



M A B A N A F T

## Unleaded Petrol BS EN 228:2012

Property	Units	Limits		Test Method <sup>a</sup> (see 2. Normative References)
		Min	Max	
Research Octane Number, RON		95.0	-	EN ISO 5164 <sup>b</sup>
Motor Octane Number, MON		85.0	-	EN ISO 5163 <sup>b</sup>
Lead Content	mg/l	-	5.0	EN 237
Density @ 15°C <sup>c</sup>	kg/m <sup>3</sup>	720.0	775.0	EN ISO 3675 / 12185
Sulphur Content <sup>c</sup>	mg/kg	-	10.0	EN ISO 13032 / 20846 / 20884
Manganese Content <sup>(d)</sup>	mg/l			EN 16135
2013-12-31	until		6.0	EN16136
2014-01-01 onwards	from		2.0	
Oxidation Stability	Minutes	360.0	-	EN ISO 7536
Existent Gun Content (solvent washed)	mg/100ml	-	5.0	EN ISO 6246
Copper Corrosion (3hr @ 50°C)	rating		Class 1	EN ISO 2160
Appearance <sup>e</sup>			Clear and bright	Visual inspection
Hydrocarbon Type Content <sup>c</sup>				EN 15553 / EN ISO 22854
Olefin Content	% v/v	-	18.0	
Aromatics Content	% v/v	-	35.0	
Benezene Content <sup>c</sup>	% v/v	-	1.0	EN 238 / 12177 / EN ISO 22854
Oxygen Content <sup>c</sup>	% m/m	-	2.7	EN 1601 / 13132 / EN ISO 22854
Oxygenates Content <sup>c</sup>				EN 1601 / 13132 / EN ISO 22854
Methanol <sup>f</sup>	% v/v	-	3.0	
Ethanol <sup>g</sup>	% v/v	-	5.0	
Iso-Propyl Alcohol <sup>h</sup>			} Volume blending restricted to 2,7 % (m/m) maximum oxygen content	
Iso-Butyl Alcohol <sup>h</sup>				
Tert-Butyl Alcohol <sup>h</sup>				
Ethers (5 or more C atoms) <sup>h</sup>				
Other Oxygenates <sup>h i</sup>				

NOTE: Requirements in bold refer to the European Fuels Directive 98/70/EC [1], including subsequent Amendments [2], [3] and [4]

a) See also 5.7.1. in BS EN 228:2012

b) A correction of 0,2 for MON and RON shall be subtracted for the calculation of the final result, before reporting according to the requirement of the European Fuels Directive 98/70/EC [1], including subsequent Amendments [2], [3] and [4].

c) See also 5.7.2. in BS EN 228:2012

d) See also 5.3.3. in BS EN 228:2012

e) Appearance shall be determined at ambient temperature.

f) Stabilising agents shall be added.

g) Ethanol when used as a blending component shall conform to EN 15376 (see 5.1 in BS EN 228:2012). Stabilising agents may

h) The oxygen content of the finished unleaded petrol shall not exceed 2,7 % (m/m). A CEN/TR on oxygenate blending is under preparation.

i) Other mono-alcohols and ethers with a final boiling point no higher than prescribed in Table 4 in BS EN 228:2012