TITLE 13. MOTOR VEHICLES
DIVISION 3. AIR RESOURCES BOARD
CHAPTER 5. STANDARDS FOR MOTOR VEHICLE FUELS
ARTICLE 3. SPECIFICATIONS FOR ALTERNATIVE MOTOR VEHICLE FUELS

§ 2292.5. Specifications for Compressed Natural Gas.

The following standards apply to compressed natural gas (The identified test methods are incorporated herein by reference):

Specifications for Compressed Natural Gas

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Motor Vehicle Compressed Natural Gas Fuel must meet one of the following specifications:

A. Interim Statewide Specification

Specification	**Minimum Value**	**Test Method**
Methane Number [a]	80	ASTM D1945, GPA 2261

[a] Methane Number is determined by the following calculation:

$MN = 1.624* (-406.14+508.04*RHCR-173.55*RHCR^2 +20.17*RHCR^3) -119.1$

Where RHCR= (% methane*4 + % ethane*6 + % propane*8+(% isobutane + % n-butane)*10 + (% isopentane + n-pentane)*12+ (% hexane and longer hydrocarbon chains) *14) /(% methane*1+% ethane*2+ % propane*3+(% isobutane + % n-butane)*4+(% isopentane + % n-pentane)*5+% (hexane and longer hydrocarbon chains)*6).

All fueling stations covered under this specification shall have dispensers labeled to reflect the minimum specification.

B. Final Statewide Specification

The Final Statewide Specification will become effective on January 1, 2023 and replace the Interim Statewide Specification. Prior to this date, the Final Statewide Specification will become effective for fueling stations meeting the following conditions:

1) The fueling station does not fuel vehicles incapable of operating on compressed natural gas meeting the minimum value of the Final Statewide Specification, as defined by the vehicle engine manufacturer fuel specification.
2) The fueling station operator notifies the Air Resources Board of condition 1 for the fueling station in question.

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All fueling stations covered under this specification shall have dispensers labeled to reflect the minimum specification.

Specification	**Minimum Value**	**Test Method**
Methane Number [a]	75	ASTM D1945, GPA 2261

[a] Methane Number is determined by the following calculation:

MN = 1.624* (-406.14+508.04*RHCR-173.55*RHCR^2 +20.17*RHCR^3) -119.1

Where RHCR= (% methane*4 + % ethane*6 + % propane*8+(% isobutane + % n-butane)*10 + (% isopentane + n-pentane)*12+ (% hexane and longer hydrocarbon chains) *14) /(% methane*1+% ethane*2+ % propane*3+(% isobutane + % n-butane)*4+(% isopentane + % n-pentane)*5+% (hexane and longer hydrocarbon chains)*6).

C. Residential Fueling Facility Specification

All residential compressed natural gas refueling facilities designed to refuel a CNG vehicle at a rate of no more than 5 standard cubic feet per minute, are exempt from the requirements set forth above.

Note: Authority cited: Sections 39600, 39601, 43013, 43018 and 43101, Health and Safety Code; and *Western Oil and Gas Ass'n. v. Orange County Air Pollution Control District*, 14 Cal. 3d 411, 121 Cal. Rptr. 249 (1975). **Reference:** Sections 39000, 39001, 39002, 39003, 39010, 39500, 40000, 43000, 43016, 43018 and 43101, Health and Safety Code; and *Western Oil and Gas Ass'n. v. Orange County Air Pollution Control District*, 14 Cal. 3d 411, 121 Cal. Rptr. 249 (1975).

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[a] . The dewpoint at vehicle fuel storage container pressure shall be at least 10°F below the 99.0% winter design temperature listed in Chapter 24, Table 1, Climatic Conditions for the United States, in the American Society of Heating, Refrigerating and Air Conditioning Engineer's (ASHRAE) Handbook, 1989 fundamentals volume. Testing for water vapor shall be in accordance with ASTM D 1142-90, utilizing the Bureau of Mine apparatus.¶
¶
[b] . The compressed natural gas shall not contain dust, sand, dirt, gums, oils, or other substances in an amount sufficient to be injurious to the fueling station equipment or the vehicle being fueled.¶
¶
[c] . The natural gas at ambient conditions must have a distinctive odor potent enough for its presence to be detected down to a concentration in air of not over 1/5 (one-fifth) of the lower limit of flammability.¶

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§ 2293.5. Exemptions for Alternative Motor Vehicle Fuel.

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The executive officer shall consider and grant test program exemptions from the requirements of this Article in accordance with section 2259.

For compressed natural gas, the executive officer shall grant exemptions from the requirements of this Article in accordance with the following conditions:

1) Exemption applicants must own or operate the facility seeking an exemption;
2) A standardized exemption form shall be made available electronically to exemption applicants and shall only require the exemption applicant name, exemption applicant contact information, exemption applicant declaration of ownership or operation of the fueling station, fueling station location, and proposed exemption minimum gas quality;
3) Exemption applicant shall assume all legal responsibility for dispensing compressed natural gas that complies with the exemption;
4) Exemption applicant shall establish minimum compressed natural gas quality in terms of a Methane Number, as defined in this Article, section 2292.5;
5) The term of the exemption shall be one (1) year, beginning on the date the exemption form is submitted;
6) The term of the exemption shall be in effect and automatically renewed an additional year upon expiration unless the exemption applicant no longer owns or operates the facility exempted or the exemption applicant requests the exemption be terminated;
7) Exemption will only require labeling of all dispensers covered by the exemption stating minimum gas quality in terms of a Methane Number, as defined in this Article, section 2292.5.

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Note: Authority cited: Sections 39600, 39601, 43013, 43018 and 43101, Health and Safety Code; and *Western Oil and Gas Ass'n. v. Orange County Air Pollution Control District*, 14 Cal. 3d 411, 121 Cal. Rptr. 249 (1975). **Reference:** Sections 39000, 39001, 39002, 39003, 39500, 39515, 39516, 39606, 41511, 43000, 43016, 43018 and 43101, Health and Safety Code; and *Western Oil and Gas Ass'n. v. Orange County Air Pollution Control District*, 14 Cal. 3d 411, 121 Cal. Rptr. 249 (1975).

Specification	*Value*	*Test Method*
Hydrocarbons (expressed as mole percent)		
Methane	88.0% (min.)	ASTM D 1945-81
Ethane	6.0% (max.)	ASTM D 1945-81
C_3 and higher HC	3.0% (max.)	ASTM D 1945-81
C_6 and higher HC	0.2% (max.)	ASTM D 1945-81
Other Species (expressed as mole percent unless otherwise indicated)		
Hydrogen	0.1% (max.)	ASTM D 2650-88
Carbon Monoxide	0.1% (max.)	ASTM D 2650-88
Oxygen	1.0% (max.)	ASTM D 1945-81
Inert gases		
Sum of CO_2 and N_2	1.5-4.5% (range)	ASTM D 1945-81
Water	[a]	
Particulate matter	[b]	
Odorant	[c]	
Sulfur	16 ppm by vol. (max.)	Title 17 CCR Section 94112