

Laboratory **Bharat Petroleum Corporation Limited, QA Laboratory, Jalandhar TOP, Suchipind, Jalandhar, Punjab**

Accreditation Standard **ISO/IEC 17025: 2005**

Certificate Number **TC-7273 (in lieu of T-3940)**

Page 1 of 7

Validity **13.05.2018 to 12.05.2020**

Last Amended on **18.05.2018**

Sl.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
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CHEMICAL TESTING

I.	PETROLEUM AND PRODUCTS			
1.	Motor Spirit (MS)	Appearance	WI 02, Issue No.II; Issue Dt.01.10.2017	Qualitative (Descriptive by visual)
		Colour	WI 03, Issue No. II; Issue Dt.01.10.2017	Qualitative (Descriptive by visual)
		Cu Strip Corrosion	IS 1448 (Part 15)	Qualitative (1 a to 4 c) by rating
		Density	IS 1448 (Part 16) / ASTM D1298	650.0 kg/m ³ to 850.0 kg/m ³
		Distillation: - IBP - FBP Volume	IS 1448 (Part 18) / ASTM D-86	30 °C to 80 °C 150°C to 300 °C Upto 100 %
		Gum Content (Solvent washed)	IS 1448 (Part 29)	1.0 g/m ³ to 100 g/m ³
		Gum Content (Unwashed)	IS 1448 (Part 29)	60 g/m ³ to 600 g/m ³
		Ethanol Content	Annexure C of IS 2796	Upto 20 % by Vol
		Sulphur, Total	ASTM D 4294/ ISO 20847	5 mg/kg to 200 mg/kg
		Research Octane No. (RON)	IS 1448 (Part 27) / ASTM D2699	70 to 100
		Aromatic content	IS 1448 (Part 23) / ASTM D1319	5 % to 50 % by Volume
		Olefin content	IS 1448 (Part 23) / ASTM D1319	0.3 %to 30 % by Volume
		2.	Automotive Diesel Fuel (HSD)	Appearance
Colour	WI 03, Issue No. II; Issue Dt.01.10.2017			Qualitative (Descriptive by visual)

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Page 2 of 7

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		Cu Strip Corrosion	IS 1448 (Part 15)	Qualitative (1 a to 4 c) by rating
		Density	IS 1448 (Part 16)/ ASTM D1298	650.0 kg/m ³ to 900.0 kg/m ³
		Distillation Temperature: - IBP - FBP Volume	IS 1448 (Part 18) / ASTM D-86	50 °C to 200 °C 200°C to 250 °C 0.1 % to 100 %
		Flash Point (Abel)	IS 1448 (Part 20) / IP 170	19°C to 70 °C
		Kinematic Viscosity at 40°C	IS 1448 (Part 25) / ASTM /D7042	1.000 cSt to 10.00 cSt
		Pour Point	IS 1448 (Part 10)	(-) 38 °C to +20 °C
		Water Content	IS 1448 (Part 40)	Up to 25 % by Volume
		Total Sulphur	ASTM /D 4294	1 mg/kg to 200 mg/kg
		Calculated Cetane Index (Calculated)	ASTM D 4737	32.0 to 70.0
3.	Kerosene (SKO)	Appearance	WI 02, Issue No.II; Issue Dt.01.10.2017	Qualitative (Descriptive by visual)
		Colour	WI 03, Issue No.II; Issue Dt.01.10.2017	Qualitative (Descriptive by visual)
		Colour (Saybolt)	IS 1448 (Part 14) / ASTM D 156	(-)16 units to 30 units
		Cu Strip Corrosion	IS 1448 (Part 15)	Qualitative (1 a to 4 c rating)
		Density	IS 1448 (Part 16) /ASTM D1298	0.660 g/ml to 1.00 g/ml

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Page 3 of 7

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		Distillation Temperature: - IBP - FBP Volume	IS 1448 (Part 18) / ASTM D-86	30 °C to 180 °C 150°C to 400 °C Upto 100 %
		Flash Point (Abel)	IS 1448 (Part 20)/ IP 170	0°C to 70 °C
		Total Sulphur	ASTM D 4294	0.001% to 0.3 % by wt
		Smoke point	IS 1448 (Part 31) / ISO 3014	10 mm to 30 mm
4.	Mineral Turpentine Oil – MTO (Solvent)	Appearance	WI 02, Issue No.II; Issue Dt.01.10.2017	Qualitative (Descriptive by visual)
		Colour	WI 03, Issue No.II; Issue Dt.01.10.2017	Qualitative (Descriptive by visual)
		Colour (Saybolt)	IS 1448 (Part 14) / ASTM D 156	(-)16 units to 30 units
		Density	IS 1448 (Part16) / ASTM D1298	0.660 g/ml to 1.00 g/ml
		Aromatic content	IS 1448 (Part 23) / ASTM D1319	5% to 50 % by Volume
		Distillation Temperature: - IBP - FBP Volume	IS 1448 (Part 18) / ASTM D-86	30 °C to 180 °C 150°C to 400 °C Upto 100 %
		Flash Point (Abel)	IS 1448 (Part 20) / IP 170	0°C to 70 °C
5.	Hexane	Appearance	WI 02, Issue No.II; Issue Dt.01.10.2017	Qualitative (Descriptive by visual)
		Colour	WI 03, Issue No.II; Issue Dt.01.10.2017	Qualitative (Descriptive by visual)
		Density	IS 1448 (Part 16) / /ASTM D1298	0.660 g/ml to 0.750 g/ml

