

§ 1065.240

40 CFR Ch. I (7-1-04 Edition)

TABLE 1 OF § 1065.220—TEST-FUEL SPECIFICATIONS FOR LIQUEFIED PETROLEUM GAS

| Item | Procedure ¹ | Value |
|---|--|------------------------------------|
| 1. Propane | ASTM D 2163-91 | 85.0 vol. percent minimum. |
| 2. Vapor pressure at 38° C | ASTM D 1267-02 or 2598-02 ² | 14 bar maximum. |
| 3. Volatility residue (evaporated temp., 35° C) | ASTM D 1837-02 | -38° C maximum. |
| 4. Butanes | ASTM D 2163-91 | 5.0 vol. percent maximum. |
| 5. Butenes | ASTM D 2163-91 | 2.0 vol. percent maximum. |
| 6. Pentenes and heavier | ASTM D 2163-91 | 0.5 vol. percent maximum. |
| 7. Propene | ASTM D 2163-91 | 10.0 vol. percent maximum. |
| 8. Residual matter (residue on evap. of 100 ml oil stain observ.) | ASTM D 2158-02 | 0.05 ml maximum pass. ³ |
| 9. Corrosion, copper strip | ASTM D 1838-91 | No. 1 maximum. |
| 10. Sulfur | ASTM D 2784-98 | 80 ppm maximum. |
| 11. Moisture content | ASTM D 2713-91 | pass. |

¹ All ASTM standards are incorporated by reference in § 1065.1010.
² If these two test methods yield different results, use the results from ASTM D 1267-02.
³ The test fuel must not yield a persistent oil ring when you add 0.3 ml of solvent residue mixture to a filter paper in 0.1 ml increments and examine it in daylight after two minutes (see ASTM D 2158-02).

(b) At ambient conditions, the fuel must have a distinctive odor detectable down to a concentration in air of not over one-fifth of the lower flammability limit.

§ 1065.240 Lubricating oils.

Lubricating oils you use to comply with this part must be commercially available and represent the oil that will be used with your in-use engines.

§ 1065.250 Analytical gases.

Analytical gases that you use to comply with this part must meet the accuracy and purity specifications of this section. You must record the expiration date specified by the gas supplier and may not use any gas after the expiration date.

(a) *Pure gases.* Use the “pure gases” shown in the following table:

TABLE 1 OF § 1065.250—CONCENTRATION LIMITS FOR PURE GASES

| Gas type | Maximum contaminant concentrations | | | | Oxygen content |
|--|------------------------------------|-----------------|----------------|-------------------|----------------|
| | Organic carbon | Carbon monoxide | Carbon dioxide | Nitric oxide (NO) | |
| Purified Nitrogen ... | 1 ppmC | 1 ppm | 400 ppm | 0.1 ppm | NA. |
| Purified Oxygen | NA | NA | NA | NA | 99.5–100.0%. |
| Purified Synthetic Air, or Zero-Grade Air. | 1 ppmC | 1 ppm | 400 ppm | 0.1 ppm | 18–21%. |

(b) *Fuel for flame ionization detectors.* Use a hydrogen-helium mixture as the fuel. Make sure the mixture contains 40 ± 2 percent hydrogen and no more than 1 ppmC of organic carbon or 400 ppm of CO₂.

(c) *Calibration and span gases.* Apply the following provisions to calibration and span gases:

(1) Use the following gas mixtures, as applicable, for calibrating and spanning your analytical instruments:

(i) Propane in purified synthetic air. You may ask us to allow you to use propane in purified nitrogen for high concentrations of propane.

(ii) CO in purified nitrogen.

(iii) NO and NO₂ in purified nitrogen (the amount of NO₂ in this calibration gas must not exceed 5 percent of the NO content).

(iv) Oxygen in purified nitrogen.

(v) CO₂ in purified nitrogen.

(vi) Methane in purified synthetic air.

(2) The calibration gases in paragraph (c)(1) of this section must be traceable to within one percent of NIST gas standards or other gas standards we have approved. Span gases in paragraph (c)(1) of this section must be accurate to within two percent of true concentration, where true concentration refers to NIST gas standards, or other gas standards we have approved. Record concentrations of calibration gas as volume percent or volume ppm.

(3) You may use gases for species other than those in paragraph (c)(1) of this section (such as methanol in air gases used to determine response factors), as long as they meet the following criteria:

(i) They are traceable to within ± 2 percent of NIST gas standards or other standards we have approved.

(ii) They remain within ± 2 percent of the labeled concentration. Show this by measuring quarterly with a precision of ± 2 percent (two standard deviations) or by using another method we approve. You may take multiple measurements. If the true concentration of the gas changes by more than two percent, but less than ten percent, you may relabel the gas with the new concentration.

(4) You may generate calibration and span gases using precision blending devices (gas dividers) to dilute gases with purified nitrogen or with purified synthetic air. Make sure the mixing device produces a concentration of blended calibration gases that is accurate to within ± 1.5 percent. To do so, you must know the concentration of primary gases used for blending to an accuracy of at least ± 1 percent, traceable to NIST gas standards or other gas standards we have approved. For each calibration incorporating a blending device, verify the blending accuracy between 15 and 50 percent of full scale. You may optionally check the blending device with an instrument that is linear by nature (for example, using NO

gas with a CLD). Adjust the instrument's span value with the span gas connected directly to it. Check the blending device at the used settings to ensure that the difference between nominal values and measured concentrations at each point stays within ± 0.5 percent of the nominal value.

(d) *Oxygen interference gases.* Gases to check oxygen interference are mixtures of oxygen, nitrogen, and propane. The oxygen concentration must be 20–22 percent and the propane concentration must be 50–90 percent of the maximum value in the most typically used FID range. Independently measure the concentration of total hydrocarbons plus impurities by chromatographic analysis or by dynamic blending.

Subpart D—Analyzer and Equipment Calibrations

§ 1065.301 Overview.

Calibrate all analyzers and equipment at least annually, but make the actual frequency consistent with good engineering judgment. We may establish other guidelines as appropriate. Calibrate following specifications in one of three sources:

(a) Recommendations from the manufacturer of the analyzers or equipment.

(b) 40 CFR part 86, subpart F or subpart N.

(c) 40 CFR part 90, subparts D and E, as applicable.

§ 1065.305 International calibration standards.

(a) You may ask to use international standards for calibration.

(b) You need not ask for approval to use standards that have been shown to be traceable to NIST standards.

§ 1065.310 CVS calibration.

Use the procedures of 40 CFR 86.1319–90 to calibrate the CVS.

[69 FR 39261, June 29, 2004]

EFFECTIVE DATE NOTE: At 69 FR 39261, June 29, 2004, text was added to § 1065.310, effective Aug. 30, 2004.

§ 1065.315 Torque calibration.

You must use one of two techniques to calibrate torque: the lever-arm