



ENVIRONMENTAL PROTECTION AGENCY

6560-50-P

[FRL 9949-01-ORD]

**Office of Research and Development; Ambient Air Monitoring
Reference and Equivalent Methods: Designation of One New
Reference Method and Four New Equivalent Methods**

AGENCY: Environmental Protection Agency.

ACTION: Notice of the designation of a new reference method and four new equivalent methods for monitoring ambient air quality.

SUMMARY: Notice is hereby given that the Environmental Protection Agency (EPA) has designated, in accordance with 40 CFR part 53, one new reference method for measuring concentrations of sulfur dioxide (SO₂), four new equivalent methods for measuring concentrations of PM_{2.5}, PM₁₀ and PM_{10-2.5} in ambient air.

FOR FURTHER INFORMATION CONTACT: Robert Vanderpool, Exposure Methods and Measurement Division (MD-D205-03), National Exposure Research Laboratory, U.S. EPA, Research Triangle Park, North Carolina 27711. E-mail: Vanderpool.Robert@epa.gov.

SUPPLEMENTARY INFORMATION: In accordance with regulations at 40 CFR part 53, the EPA evaluates various methods for monitoring the concentrations of those ambient air pollutants for which EPA has established National Ambient Air Quality Standards (NAAQSs) as set forth in 40 CFR part 50. Monitoring methods that are

determined to meet specific requirements for adequacy are designated by the EPA as either reference or equivalent methods (as applicable), thereby permitting their use under 40 CFR part 58 by States and other agencies for determining compliance with the NAAQSs. A list of all reference or equivalent methods that have been previously designated by EPA may be found at <http://www.epa.gov/ttn/amtic/criteria.html>.

The EPA hereby announces the designation of one new reference method for measuring concentrations of SO₂ in ambient air and two new equivalent methods for measuring pollutant concentrations of PM_{2.5}, one new equivalent method for measuring pollutant concentrations of PM₁₀, and one for measuring pollutant concentrations of PM_{10-2.5}. These designations are made under the provisions of 40 CFR part 53, as amended on October 26, 2015 (80 FR 65291).

The new reference method for SO₂ is an automated method (analyzer) utilizing a measurement principle based on ultraviolet fluorescence and is identified as follows:

RFSA-0616-237, "Sutron Model 6020 Sulfur Dioxide Fluorescent Analyzer", operated at any of the following measurement ranges: 0-0.5 ppm, at any ambient temperature in the range of 5-40 °C, at any line voltage in the range of 90-260 VAC, at any sample flow rate in the range of 0.4-0.8 L/min, and in accordance with the Model 6020 SO₂

Analyzer Operation Manual, with or without the following options: zero/span ports for external calibration; an optional inlet filter; or an optional second gas measurement module co-located inside of the enclosure.

This application for a reference method determination for this SO₂ method was received by the Office of Research and Development on April 25, 2016. This analyzer is commercially available from the applicant, Sutron Air Quality Division, 2548 Shell Road, Georgetown, TX 78628.

The four new PM equivalent methods are automated monitoring methods utilizing a measurement principle based on active sampling of ambient aerosols and contemporaneous analysis by means of a light-scattering technique for determination of particle size and mass concentration. These newly designated equivalent methods for PM_{2.5}, PM₁₀ and PM_{10-2.5}, are identified as follows:

EQPM-0516-236, "Teledyne Advanced Pollution Instrumentation Model T640 PM mass monitor," continuous ambient particulate monitor operated at a volumetric flow rate of 5.0 Lpm, equipped with a TAPI 5-Lpm sample inlet (P/N: 081050000), TAPI aerosol sample conditioner (P/N: 081040000), configured for operation with firmware version 1.0.2.126 or later, and operated in accordance with the Teledyne Model T640 Operations Manual. This designation applies to PM_{2.5} measurements only.

EQPM-0516-238, "Teledyne Advanced Pollution Instrumentation Model T640 PM mass monitor with 640X option," continuous ambient particulate monitor operated at a volumetric flow rate of 16.67 Lpm, equipped with the louvered PM₁₀ inlet specified in 40 CFR 50 Appendix L, Figs. L-2 thru L-19, TAPI aerosol sample conditioner (P/N: 081040000), configured for operation with firmware version 1.0.2.126 or later, in accordance with the Teledyne Model T640 Operations Manual. This designation applies to PM_{2.5} measurements only.

EQPM-0516-239, "Teledyne Advanced Pollution Instrumentation Model T640 PM mass monitor with 640X option," continuous ambient particulate monitor operated at a volumetric flow rate of 16.67 Lpm, equipped with the louvered PM₁₀ inlet specified in 40 CFR 50 Appendix L, Figs. L-2 thru L-19, TAPI aerosol sample conditioner (P/N: 081040000), configured for operation with firmware version 1.0.2.126 or later, in accordance with the Teledyne Model T640 Operations Manual. This designation applies to PM₁₀ measurements only.

EQPM-0516-240, "Teledyne Advanced Pollution Instrumentation Model T640 PM mass monitor with 640X option," continuous ambient particulate monitor operated at a volumetric flow rate of 16.67 Lpm, equipped with the louvered PM₁₀ inlet specified in 40 CFR 50 Appendix L, Figs. L-2 thru L-19, TAPI aerosol sample conditioner (P/N: 081040000), configured for operation with

firmware version 1.0.2.126 or later, in accordance with the Teledyne Model T640 Operations Manual. This designation applies to PM_{10-2.5} measurements only.

The four applications for equivalent method determination for the PM candidate methods were received by the Office of Research and Development on May 2, 2016, June 1, 2016, June 9, 2016 and June 14, 2016 respectively. The monitors are commercially available from the applicant, Teledyne Advanced Pollution Instrumentation, Inc., 9480 Carroll Park Drive, San Diego, CA 92121-2251.

Representative test analyzers have been tested in accordance with the applicable test procedures specified in 40 CFR part 53, as amended on October 26, 2015. After reviewing the results of those tests and other information submitted by the applicant, EPA has determined, in accordance with part 53, that these methods should be designated as a reference or equivalent method.

As a designated reference or equivalent method, these methods are acceptable for use by states and other air monitoring agencies under the requirements of 40 CFR part 58, Ambient Air Quality Surveillance. For such purposes, each method must be used in strict accordance with the operation or instruction manual associated with the method and subject to any specifications and limitations (e.g., configuration or

operational settings) specified in the designated method description (see the identification of the method above).

Use of the method also should be in general accordance with the guidance and recommendations of applicable sections of the "Quality Assurance Handbook for Air Pollution Measurement Systems, Volume I," EPA/600/R-94/038a and "Quality Assurance Handbook for Air Pollution Measurement Systems, Volume II, Ambient Air Quality Monitoring Program," EPA-454/B-13-003, (both available at <http://www.epa.gov/ttn/amtic/qalist.html>). Provisions concerning modification of such methods by users are specified under Section 2.8 (Modifications of Methods by Users) of Appendix C to 40 CFR part 58.

Consistent or repeated noncompliance with any of these conditions should be reported to: Director, Exposure Methods and Measurement Division (MD-E205-01), National Exposure Research Laboratory, U.S. Environmental Protection Agency, Research Triangle Park, North Carolina 27711.

Designation of these reference and equivalent methods is intended to assist the States in establishing and operating their air quality surveillance systems under 40 CFR part 58. Questions concerning the commercial availability or technical aspects of the method should be directed to the applicant.

Dated: July 1, 2016.

Jennifer Orme-Zavaleta,

Director,

National Exposure Research Laboratory.

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