

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

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

Certificate Number **TC-6432**

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Validity **17.10.2017 to 16.10.2019**

Last Amended on --

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.	<b>PETROLEUM AND PRODUCTS</b>			
1.	<b>MS/HSD/SKO/MTO</b>	Appearance	WI-02 issue no.1	Qualitative
2.	<b>HSD</b>	Cetane Index, (Calculated)	ASTM D-4737	40 to 60
3.	<b>SKO / MTO</b>	Colour Saybolt	IS:1448 (Part 14)	0 to 30 units
4.	<b>MS/HSD/SKO/MTO</b>	Colour	Wi-03, Issue no.1	Qualitative (Visual)
5.	<b>MS/HSD/SKO</b>	Cu Strip Corrosion	IS:1448 (Part 15)/2004 (Reaffirmed 2011)	1a units to 4c units
6.	<b>MS/HSD/SKO</b>	Density	IS:1448 (Part 16) ASTM D1298	0.6600 g/ml to 1.000 g/ml
7.	<b>MS/HSD/SKO</b>	Distillation	IS:1448 (Part 18) ASTM D-86	
		Temperature		30°C to 400°C
		Recovery		0.1 % by vol. to 100 % by vol.
8.	<b>ETHANOL</b>	Ethanol Content at 15.6/15.6°C	IS 15464	94 % by vol to 100 % by vol
9.	<b>MS</b>	Ethanol Content	IS 2796 (Annexure E)	0 to 20 % by vol
10.	<b>MS</b>	Existent Gum	IS:1448 (Part 29)/ 2004, (Reaffirmed 2011)	1.0 g/m <sup>3</sup> to 100 g/m <sup>3</sup>
11.	<b>SKO/HSD</b>	Flash Point (Abel)	IS:1448 (Part 20) IP 170	0 to 66°C
12.	<b>HSD</b>	Kinematic Viscosity at 40°C	IS:1448 (Part 25) ASTM D445	1.0 cSt to 400 cSt
13.	<b>HSD</b>	Kinematic Viscosity at 40°C	IS: ASTM D7042/ 2014	1.0 cSt to 400 cSt
14.	<b>HSD</b>	Pour Point	IS:1448 (Part 10)	(-)38 to 20
15.	<b>ETHANOL</b>	Relative Density at 15.6/15.6°C	IS 15464 (Annexure-A)	0.60 to 0.85
16.	<b>MS</b>	Research Octane No. (RON)	IS:1448 (Part 27) / 2013 ASTM D2699 /2013b	80 to 100

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17.	SKO	Smoke point	IS:1448 (Part 31)	10 mm to 30 mm
18.	MS/HSD/SKO	Sulphur, Total	ASTM D4294 ISO 20847	0.0017% by Mass to 5.0% by Mass
19.	MS	Unwashed gum	IS:1448 (Part 29)	1 ppm to 800 ppm
20.	HSD	Water Content	IS:1448 (Part 40) /2010	0 to 25 % by Vol.
II.	<b>LUBRICANTS</b>			
1.	<b>Lubricants</b>	Appearance	WI-02 issue no.1	Qualitative
		Colour	Wi-03, issue no.1	Qualitative (Visual)
		Colour ASTM	ASTM D: 1500 IS:1448 (Part 12)	0 to 5.0 units
		Crackle Test	WI-03 A Issue no.1	Qualitative (Visual)
		Cu Strip Corrosion	IS:1448 (Part 15)/	1a unit to 4c unit
		Density	IS:1448 (Part 16) ASTM D1298/ 2012b	0.6600 g/ml to 1.000 g/ml
		Flash Point (COC)	ASTM D : 92 IS:1448 (Part 69)	80°C to 400°C
		Flash Point (Pensky Marten)	IS:1448 (Part 21) ASTM D93/2012	66°C to 130°C
		Kinematic Viscosity at 40°C	IS:1448 (Part 25) /1976 (Reaffirmed 2007) ASTM D445/ 2014	1.0 cSt to 400 cSt
		Kinematic Viscosity at 40°C	IS: ASTM D7042/ 2014	1.0 cSt to 400 cSt
		Kinematic Viscosity at 100°C	IS:1448 (Part 25)/ 1976 (Reaffirmed 2007) ASTM D445/ 2014	1.0 cSt to 50 cSt
		Kinematic Viscosity at 100°C	ASTM D7042 /2014	1.0 cSt to 50 cSt
		Pour Point	IS:1448 (Part 10)/ 2013	(-)38 °C to 20°C
	Viscosity Index	ASTMD2270/2010e IS:1448 (Part 56)/ 2013	NA	
	Water Content	IS:1448 (Part 40)	0 to 25% by Vol.	