

AVGAS 100LL REFINERY CERTIFICATE OF QUALITY

Report no. 10501/00016760/2020
Batch No: AT-171-2020
Report date 21.05.2020
Object Shoretank 17
Product AVGAS Grade 100LL
Location Paldiski Estonia, Alexela Terminal AS

Sample No.: 9917206
Sample drawn: 16.05.2020 13:00 V.Rezanov
Sample received: 16.05.2020
Lot size: 3,256.660 m³ at 15°C / 2,343.493 mt vac



Saybolt
A CORE LABORATORIES COMPANY

	Property	Unit	Method	Requirements	Result
COMBUSTION					
1	Net Heat of Combustion (Specific Energy)	MJ/kg	ASTM D3338	Min 43.500	43.636
Octane Rating					
Knock value, lean mixture:					
2	Motor Octane Number		ASTM D2700	Min 99.6	102.2
3	Research		ASTM D2700	Min 100.0	106.94
Knock value, rich mixture:					
4	Performance Number*		ASTM D909	Min 130.0	144.7
COMPOSITION					
5	Sulfur	mass%	ASTM D5453	Max 0.05	0.00027
Tetraethyl Lead:					
6	TEL	mL/L	ASTM D3341	Min 0.27 Max 0.53	0.47
7	Pb	g/L	ASTM D3341	Min 0.28 Max 0.56	0.50
8	Antiknock compound (ethyl fluid TEL-B)	gPb/L	Calculated	Min 0.28 Max 0.56	0.48
Color					
9	Appearance		ASTM D2392	Blue	Acceptable
10	Color		ASTM D910, Visual		Clear&Bright
11	Colour Lovibond		IP 569	Min 1.7 Max 3.5	2.3B
Dye content:					
13	Blue dye (Oil Blue B)		Calculated	Max 2.7	1.54
VOLATILITY					
14	Vapour Pressure, 38°C	kPa	ASTM D5191	Min 38.0 Max 49.0	46.5
15	Density at 15°C	kg/m ³	ASTM D4052		719.6
Distillation:					
16	Initial Boiling Point	°C	ASTM D86		33.5
	Fuel Evaporated				
	10 volume % at	°C	ASTM D86	Max 75	67.2
	40 volume % at	°C	ASTM D86	Min 75	100.7
	50 volume % at	°C	ASTM D86	Max 105	103.5
	90 volume % at	°C	ASTM D86	Max 135	110.5
	Final Boiling Point	°C	ASTM D86	Max 170	149.0
	Sum of 10% + 50% Evaporated Temperatures	°C	ASTM D86	Min 135	170.7
	Recovery	volume%	ASTM D86	Min 97	98.0
	Residue	volume%	ASTM D86	Max 1.5	1.2
Loss	volume%	ASTM D86	Max 1.5	0.8	
FLUIDITY					
17	Freezing Point	°C	ASTM D2386	Max -58	< -58
CORROSION					
18	Copper Strip, 2h at 100°C		ASTM D130	Max 1	1A
CONTAMINANTS					
Oxidation Stability (16 hours aging)					
19	Potential Gum	mg/100mL	ASTM D873	Max 6.0	< 1.0
20	Lead Precipitate	mg/100mL	ASTM D873	Max 2.0	< 1.0
21	Existent Gum	mg/100mL	ASTM D381	Max 3.0	< 1.0
22	Antioxidant (RDE/A/609)	mg/L	Calculated	Max 24.0	11.09
Water Reaction:					
23	Volume Change	mL	ASTM D1094	Max ±2	< 0.5
OTHERS					
24	Electrical Conductivity**	pS/m	ASTM D2624		1

Precision parameters apply in the evaluation of the test results specified above. Please also refer to ASTM D3244 (except for analysis of RFG), IP 367 and appendix E of IP standard methods for analysis and testing with respect to the utilization of test data to determine conformance with specification.

This report is issued in accordance with the General Terms and Conditions of Saybolt Estonia and the recipient is deemed to have full knowledge thereof. It is certified that the samples have been tested using the Test Methods stated, and that the Batch represented by the samples, conforms with DEF STAN 91-090 Issue 5 and/or ASTM D910-19 Requirements.

(* Analysis results are submitted by a third party laboratory. Saybolt was not present whilst the analysis were carried out, and has signed for receipt only with no liability accepted.

(**) Static Dissipator Additive not added during this production process.

Additives information: Antioxidant AO80 (Lot number: FPVG 1919616), Oil Blue B (Lot number: 005695), TEL-B (Lot number: ILSO030823)

Analysis results approved by:

Tiit Pikk
Saybolt Eesti AS, Account Manager

This Batch has been manufactured at Alexela Terminal AS premises
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