

ZAMBIA
REQUIREMENTS FOR UNLEADED PETROL (GASOLINE)

CHARACTERISTIC	REQUIREMENT	TEST METHOD
Octane Rating		
a) Research Octane number (RON), min	91	ASTM D 2699
b) Motor Octane Number (MON), min	81	ASTM D 2700
c) Motor Octane number (MON) for blends containing more than 2% (v/v) alcohol, min	83	ASTM D 2700
Colour	Yellow	Visual
Density at 20°C, kg/l	0.710 - 0.785	ASTM D 1298 ASTM D 4052
Distillation		
a) Temperature, °C for		
10% (v/v) evaporated, max	65	
50% (v/v) evaporated	77-115	
90% (v/v) evaporated, max	185	ASTM D 86
b) End Boiling Point, °C, max	215	
c) Residue, % (v/v), max.	2.0	
d) Evaporated to 70°C (E70) , % (v/v)	Report	
Reid Vapour Pressure (RVP), kPa, max.	45 - 75	See 6.1
Flexible Volatility Index (FVI = RVP + 0.7 E70)		
a) FVI (summer ¹), max	89	See 6.2
b) FVI (winter ¹), max	94	
Lead content g Pb/L, max.	0.02	ASTM D 3116, D 5059, D 3237, D 3348
Induction Period, minutes, min.	360	ASTM D 525
Existent Gum Content, mg/100 mL, max	4	ASTM D 381
Potential Gum (2.5 hr at 100°C), mg/100mL, max	4	ASTM D 873
Sulphur Content, % mass, max.	0.10	ASTM D 1266, D 3120, IP 243
Copper Corrosion 2 hrs at 50°C, max	1	ASTM D 130

CHARACTERISTIC	REQUIREMENT	TEST METHOD
Total Acidity ²⁾ , mg KOH/g, max	0.03	ASTM D 3242
Oxygen Content ³⁾ , % (m/m), max	3.7	ASTM D 4815
<p>1) Summer = 1 September to 30 April (inclusive) Winter = 1 May to 31 August (inclusive)</p> <p>2) Applicable to fuels only containing oxygenates</p> <p>3) Any alcohol blended into the fuel shall contain a minimum of 85% (m/m) ethanol with the balance i-propanol and n-propanol, and only trace quantities of other alcohols.</p> <p>3.7 % (m/m) oxygen = approximately 20% (v/v) MTBE = approximately 9.5% (v/v) ethanol</p> <p>NOTES</p> <ol style="list-style-type: none"> For Octane Rating only one of the three parameters needs to be satisfied. Ethers containing five or more carbon atoms per molecule may be included up to a maximum concentration as indicated in the standard. The oxygen content of the blend will be determined by method ASTM D 4815 (MTBE) and such other methods that may be developed for other C₅ esters. ASTM D 1250 / IP 200 (Standard guide for petroleum measurement tables) should be used for correlation of densities at 15°C and 20°C respectively. 		