer. This method may involve hazardous materials, operations, and equipment. This test method may not address all of the safety problems associated with its use. It is the responsibility of the user to establish appropriate safety and health practices and to determine the applicability of regulatory limitations prior to performing this test method.

*6.0 Equipment and Supplies*

Same as Section 6.0 of either Method 5 or Method 17.

*7.0 Reagents and Standards*

Same as Section 7.0 of either Method 5 or Method 17.

*8.0 Sample Collection, Preservation, Storage, and Transport*

Same Section 8.0 of either Method 5 or Method 17, except replace Section 8.2.1 of Method 5 with the following:

*8.1* Determination of Measurement Site. The configuration of positive pressure fabric filter structures frequently are not amenable