

**Laboratory**                      **QA Laboratory, Bharat Petroleum Corporation Ltd.,  
Manmad Installation, Manmad, Panewadi, Nanadgaon,  
Manmad Road (City), Nashik, Maharashtra**

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

**Certificate Number**        **TC-7214 (in lieu of T-3897)**

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**Validity**                        **22.04.2018 to 21.04.2020**

**Last Amended on 26.04.2018**

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.	<b>PETROLEUM PRODUCTS</b>			
1.	<b>Motor Gasoline (MS)</b>	Appearance	BPCL/WI-02-Amd 0 Dated 01.10.2015	Qualitative (Descriptive by visual)
		Colour	BPCL/WI-03, Amd 0 Dated 01.10.2015	Qualitative (Descriptive by visual)
		Density at 15 °C	IS:1448 (Part-16) / ASTM D1298	660.0 kg/m <sup>3</sup> to 1000 kg/m <sup>3</sup> 0.660 gm/ml to 1.0 gm/ml
		Aromatics Content	IS 1448 (Part-23) IP 156- 08// ASTM D 1319-15	5 % to 50 % by volume
		Olefins Content		0.3 % to 40 % by volume
		Cu Strip Corrosion Rating	IS:1448 (Part-15)/ ASTM D 130-12	Qualitative (1a to 4c) by rating
		Distillation: -Temperature IBP °C FBP °C - Percent evaporated  - Percent recovered	IS:1448 (Part-18) / ASTM D 86 / IP 123	30 °C to 400°C  Up to 100 % v/v  Up to 100 % v/v
		Gum Content (Solvent -Washed)	IS:1448 (Part-29)/ IP 131 / ISO 6246/ ASTM D 381	Up to 40 g/m <sup>3</sup>
		Research Octane Number (RON)	IS 1448 (Part-27)/ ASTM D2699	80 units to 100 units
		Total Sulphur	IS:1448 (Part-153) / ISO 20847/ASTM D4294 ISO 8754 (IP:336)	0.0017% to 5 % by mass
		Ethanol Content	IS 2796 (Annexure c)	Up to 20 % by Volume

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Convenor

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Program Director

Laboratory

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Sl.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
2.	Automotive Diesel Fuel(ADF),High Speed Diesel (HSD)	Appearance	BPCL/WI-02-Amd 0 Dated 01.10.2015	Qualitative (Descriptive by visual)
		Colour	BPCL/WI-03, Amd 0 Dated 01.10.2015	Qualitative (Descriptive by visual)
		Cetane Index, (Calculated)	ASTM D-4737	40 to 65
		Cu Strip Corrosion	IS:1448 (Part-15)/ ASTM D 130	Qualitative (1a to 4c) by rating
		Density at 15 °C	IS:1448 (Part-16) / ASTM D1298	660.0 kg/m <sup>3</sup> to 1000 kg/m <sup>3</sup> 0.660 gm/ml to 1.0 gm/ml
		Distillation: -Temperature IBP °C FBP °C - Percent evaporated  - Percent recovered	IS:1448 (Part-18) / ASTM D 86 / IP 123	30 °C to 400°C  Up to 100 % v/v  Up to 100 % v/v
		Flash Point (Abel)	IS 1448 (Part-20)/ IP 170	-19°C to 70°C
		Kinematic Viscosity at 40°C	IS 1448 (Part-25) / ASTM D 445/ IP 71 (Sec.1)/ ASTM D7042	1.5 cSt to 4.5 cSt
		Kinematic Viscosity at 40°C	ASTM D7042	1.0 cSt to 15 cSt
		Pour Point	IS:1448 (Part-10) / ASTM D97 / IP 15-95	-39 °C to +36 °C
		Total Sulphur	IS:1448 (Part-153) / ASTM D:4294 /ISO 20847/ ISO 8754 (IP:336)	0.0017% to 4.6 % by mass
3.	Kerosene	Appearance	BPCL/WI-02-Amd 0 Dated 01.10.2015	Qualitative (Descriptive by visual)
		Colour	BPCL/WI-03, Amd 0	Qualitative

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			Dated 01.10.2015	(Descriptive by visual)
		Colour Saybolt	IS:1448 (Part-14) / ASTM D 156	(-) 16 units to (+)30 units
		Cu Strip Corrosion	IS:1448 (Part-15)/ ASTM D 130	Qualitative (1a to 4c) by rating
		Density at 15 °C	IS:1448 (Part-16) / ASTM D1298	660.0 kg/m <sup>3</sup> to 1000 kg/m <sup>3</sup>
		Distillation: - Temperature IBP °C FBP °C - Percent evaporated  - Percent recovered	IS:1448 (Part-18) / ASTM D 86 / IP 123	30 °C to 400°C  Up to 100 % v/v  Up to 100 % v/v
		Flash Point (Abel)	IS 1448 (Part-20)/ IP 170	-19°C to 70°C
		Smoke Point	IS 1448 (Part-31)	10 mm to 30 mm
		Total Sulphur	IS:1448 (Part-153) / ASTM D:4294 /ISO 20847/ ISO 8754 (IP:336)	0.0017% to 4.6 % by mass
<b>II.</b>	<b>LUBRICANTS</b>			
<b>1.</b>	<b>Lubricant</b>	Appearance	BPCL/WI 02-Amd 0 Dated 01.10.2015	Qualitative (Descriptive by visual)
		Colour	BPCL/WI 03-Amd 0 Dated 01.10.2015	Qualitative (Descriptive by visual)
		Colour (ASTM)	ASTM D :1500/ IS:1448 (Part-12)	0 ASTM unit to 8.0 ASTM unit
		Density at 29.5°C	IS:1448 (Part-16) / ASTM D1298	0.660 g/ml to 1.000 g/ml 660.0 kg/m <sup>3</sup> to 1000 kg/m <sup>3</sup>
		Flash Point (COC)	IS:1448 (Part-69)	110°C to 270°C
		Flash Point ( Pensky Marten)	IS:1448 (Part-21) / ASTM D93	60°C to 200°C

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		Kinematic Viscosity at 40°C	IS 1448 (Part-25)	1.5 cst to 4.5 cst
		Kinematic Viscosity at 40°C	ASTM D 7042	50 cst to 200 cst
		Kinematic Viscosity at 100°C	IS 1448 (Part-25)/ ASTM D 7042	5 cst to 25 cst
		Pour Point	IS:1448 (Part-10);Sec 2	-39°C to +36°C
		Viscosity Index	ASTM D :2270 / IS:1448 (Part :56)	20 to 200
<b>III.</b>	<b>INDUSTRIAL FINE CHEMICAL</b>			
<b>1.</b>	<b>Ethanol</b>	Appearance	BPCL/WI 02-Amd 0 Dated 01.10.2015	Qualitative (Descriptive by visual)
		Colour	BPCL/WI 03-Amd 0 Dated 01.10.2015	Qualitative (Descriptive by visual)
		Ethanol Content at 15.6/15.6 °C	IS 15464	94 % to 100% by volume
		Miscibility with Water	IS15464 (Annexure C)	Qualitative test (Miscible/Not miscible)
		Relative Density at 15.6/15.6°C	IS 15464 (Annexure-A)	0.6 to 0.85