Guidance to Parties Submitting Round-Robin Data to Support Requests for Approval of Alternate Non-VCSB Test Methods

Fuels Compliance Center
Compliance Division
Office of Transportation and Air Quality
U.S. Environmental Protection Agency

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The general description of the application process provided here may not apply to a particular situation. Interested parties are free to raise questions about the substance of this guidance and its applicability to a particular situation. EPA may adopt approaches on a case-by-case basis that differ from those described in this guidance.

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Introduction: EPA published requirements on the "Performance-Based Analytical Test Method Approach" on April 28, 2014 and May 14, 2020.

Applicable Dates: These requirements for reporting under § 80.47(m)(4) are effective on 1-1-2016.

40 CFR 1090.1360-1375 requires that instrumentation used to measure various physical properties in motor vehicle fuel comply with certain minimum accuracy and precision limits. These limits are expressed in terms of standard deviation and arithmetic average.

Limits are specified for the following items:

- 1. Sulfur in gasoline
- 2. Sulfur in butane
- 3. Sulfur in ULSD
- 4. Sulfur in ECA marine fuel
- 5. Sulfur in LM fuel (500 ppm)
- 6. Oxygen and oxygenate content in gasoline
- 7. RVP in gasoline
- 8. Benzene in gasoline
- 9. Reference installations

The following example shows the CFR requirement for Sulfur in ULSD:

TABLE 1 TO PARAGRAPH (b)(3)—PRECISION CRITERIA FOR QUALIFYING ALTERNATIVE PROCEDURES

Fuel parameter	Range	x ₁	reproducibility (R) ¹	x ₃	values of σ _{max}	Source ²
		1.5	r = 1.33	2.77		ASTM D3120-08 (R2019).
÷	arameter ılfur	arameter Range	parameter Range x ₁ ulfur 5 ppm 1.5	parameter Range x ₁ (R) ¹ ulfur 5 ppm 1.5 r = 1.33	parameter Range x_1 $(R)^1$ x_3 ulfur 5 ppm 1.5 r = 1.33 2.77	parameter Range x_1 $(R)^1$ x_3 σ_{max} Ulfur 5 ppm 1.5 r = 1.33 2.77 0.72

¹Calculate repeatability and reproducibility using the average value determined from testing. Use units as specified in §1090.1350(c).

Instructions for completing reporting form

The reporting form has a tab for general information, a tab for laboratory identification data, a tab for Round-Robin data, and a tab for Precision data. Lab Name is entered automatically on the "Test data – Round Robin" tab once it is entered on the "Lab data" tab, and Method Name is entered automatically on the "Test data – Round Robin" tab once it is entered on the "General Info" tab. The form is intended to be

²ASTM publications are incorporated by reference, see §1090.95. Note that the listed procedure may be different than the referee procedure identified in §1090.1360(d), or it may be an older version of the referee procedure.

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used for one fuel parameter, so if you are applying for permission to use a method(s) which is applicable to more than one parameter, complete a form for each method.

All tabs have a field for indicating whether confidentiality is claimed for the information on the tab.

General information

Enter the fuel parameter type by selecting a standard type from the pulldown list.

Review the attestations and "Attest" using the pulldown lists.

Enter the data in columns J, W, and X. These fields have no pulldown lists, and accept whatever the user types.

Laboratory identification information

Enter location and contact information on this tab.

Test data

Enter test results for all labs that participated in the round robin. Enter sample identification numbers in the rows where "1", "2", "3", etc. appear in column D. Sample ID numbers do not need to be entered again for re-tests of samples. As a reminder, a yellow popup message appears when a cell in column D, below the "1", "2", or "3", is selected, indicating that data should not be manually entered here. Enter the date and time for each test result.

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