

Subpart I—Testing With Oxygenated Fuels**§ 1065.801 Applicability.**

(a) This subpart applies for testing with oxygenated fuels. Unless the standard-setting part specifies otherwise, the requirements of this subpart do not apply for fuels that contain less than 25% oxygenated compounds by volume. For example, you generally do not need to follow the requirements of this subpart for tests performed using a fuel containing 10% ethanol and 90% gasoline, but you must follow these requirements for tests performed using a fuel containing 85% ethanol and 15% gasoline.

(b) Section 1065.805 applies for all other testing that requires measurement of any alcohols or carbonyls.

(c) This subpart specifies sampling procedures and calculations that are different than those used for non-oxygenated fuels. All other test procedures of this part 1065 apply for testing with oxygenated fuels.

§ 1065.805 Sampling system.

(a) Proportionally dilute engine exhaust, and use batch sampling collect flow-weighted dilute samples of the applicable alcohols and carbonyls at a constant flow rate. You may not use raw sampling for alcohols and carbonyls.

(b) You may collect background samples for correcting dilution air for background concentrations of alcohols and carbonyls.

(c) Maintain sample temperatures within the dilution tunnel, probes, and sample lines less than 121 °C but high enough to prevent aqueous condensation up to the point where a sample is collected. The maximum temperature limit is intended to prevent chemical reaction of the alcohols and carbonyls. The lower temperature limit is intended to prevent loss of the alcohols and carbonyls by dissolution in condensed water. Use good engineering judgment to minimize the amount of time that the undiluted exhaust is outside this temperature range to the extent practical. We recommend that you minimize the length of exhaust tubing before dilution. Extended lengths of exhaust tubing may require preheating,

insulation, and cooling fans to limit excursions outside this temperature range.

(d) You may bubble a sample of the exhaust through water to collect alcohols for later analysis. You may also use a photo-acoustic analyzer to quantify ethanol and methanol in an exhaust sample.

(e) Sample the exhaust through cartridges impregnated with 2,4-dinitrophenylhydrazine to collect carbonyls for later analysis. If the standard-setting part specifies a duty cycle that has multiple test intervals (such as multiple engine starts or an engine-off soak phase), you may proportionally collect a single carbonyl sample for the entire duty cycle. For example, if the standard-setting part specifies a six-to-one weighting of hot-start to cold-start emissions, you may collect a single carbonyl sample for the entire duty cycle by using a hot-start sample flow rate that is six times the cold-start sample flow rate.

(f) You may sample alcohols or carbonyls using "California Non-Methane Organic Gas Test Procedures" (incorporated by reference in § 1065.1010). If you use this method, follow its calculations to determine the mass of the alcohol/carbonyl in the exhaust sample, but follow subpart G of this part for all other calculations.

(g) Use good engineering judgment to sample other oxygenated hydrocarbon compounds in the exhaust.

EFFECTIVE DATE NOTE: At 73 FR 37343, June 30, 2008, § 1065.805 was amended by revising paragraphs (a), (b), and (c), effective July 7, 2008. For the convenience of the user, the revised text is set forth as follows:

§ 1065.805 Sampling system.

(a) Dilute engine exhaust, and use batch sampling to collect proportional flow-weighted dilute samples of the applicable alcohols and carbonyls. You may not use raw sampling for alcohols and carbonyls.

(b) You may collect background samples for correcting dilution air for background concentrations of alcohols and carbonyls.

(c) Maintain sample temperatures within the dilution tunnel, probes, and sample lines high enough to prevent aqueous condensation up to the point where a sample is collected to prevent loss of the alcohols and carbonyls by dissolution in condensed water. Use good engineering judgment to ensure that surface reactions of alcohols and