

<b>Laboratory</b>	<b>Cochin Laboratory, Indian Oil Corporation Ltd. (M.D.), Cochin Marketing Terminal, Irumpanam, Cochin, Kerala</b>		
<b>Accreditation Standard</b>	<b>ISO/IEC 17025: 2005</b>		
<b>Discipline</b>	<b>Chemical Testing</b>	<b>Issue Date</b>	<b>23.04.2014</b>
<b>Certificate Number</b>	<b>T-1749</b>	<b>Valid Until</b>	<b>22.04.2016</b>
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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
			IS 1448	IP	ASTM D	ISO	
<b>I. PETROLEUM PRODUCTS</b>							
1.	Naphtha, JP5	Aromatics & Olefins	Part-23 2004	156- 2008	1319- 2010	3837- 1993	A: 5% to 99% by Vol. O: 0.3% to 55% by Vol.
2.	HSD, FO	Ash Content	Part-4 2008	4- 2005	482- 2007	6245- 2001	0.001% to 0.180% by wt.
		Pour Point,	Part-10 2013	15- 1995	97- 2009	3016- 1994	(-) 3°C to (+) 51°C
		Sediments by Extraction,	Part-30 2013	53- 2000	473- 2007	3735- 1999	0.01% to 4.0 % wt.
		Water Content by Dean & Stark	Part- 40 1987	74- 2000	95- 2005	3733 - 1999	0.05% to 1.0 % Vol. 1.1% to 25 % Vol.
3.	Lubes	Ash Content (Sulphated)	Part-4 2008	163- 1996	874- 2007	3987- 1994	0.005% to 0.10% by wt.
		Flash Point (COC)	Part-69 2013	36- 2002	92- 2005a	592- 2000	79°C to 300°C
		Kinematic Viscosity @ 100°C	Part-25 1976	71- 1997	445- 2010	3104- 1994	5 cSt to 35 cSt
4.	HSD	Cetane Index (Calculated)	--	380- 2008	4737- 2010	4264- 2007	32.5 to 65

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5.	MS, SKO, HSD, JP5	Copper Corrosion Test	Part-15 2004	154- 2000	130- 2010	2160- 1998	1 to 4 Rating
6.	HSD, Lubes	Colour	Part-12 2013	196- 1997	1500- 2007	2049- 1996	0.5 to 8.0 ASTM Unit
		Kinematic Viscosity @ 40°C	Part-25 1976	71- 1997	445- 2010	3104- 1994	1 to 200 cSt
7.	FO, Naphtha	Calorific Value (Calculated)	Part-7 2004	-	4868- 2005	-	10,000 to 12,000 cal/g
8.	MS, HSD, SKO, FO, Naphtha JP5	Density by Hydrometer	Part-16 2007	160- 1999	1298- 1999	3675- 1998	600 kg/m <sup>3</sup> to 1000 kg/m <sup>3</sup>
9.	MS, HSD, SKO Naphtha, JP5	Distillation	Part-18 1991	123- 2001	86- 2012	405- 2000	Temp: 0 to 400°C Vol : 0 to 100 ml
10.	JP5	Freezing Point	Part-11 2004	16- 2008	2386- 2005	3013- 1997	-20°C to -70°C
		Silver Strip corrosion Test	-	227- 1999	-	-	0 to 4 Rating
11.	MS, Naphtha JP5	Existent Gum	Part-29 2004	131- 1999	381 - 2009	246- 1995	0.5 g/m <sup>3</sup> to 50 g/m <sup>3</sup>
12.	HSD, SKO	Flash Point (Abel)	Part-20 1998	170- 2009	-	13736- 2008	19°C to 70°C

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13.	HSD, JP5, FO, Lubes	Flash Point (P&M)	Part-21 2012	34- 2003	93- 2010a	2719- 2002	40°C to 200°C
14.	FO	Kinematic Viscosity @ 50°C	Part-25 1976	71- 1997	445- 2010	3104 - 1994	40 cSt to 300 cSt
		Sulphur by XRF	-	-	4294- 2010	8754- 2003	0.03% to 5.0% by mass
15.	Naphtha	Non Volatile Matter	Part-64 1998	-	-	-	0.5 to 30 mg/100 ml
16.	SKO, JP5	Smoke Point	Part-31 1968	57- 1995	1322- 2008	3014- 1993	5 mm to 43.0 mm
17.	HSD, SKO, JP5	Sulphur By XRF	-	-	4294- 2010	8754- 2003	17 mg/kg to 4.6% by mass
18.	MS, Naphtha	Sulphur By XRF	-	-	-	20847- 2004	30 to 500 mg/kg
19.	MS, Naphtha	Reid Vapour Pressure	Part-39 2012	69- 2001	323- 2008	3007- 1999	0 to 180 Kpa

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