California Environmental Protection Agency

AIR RESOURCES BOARD

**FINAL**

**CALIFORNIA NON-METHANE ORGANIC GAS TEST PROCEDURES FOR 2017 AND SUBSEQUENT MODEL YEAR VEHICLES**

Adopted: September 2, 2015

Amended: August 25, 2022

Mobile Source Laboratory Division

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[Note: This version of the Final Test Procedures also complies with Government Code section 11346.2 subdivision (a)(3), and 11346.8, subdivision (c). It is provided to also improve the accessibility and readability of the regulatory text. The existing, original test procedure language currently incorporated by reference in the California Code of Regulations is shown as plain, clean text, while the final amendments are shown in tracked changes. To review this document in a clean format (no underline or strikeout to show changes), please select “Simple Markup” or “No Markup” in Microsoft Word’s Review menu, or accept all changes. You can also change the view to the original (originally proposed regulatory text prior to proposed modifications) by selecting “Original” or rejecting all tracked changes. Additionally, “Advanced Track Changes Options” will allow for further options regarding color and other markings. [Instructions on using/viewing Track Changes can be found here](https://support.microsoft.com/en-us/office/track-changes-in-word-197ba630-0f5f-4a8e-9a77-3712475e806a).

Subsections for which no changes are made in this rulemaking are indicated with [No change] or “\* \* \* \* \*.”]NOTE: Mention of any trade name or commercial product does not constitute endorsement or recommendation of this product by the Air Resources Board.

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Part A

# GENERAL APPLICABILITY AND REQUIREMENTS

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3. The analyses specified in the table below shall be performed to determine mass emission rates of NMOG in grams per mile (g/mi) or milligrams per mile (mg/mi) for vehicles operated on the listed fuel:

|  |  |  |  |
| --- | --- | --- | --- |
| **Fuel** | **NMHC by FID** | **Alcohols** | **Carbonyls** |
| Alcohol | X | X | X |
| CNG | X |  | X |
| Diesel | X |  |  |
| Gasoline | X |  | X |
| LPG | X |  | X |

Note: Alternatives to direct measurement of carbonyls under certain conditions are presented in the “California 2015 through 2025 Model Year Criteria Pollutant Exhaust Emission Standards and Test Procedures and 2017 and Subsequent Model Year Greenhouse Gas Exhaust Emission Standards and Test Procedures for Passenger Cars, Light-Duty Trucks, and Medium-Duty Vehicles,” Section D.1.10 and the “California 2026 and Subsequent Model Year Criteria Pollutant Exhaust Emission Standards and Test Procedures for Passenger Cars, Light-Duty Trucks, and Medium-Duty Vehicles,” Section D.1.10.

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4. For natural gas‑fueled vehicles, the methane concentration in the exhaust sample shall be measured with a methane analyzer. A GC combined with a FID is used for direct measurement of methane concentrations. SAE Recommended Practice J1151 [Ref. 4] is a reference on generally accepted GC principles and analytical techniques for this application. A density of 18.89 g/ft3 shall be used to determine the methane mass emissions.

The methane mass emissions shall be multiplied by the appropriate methane reactivity adjustment factor and then added to the NMOG emissions as specified in the “California 2015 through 2025 Model Year Criteria Pollutant Exhaust Emission Standards and Test Procedures and 2017 and Subsequent Model Year Greenhouse Gas Exhaust Emission Standards and Test Procedures for Passenger Cars, Light‑Duty Trucks, and Medium‑Duty Vehicles,” incorporated by reference in Section 1961.2, title 13, California Code of Regulations (CCR) and the “California 2026 and Subsequent Model Year Criteria Pollutant Exhaust Emission Standards and Test Procedures for Passenger Cars, Light‑Duty Trucks, and Medium‑Duty Vehicles,” incorporated by reference in Section 1961.4, title 13, CCR.

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