



GASOLINE, PREMIUM UNLEADED, TIER 2 (Sea Level) EXHAUST AND EVAPORATIVE EMISSION TEST

WSS-M4C50-E

1. SCOPE

The material defined by this specification is well-refined gasoline with controlled octane, density and volatility.

2. APPLICATION

This specification was released originally for gasoline used for Tier 2 engine exhaust and evaporative emission testing.

3. REQUIREMENTS

3.0 STANDARD REQUIREMENTS FOR PRODUCTION MATERIALS

Material suppliers and part producers must conform to the Company's Standard Requirements For Production Materials (WSS-M99P1111-A).

3.2 RESEARCH OCTANE NUMBER (ASTM D 2699)	96.0 - 98.5
3.3 OCTANE NUMBER SENSITIVITY (ASTM D 2700)	7.5 - 10.5
3.4 LEAD CONTENT (ASTM D 3237)	0.0025 g/L max
3.5 TOTAL SULFUR, (ASTM D2622, ASTM D3120, ASTM 5453)	25 – 35 ppm
Intentional addition of sulfur is not allowed.	
3.6 PHOSPHORUS (ASTM D 3231)	0.0013 g/L max
3.7 COPPER CORROSION (ASTM D 130, 3 h at 50 °C)	1b max (Dark orange)
3.8 OXIDATION STABILITY, min (ASTM D 525)	1000 minutes
3.9 SPECIFIC GRAVITY (ASTM D 1298)	0.734 - 0.744 kg/L

Date	Action	Revisions
2011 07 13	Activated	

**3.11 HYDROCARBON COMPOSITION**
(ASTM D 1319)

Aromatics	25 - 35%
Olefins	10% max
Saturates	Remainder

3.12 GUM CONTENT
(ASTM D 381)

Washed	4 mg/100 mL max
Unwashed	10 mg/100 mL max

3.13 REID VAPOR PRESSURE
(ASTM D 323)

Exhaust Emissions	60 - 63 kPa
Evaporative Emissions	60 - 63 kPa

3.14 DISTILLATION
(ASTM D 86)

Percentages to be evaporated within temperatures shown below:

IBP	24 - 35 °C
10%	49 - 57 °C
50%	93 - 110 °C
90%	149 - 163 °C
End Point, max	213 °C
Residue, max	2%

3.14.1 Acidity of Residue (ASTM D 1093)	Must pass test
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3.15 WATER AND SEDIMENT
(ASTM D 2709)

0.01% max

3.16 ODOR

Shall have the usual characteristic odor of gasoline with no pronounced foreign odor.

3.17 COLOR

May include a dye in accordance with standard practice for purpose of vendor and user identification.