

**ANALYTICAL REPORT No: 0758-LQ-14**

**Client** SIBUR International GmbH  
**S-Peterburg №** 7652-0488-14/1  
**Date of report** 01.08.2014  
**Object** ZAO "Sibur-Khimprom"  
**Location** s. Perm

<b>Product :</b> Bottoms petrochemical (KON-92) <sup>1</sup>			<b>Received On:</b> 23.07.2014		
<b>Sample Drawn :</b> Sample is selected and provided customer representative.					
<b>Sample Description :</b> Dark-colored product which is liquid at room temperature					
<b>Testing Performed By:</b> Intertek S-Petersburg Laboratory			<b>Date:</b> 23÷31.07.2014		
Tests	Units	Method <sup>2</sup>	Specification limits	Result	Result Within Specification?
Density at 15 deg C	kg/l	ASTM D 4052	unknown	0.9177	—
Density at 20 deg C	kg/l	ASTM D 4052	unknown	0.9139	—
Kinematic Viscosity at 50°C	mm <sup>2</sup> /s	ASTM D 445	unknown	4.789	—
Viscosity assumed (Engler) at 50°C	° E	conversion	unknown	1.38	—
Kinematic Viscosity at 100°C	mm <sup>2</sup> /s	ASTM D 445	unknown	1.415	—
Viscosity assumed (Engler) at 100°C	° E	conversion	unknown	can not be determined	—
Sulphur content	%mass	ASTM D 4294	unknown	Less 0.0017	—
Flash Point, closed Cup	° C	ASTM D 93	unknown	78.0	—
Water content	%mass	ASTM D 95	unknown	0.65	—
Pour Point (upper)	° C	ASTM D 97	unknown	below minus 42	—
Total Nitrogen	%mass	ASTM D 3228	unknown	0.004	—
Aniline Point (mixed)	° C	ASTM D 611 (B)	unknown	11.1	—
Conradson carbon Residue (CCR)	%mass	ASTM D 189	unknown	0.24	—
Distilling on the vacuum system at 760 mm Hg:		ASTM D 1160 mod.			
Initial boiling point	° C		unknown	70	—
5% vol recovered	° C		unknown	162	—
10% vol recovered	° C		unknown	186	—
20% vol recovered	° C		unknown	199	—
30% vol recovered	° C		unknown	212	—
40% vol recovered	° C		unknown	228	—
50% vol recovered	° C		unknown	236	—
60% vol recovered	° C		unknown	244	—
70% vol recovered	° C		unknown	248	—
80% vol recovered	° C		unknown	258	—
90% vol recovered	° C		unknown	280	—
95% vol recovered	° C		unknown	291	—
Final Boiling Point /cracking	° C		unknown	291	—
Loss	%vol		unknown	0.0	—
Residue	%vol		unknown	5.0	—
Recovered at 360 °C	% vol	ASTM D 1160 mod.	unknown	can not be determined	—
Bromine number product	gBr/100g	ASTM D 1159	unknown	4.0	—
Saturated, aromatic and polar compounds		IP 469			
Saturated hydrocarbons	%mass			Less 5(0.3)	
Aromatics hydrocarbons (polyaromatic)	%mass			5.9	—
Polar compounds I	%mass			90.6	—
Polar compounds II	%mass			3.2	—
Toluene equivalent	% vol	EXXON	unknown	0	—

Tests	Units	Method <sup>2</sup>	Specification limits	Result	Result Within Specification?
Xylene equivalent		BP 230	unknown	0	–
P-value		SMS 1600	unknown	more 5	–
Hot Filtration potential	% (m/m)	IP 390(A)/IP 375	unknown	0.01	–
Metals:					
Vanadium	mg/kg	IP 470	unknown	less 1(0.8)	–
Sodium	mg/kg	IP 470	unknown	29	–
Nickel	mg/kg	IP 470	unknown	3	–
Aluminium	mg/kg	IP 470	unknown	20	–
Silicon	mg/kg	IP 470	unknown	12	–
Iron	mg/kg	IP 470	unknown	55	–
Zinc	mg/kg	IP 470	unknown	2	–
Calcium	mg/kg	IP 470	unknown	5	–
Colour ASTM (dilution)		ASTM D 1500	unknown	D 8 ASTM Color	–
Asphaltenes	%mass	IP 143	unknown	0.24	–

**Note 1** This product is not included in the Scope of accreditation laboratory.

**Note2.** All these methods are intended to record for analysis of residual oil. Sample testing is proposed for petrochemicals. Thus, the results can not be interpreted as the results obtained in the framework of the above methods. Terms perform some tests had to pick from the properties of the product.

**LABORATORY MANAGER:** P.Obukhova




St. Petersburg LABORATORY

This Analytical Report applies only to the samples tested.

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