

# EURO PLUS GASOLINE 3, 4, 9

## USE: FUEL FOR SPARK IGNITION ENGINES

PROPERTY	UM	LIMITS		TEST METHOD
		Min.	Max.	
RON Antiknock value		95,0	-	ASTM D 2699-18 <sup>2</sup> SR EN ISO 5164:14 <sup>2</sup> / EN ISO 5164:14 <sup>2</sup> / ISO 5164:14 <sup>2</sup>
MON Antiknock value		85,0	-	SR EN ISO 5163:14 <sup>2</sup> / EN ISO 5163:14 <sup>2</sup> ISO 5163:14 <sup>2</sup> / ASTM D 2700-18 <sup>2</sup>
Lead content <sup>8</sup>	mg/l	-	5,0	SR EN 237:05 <sup>2</sup> / EN 237:04 <sup>2</sup> / ASTM D 3237-17 <sup>2</sup>
Density (at 15 oC)	kg/m <sup>3</sup>	720,0	775,0	ASTM D 4052-16 <sup>2</sup> / ASTM D 1298-12b(2017) SR EN ISO 3675:02 / SR EN ISO 3675:02 / C91:05 EN ISO 3675:98 / ISO 3675:98 SR EN ISO 12185:03 <sup>2</sup> / EN ISO 12185:96 <sup>2</sup> / ISO 12185:96 <sup>2</sup>
Sulfur content	mg/kg	-	10,0	SR EN ISO 20846-12 <sup>2</sup> / EN ISO 20846-11 <sup>2</sup> / ISO 20846-11 <sup>2</sup> SR EN ISO 20884-11 <sup>2</sup> / EN ISO 20884-11 <sup>2</sup> / ISO 20884-11 <sup>2</sup> ASTM D 5453-16e1 <sup>2</sup>
Manganese content <sup>8</sup>	mg/l	-	2,0	EN 16135:11 <sup>2</sup> / SR EN 16135:12 <sup>2</sup> / IP 592:11 <sup>2</sup>
Oxidation stability <sup>8</sup>	minute	360	-	SR EN ISO 7536:01 <sup>2</sup> / EN ISO 7536:96 <sup>2</sup> / ISO 7536:94 <sup>2</sup> ASTM D 525-12a <sup>2</sup>
Actual gums content (washed with solvents)	mg/100 ml	-	5	SR EN ISO 6246:17 <sup>2</sup> / EN ISO 6246:17 <sup>2</sup> / ISO 6246:17 <sup>2</sup> ASTM D 381-12 <sup>2</sup> (17)
Copper strip corrosion rating (3 h at 50 °C)	rating		clasa 1	SR EN ISO 2160-03 <sup>2</sup> / EN ISO 2160-98 <sup>2</sup> / ISO 2160-98 <sup>2</sup> ASTM D 130-12 <sup>2</sup>
Aspect		Clear and transparent		Visual inspection
Type of hydrocarbons content	% (v/v)			SR EN 15553:07 <sup>2</sup> / EN 15553:07 <sup>2</sup>
- Olefins		-	18,0	SR EN ISO 22854:16 <sup>2</sup> / EN ISO 22854:16 <sup>2</sup> / ISO 22854:16 <sup>2</sup>
- Aromatics		-	35,0	ASTM D 1319-15 <sup>2</sup> / ASTM D 6839-18
Benzene content	% (v/v)	-	1,00	SR EN 12177:01 / SR EN 12177:01 / AC:02 / EN 12177:98 SR EN ISO 22854:16 <sup>2</sup> / EN ISO 22854:16 <sup>2</sup> / ISO 22854:16 <sup>2</sup> ASTM D 6839-18
Oxygen content	% (m/m)	-	3,7	SR EN ISO 22854:16 <sup>2</sup> / EN ISO 22854:16 <sup>2</sup> / ISO 22854:16 <sup>2</sup> SR EN 13132-01/EN 13132-00/DIN EN 13132-02 ASTM D 6839-18
Oxygenate compounds content	% (v/v)			
- Methanol		-	3,0	
- Ethanol <sup>5</sup>		-	10,0	
- Iso-propil alcohol		-	12,0	SR EN ISO 22854:16 <sup>2</sup> / EN ISO 22854:16 <sup>2</sup> / ISO 22854:16 <sup>2</sup>
- Iso-butyl alcohol		-	15,0	SR EN 13132:01/EN 13132-00/DIN EN 13132-02
- Tert-butyl alcohol		-	15,0	ASTM D 6839-18
- Ethers (5 or more C atoms)		-	22,0	
- Other oxygenates		-	15,0	
Bio-component <sup>6</sup>	% (v/v)	To be reported		% (v/v) bio = % (v/v) bio-ethanol + 0,48x% (v/v) bio-ETBE
<b>Distillation</b>				
Evaporated at 70 °C, E70	% (v/v)			
- Summer <sup>1</sup>		22,0	50,0	
- Winter <sup>1</sup>		24,0	52,0	
- Transition <sup>1</sup>		22,0	52,0	ASTM D 86-17 <sup>2</sup>
Evaporated at 100 °C, E100 (Summer <sup>1</sup> , Winter <sup>1</sup> , transition <sup>1</sup> )	% (v/v)	46,0	72,0	SR EN ISO 3405:11 <sup>2</sup>
Evaporated at 150 °C, E150 (Summer <sup>1</sup> , Winter <sup>1</sup> , transition <sup>1</sup> )	% (v/v)	75,0	-	EN ISO 3405:11 <sup>2</sup> ISO 3405:11 <sup>2</sup>
Final boiling point, FBP	°C	-	210	
Residue of distillation	% (v/v)	-	2,0	

