

Board Administration and Regulatory Coordination Unit

Division 3. Air Resources Board

Chapter 5. Standards for Motor Vehicle Fuels

Article 3. Specifications for Alternative Motor Vehicle Fuels

§ 2292.3. Specifications for E-100 Fuel Ethanol.

The following standards apply to E-100 fuel ethanol  
(The identified test methods are incorporated herein by reference):

*Specifications for E-100 Fuel Ethanol*

| <i>Specification</i>                             | <i>Value</i>   | <i>Test Method</i>   |
|--|--|--|
| Ethanol  | 92 vol. % (min.)                                       | ASTM D 3545-90 <sup>a</sup>  |
| Other alcohols and ethers                        | 2 mass % (max.)  | ASTM D 4815-89   |
| Hydrocarbons, gasoline<br>or diesel fuel derived | 5 mass % (max.)  | ASTM D 4815-89, and then subtract concentration of alcohol, ethers and water from 100 to obtain percent hydrocarbons |
| Acidity as acetic acid                           | 0.007 mass %<br>(max.)                                 | ASTM D 1613-85   |
| Total chlorine as chloride                       | 0.0004 mass %<br>(max.)                                | ASTM D 3120-87<br>modified for the det. of organic chlorides, and ASTM D 2988-86                                     |
| Copper   | 0.07 mg/1 (max.)                                       | ASTM D 1688-90 as modified in ASTM D 2988-86   |
| Lead   | 2 mg/1 (max.) <sup>b</sup>                             | ASTM D 3229-88   |
| Phosphorus                                       | 0.2 mg/1 (max.) <sup>c</sup>                           | ASTM D 3231-89   |
| Sulfur   | 0.002 mass %<br>(max.)                                 | ASTM D 2622-87   |
| Gum, heptane washed                              | 5 mg/1 (max.)  | ASTM D 381-86  |
| Total particulates                               | 5 mg/1 (max.)  | ASTM D 2276-89, modified to replace cellulose acetate filter with a 0.8 micron pore size membrane filter             |
| Water  | 1.25 mass % (max.)                                     | ASTM E 203-75  |
| Appearance                                       | Free of turbidity,<br>suspended matter<br>and sediment | Visually determined at 25°C by Proc. A of ASTM D 4176-86   |

<sup>a</sup> The denaturant must meet the ASTM D 4806-88 specification for denatured fuel ethanol, except the denaturant cannot be rubber hydrocarbon solvent. The final blend specifications for E-100 take precedence over the ASTM D 4806-88 specifications.

<sup>b</sup> No added lead.

<sup>c</sup> No added phosphorus.

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).

REFERENCE