Product specifications
GASOLINE 98 O.I

TEST	UNITS	SPECIFICATION (1)	TEST METHOD (2)		
			En EN 228 (3)	Standards UNE (3)	Standards ASTM (3)
Density at 15ºC	kg/m³	720 a 775	EN ISO 3675 EN ISO 12185	UNE-EN ISO 3675 UNE-EN ISO 12185	D 4052 D 1298
Research Octane Number (RON) (4)	RON	minimum 98,0	EN ISO 5164	UNE-EN ISO 5164	D 2699
Motor Octane Number (MON) (4)	MON	-	EN ISO 5163	UNE-EN ISO 5163	D 2700
Average Octane Number [(RON + MON)/2]	(RON+MON)/2	minimum 93,0	EN ISO 5163/5164	UNE-EN ISO 5163/5164	D 2699/D 2700
Vapor Pressure (VP) (5) Summer (6) (9) Winter (7) (9) (10)	kPa	 45 a 60 50 a 80	EN 13016-1	UNE-EN 13016-1	
Distillation: Recovery to 70 ºC (E70) Summer (6) (9) Winter (7) (9) (10) Recovery to 100 ºC Recovery to 150 ºC Final boiling point Residue	 % V/V % V/V % V/V % V/V ºC % V/V	 20 a 48 22 a 50 46 a 71 minimum 75,0 maximum 210 maximum 2	EN ISO 3405	UNE-EN ISO 3405	D 86
VLI (10VP + 7E70) (8) (9)	-	maximum 1050			
Hydrocarbons: Olefins Aromatics	 % V/V % V/V	 maximum 18,0 maximum 35,0	EN ISO 22854 EN 15553	UNE-EN ISO 22854 UNE-EN 15553	D 1319
Benzene	% V/V	maximum 1,0	EN ISO 22854 EN 12177 EN 238	UNE-EN ISO 22854 UNE-EN 12177 UNE-EN 238	
Oxygen	% m/m	maximum 2,7	EN 1601 EN 13132 EN ISO 22854	UNE-EN 1601 UNE-EN 13132 UNE-EN ISO 22854	
Oxygenates: Methanol Ethanol Alcohol iso-propyl alcohol Alcohol iso-butyl alcohol Alcohol tert-butyl alcohol Ethers with 5 or more carbon atoms Others oxygenates	 % V/V % V/V % V/V % V/V % V/V % V/V % V/V	 maximum 3 (10) maximum 5 (10) maximum 10 (10) maximum 10 (10) maximum 7 (10) maximum 15 (10) maximum 10 (10)	EN 1601 EN 13132 EN ISO 22854	UNE-EN 1601 UNE-EN 13132 UNE-EN ISO 22854	
Sulphur	mg/kg	maximum 10	EN ISO 20846 EN ISO 20884	UNE-EN ISO 20846 UNE-EN ISO 20884	
Lead	g/l	maximum 0,005	EN 237	UNE-EN 237	D 3237
Copper Corrosion (3h a 50ºC)	scale ASTM	maximum 1b	EN ISO 2160	UNE-EN ISO 2160	D 130
Oxidation Stability	minutes	minimum 360	EN ISO 7536	UNE-EN ISO 7536	D 525
Actual Gum	mg/100 ml	maximum 5	EN ISO 6246	UNE-EN ISO 6246	D 381
Phosphorus		(11)			
Manganese	mg/l	(12)	EN 16135 EN 16136	UNE-EN 16135 UNE-EN 16136	
Visual Appearance		Clear and bright	Visual		

NOTES:

(1) All testing methods referred included precision standards. In case of dispute, and to resolve, should apply methods described in standard EN ISO 4259

(2) Other testing methods technically equivalent are admissible prior EXOLUM approval. In case of dispute, it will be followed the criteria regarding reference methods from current version of standard EN 228, as well as the results interpretation criteria in case of disagreement stated in the mentioned standard.

(3) For the test method described in standard EN 228 and the corresponding UNE, the method edition to be fulfilled would be the one stated in the part 2 of the mentioned tests. The rest of methods, editions will be applied the last version published, except in case of the following methods ASTM may be applied the version hereof: D 2699:1986; D 2700:1986 y D 1319:1995.

(4) Correction factor of 0,2 must be subtracted from RON and MON to calculated the final result before reported data, as required European Directive 98/70 CE and modifications 2003/17/CE and 2009/30/CE, except the standards used ASTM D 2699:1986 and ASTM D2700:1986.

(5) It should be indicating Dry Vapor Pressure Equivalent (DVPE).

(6) From May 1 to September 30.

(7) From October 1 to April 30.

(8) This test applies on April and October.

(9) The mentioned dates are setting for the gasoline to be available in the commercial points with the new season quality. How far in advance than gasoline must be inside of EXOLUM system to get that target, defined in service provision contract.

(10) EXOLUM system not supported light alcohols added. Oxygenated content will be limited by the total oxygen content permitted.

(11) It should be free from compounds with phosphorus.

(12) It should be free from compounds with manganese.

SHOULD THERE BE A CHANGE IN THE SPAIN OFFICIAL SPECIFICATION IN FORCE, THIS TABLE WILL BE REVISED AND UPDATED TO THE NEW SITUATION