

Laboratory **Bharat Petroleum Corporation Ltd., QA Laboratory, Bhaunti,
Kalpi Road, Panki, Kanpur, Uttar Pradesh**

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

Discipline **Chemical Testing** **Issue Date** **08.06.2015**

Certificate Number **T-3470** **Valid Until** **07.06.2017**

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S.No.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
I.	PETROLEUM			
1.	MS/HSD/SKO/ MTO	Appearance	WI -02 Dated 01.09.2014	Qualitative (Visual)
		Colour	WI-04 Dated 01.09.2014	Qualitative (Visual)
2.	HSD	Cetane Index (Calculated)	ASTM D-4737: 2010	40 to 60
		Pour Point	IS 1448 (Part 10): 2013	(-) 38 °C to 20 °C
		Water Content	IS 1448 (Part 40): 2010	0 to 25 % by Vol.
		Kinematic Viscosity, at 40 °C	IS 1448 (Part 25): 1976 (RA 2007) ASTM D445: 2014 ASTM D7042: 2014	1.0 cSt to 400 cSt
3.	SKO /MTO	Colour Saybolt	IS 1448 (Part 14): 2008	0 to 30 Units
4.	MS/HSD/SKO	Cu Strip Corrosion	IS 1448 (Part 15): 2004 (RA 2011)	1a to 4c Rating
		Density	IS 1448 (Part 16): 2014 ASTM D1298/ 2012b	0.660 gm/MI to 1.00 gm/MI
		Distillation	IS 1448 (Part 18): 1991 (RA 2010) ASTM D-86: 2012	
		Temperature		30 °C to 400 °C
		Volume, % Vol.		0 to 100 ml
		Sulphur, Total	ASTM D4294: 2010 ISO 20847: 2004	0.0005 % by Mass to 5.0 % by Mass

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5.	MS	Ethanol Content	IS 2796: 2008 Annexure E	0 to 20 % by Vol
		Existent Gum	IS 1448 (Part 29): 2004 (RA 2011)	1.0 g/m ³ to 100 g/m ³
		Research Octane No. (RON)	IS 1448 (Part 27): 2013 ASTM D2699: 2013b	80 to 100
		Unwashed Gum	IS 1448 (Part 29): 2004	1 ppm to 800 ppm
		Aromatics	ASTM D-3606	Benzene : 0.1 % by Vol. to 3.0 % by Vol. Toluene : 1 % by Vol. to 15 % by Vol.
6.	SKO/HSD	Flash Point (Abel)	IS 1448 (Part 20): 1998 (RA 2008) IP 170: 2009	0 to 66 °C
7.	Ethanol	Miscibility With Water	IS 15464: 2004 Annexure C	Qualitative (Yes / No)
		Relative Density at 15.6/15.6 °C	IS 15464: 2004 Annexure A	0.60 to 0.85
		Ethanol Content at 15.6/15.6 °C	IS 15464: 2004 (RA 2009)	94 % to 100 % v/v
8.	SKO	Smoke Point	IS 1448 (Part 31): 1968 (RA 2008)	10 mm to 30 mm

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II. LUBRICANTS				
1.	Lubricants	Appearance	WI -02 Dated 01.09.2014	Qualitative (Visual)
		Colour	WI-04 Dated 01.09.2014	Qualitative (Visual)
		Colour	ASTM D 1500: 2012 IS 1448 (Part 12): 2013	0 to 5.0 Units
		Crackle Test	WI-06	Qualitative (Visual)
		Cu Strip Corrosion	IS 1448 (Part 15): 2004 (RA 2011)	1a to 4c Rating
		Density	IS 1448 (Part 16): 2014 ASTM D1298/ 2012b	0.660 gm/MI to 1.00 gm/MI
		Flash Point (COC)	ASTM D92: 2012 IS 1448 (Part 69): 2013	80 °C to 400 °C
		Flash Point (Pensky Marten)	IS 1448 (Part 21): 2012 ASTM D93: 2012	Above 66 °C
		Kinematic Viscosity at 40 °C	IS 1448 (Part 25): 1976 (RA 2007) ASTM D445: 2014 ASTM D7042: 2014	1.0 cSt to 400 cSt
		Kinematic Viscosity at 100 °C	IS 1448 (Part 25): 1976 (RA 2007) ASTM D445: 2014 ASTM D7042: 2014	1.0 cSt to 50 cSt

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	Lubricants	Pour Point	IS 1448 (Part 10): 2013	(-) 38 °C to 20 °C
		Viscosity Index	ASTM D2270: 2010e IS 1448 (Part 56): 2013	NA
		Water Content	IS 1448 (Part 40): 2010	0 to 25 % by Vol.

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