Vapour Pressure, VP	kPa		
- Summer <sup>1</sup>	45,0	60,0 <sup>7</sup>	SR EN 13016-1:08 <sup>2</sup> / EN 13016-1:07 <sup>2</sup>
- Winter <sup>1</sup>	60,0	90,0	ASTM D 5191-15 <sup>2</sup> / ASTM D 6378-10(2016)
- transition <sup>1</sup>	45,0	90,0	
Volatility Index, VLI	Calculation (10 VP + 7 E70)		
- Summer <sup>1</sup>	-	-	
- Winter <sup>1</sup>	-	-	
- transition <sup>1</sup>	-	1164	

**NOTES:** 1) Summer - from May, 1 to September, 30; Transition: March 15 to April 30, October 1 to November 15; Winter - from November, 16 to March, 14 2) Accredited test by RENAR 3) In order to assure a superior cleanliness of the engine and lower fuel consumption, Rompetrol gasoline is treated with detergent and anti-corrosion additives 4) Certified product by RAR 5) The ethanol, as a blending component used, will be in accordance with EN 15376 in force at the time of product batch manufacturing 6) The bio-component content will respect the laws in force at the time of product batch manufacturing 7) Tabel 1 according to EN 228 - The permitted vapour pressure waiver during summer time for ethanol content, according to in force legislation and only if ethanol is biological origin 8) This condition is guaranteed by the manufacturing technology and it is checked weekly 9) Commercial product name: Euro Plus Gasoline, EN 228.

Table 1 – Vapour pressure waiver permitted for unleaded gasoline containing bioethanol

Bioethanol content, %v/v	Vapour Pressure Waiver Permitted, kPa
0	0
1	3,7
2	6,0
3	7,2
4	7,8
5	8,0

Bioethanol content, % v/v	Vapour Pressure Waiver Permitted, kPa
6	8,0
7	7,9
8	7,9
9	7,8
10	7,8

**Quality control:** control is done on lot/batch.

Each batch will be tank size (max. 5,000 tones). The lot (batch) will have product of same type.

During testing, the product must comply with all parameters depicted in standard specification for corresponding product/type. If not, the batch is rejected.

In case of litigious, the quality control will be done using the samples kept for these cases, sampling being done in accordance with the sampling procedure.

**Sampling procedure:** according to SR EN ISO 3170:2004/SR EN ISO 3170:2004/C91:05/ASTM D 4057-12

Information about handling, transportation and storage: according to "Safety Data Sheet" FDS-2.1 T.

**The integrated Quality-Environment-Occupational Health and Safety Management System** is certified by DNV-GL according to the following standards:

- ISO 9001
- ISO 14001
- BS OHSAS 18001

The test lab is accredited by RENAR, in compliance with SR EN ISO/CEI 17025.

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