Soundira Pandian K.
Convenor

N. Venkateswaran
Program Director

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Page 4 of 7

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		Distillation Temperature: - IBP - FBP Volume	IS 1448 (Part 18) / ASTM D-86	30 °C to 80 °C 150°C to 300 °C Upto 100 %
		Non Volatile Residue	ISO 3470	0.0001 g/100ml to 0.1 g/100ml
II.	LUBRICANTS			
1.	Lubricants	Appearance	WI 02, Issue No.II; Issue Dt.01.10.2017	Qualitative (Descriptive by visual)
		Colour Visual	WI 03, Issue No.II; Issue Dt.01.10.2017	Qualitative (Descriptive by visual)
		Colour (ASTM)	ASTM D: 1500/ IS 1448 (Part12)	0.5 units to 8.0 units
		Cu Strip Corrosion	IS 1448 (Part 15)	Qualitative (1 a to 4 c rating)
		Density	IS 1448 (Part 16) /ASTM D1298	0.660 g/ml to 1.00 g/ml
		Crackle Test	WI 02a; Issue No. II Issue Dt .01.10.2017	Qualitative (Positive /Negative)
		Kinematic Viscosity at 40°C	IS 1448 (Part 25) / D7042	1.0 cSt to 250.0 cSt
		Kinematic Viscosity at 100°C	IS 1448 (Part 25) / D 7042	1.0 cSt to 50.0 cSt
		Flash Point (COC)	IS 1448 (Part 69)	80 °C to 400 °C
		Flash Point (PMCC)	IS 1448 (Part 21) / ASTM D93 -A& B	60 °C to 350 °C
		Pour Point	IS 1448 (Part10) / D 97-2017	(-)-38 °C to +20 °C
		Viscosity Index	ASTM D:2270/ IS 1448 (Part 56)	85 to 150
		Water Content	IS 1448 (Part 40)	Up to 25 % by Vol

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Page 5 of 7

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III.	INDUSTRIAL & FINE CHEMICALS			
1.	Ethanol	Appearance	WI 02, Issue No.II; Issue Dt.01.10.2017	Qualitative (Descriptive by visual)
		Colour	WI 03, Issue No.II; Issue Dt.01.10.2017	Qualitative (Descriptive by visual)
		Ethanol content at 15.6/15.6°C	IS 15464	94 % to 100 % by Volume
		Miscibility with Water	Annexure-C of IS 15464	Qualitative (Miscible / immiscible)

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Page 6 of 7

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AT- MOBILE FACILITY

I.	PETROLEUM AND PRODUCT			
1.	Motor Spirit (MS)	Appearance	WI 02, Issue No.II; Issue Dt.01.10.2017	Qualitative (Descriptive by visual)
		Colour	WI 03, Issue No.II; Issue Dt.01.10.2017	Qualitative (Descriptive by visual)
		Density	IS 1448 (Part 16) / ASTM D1298	650.0 kg/m ³ to 850.0 kg/m ³
		Distillation Temperature: - IBP - FBP Volume	IS 1448 (Part 18) / ASTM D-86	30 °C to 80 °C 150°C to 300 °C Upto 100 %
		Ethanol Content	Annexure C of IS 2796	Up to 20 % by Mass
2.	High Speed Diesel (HSD)	Appearance	WI 02, Issue No.II; Issue Dt.01.10.2017	Qualitative (Descriptive by visual)
		Colour	WI 03, Issue No.II; Issue Dt.01.10.2017	Qualitative (Descriptive by visual)
		Density	IS 1448 (Part 16)/ ASTM D1298	650.0 kg/m ³ to 900.0 kg/m ³
		Distillation Temperature: - IBP - FBP Volume	IS 1448 (Part 18) / ASTM D-86	100 °C to 200 °C 250°C to 400 °C Upto 100 %
		Flash Point (Abel)	IS 1448 (Part 20)	19°C to 70 °C
		Kinematic Viscosity at 40°C	IS 1448 (Part 25) / ASTM /D7042	1.000 cSt to 10.00 cSt

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Page 7 of 7

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II.	LUBRICANTS			
1.	Lubricants	Appearance	WI 02, Issue No.II; Issue Dt.01.10.2017	Qualitative (Descriptive by visual)
		Colour	WI 03, Issue No.II; Issue Dt.01.10.2017	Qualitative (Descriptive by visual)
		Crackle Test	WI 02a; Issue No.II Issue Dt .01.10.2017	Qualitative (Positive /Negative)
		Density	IS 1448 (Part 16) / /ASTM D1298	0.660 g/ml to 1.00 g/ml
		Kinematic Viscosity at 40°C	IS 1448 (Part 25) / D7042	1.0 cSt to 250 cSt
		Kinematic Viscosity at 100°C	ASTM D 7042	1.0 cSt to 50 cSt
		Viscosity Index	ASTM D:2270/ IS 1448 (Part 56)	85 to 150

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