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Particulate matter is withdrawn isokinetically from the source and collected on a glass fiber filter maintained at a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 ± 1 ml or gravimetrically to ± 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 ± 5 °C (320 ± 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]