

Laboratory **Jalandhar Terminal Laboratory, Indian Oil Corporation Ltd. (MD),  
Suchi Pind, Jalandhar, Punjab**

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

Certificate Number **TC-7192 (in lieu of T-0800)**

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Validity **11.05.2018 to 10.05.2020**

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 &amp; PRODUCTS</b>			
1.	<b>SKO, JET A-1</b>	Color by Saybolt Chromometer	ASTM D:156-15 & (Part 14):1960 RA 2013	(-)16 to +30 Color unit
2.	<b>MS, SKO, HSD, JET A-1</b>	Density by Hydrometer	IS:1448 (Part 16):2014 (Fourth Revision)	720.0 kg/m <sup>3</sup> to 845.0 kg/m <sup>3</sup>
		Distillation	IS: 1448 (Part 18):1991 (Second Revision) RA 2016	30 to 400 °C and 0 to100 vol %
		Copper Strip Corrosion Test	IS:1448 (Part 15):2004 (Third Revision) RA 2016	Qualitative (1 to 4 Classification)
3.	<b>SKO, HSD, JET A-1</b>	Flash Point (Abel)	IS :1448 (Part 20):1998 (Second Revision) RA 2013	19°C to 66 °C
4.	<b>HSD</b>	Kinematic Viscosity	IS:1448 (Part 25):1976 (First Revision) RA 2013	2.0 cSt to 4.5 cSt
		Pour Point	IS:1448 (Part 10): 2013 (Second Revision) (Sec 2)	(-)38 °C to 50 °C
		Calculated Cetane Index	IP-380 /08	40 to 60
5.	<b>MS</b>	Existent Gum	IS:1448 (Part 29):2004 (Third Revision) RA 2016	2 g/m <sup>3</sup> to 40 g/m <sup>3</sup>
6.	<b>MS</b>	Sulfur Content	ISO20847 -2004/	10 PPM to 50PPM
	<b>HSD</b>		ASTM D4294-2016	17 PPM TO 50PPM
	<b>SKO</b>		IP336-2004	0.03 %to 5.0 % by mass
7.	<b>SKO, JET A-1</b>	Smoke Point	IS:1448 (Part 31):1968 (First Revision) RA 2013	10 mm to 40 mm

**Ruch Guntuku  
Convenor**

**N. Venkateswaran  
Program Director**

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8.	LDO, FO	Sediments by Extraction	IS:1448 (Part 30):2013 (Second Revision)	0.01% to 0.25 % by mass
		Density by Hydrometer	IS:1448 (Part 16):2014 (Fourth Revision)	850.0kg/m <sup>3</sup> to 1000.0kg/m <sup>3</sup>
		Flash Point (PMCC)	IS :1448 (Part 21):2012 (Third Revision)	66°C to 365°C
		Kinematic Viscosity	IS:1448 (Part 25):1976 (First Revision) RA 2013	1.00 cSt.to1500 cSt.
		Water Content by Distillation	IS:1448 (Part 40):2015 (Fourth Revision)	0.1 ml to 25 ml % by volume
		Ash Content	IS:1448 (Part 4):2008 (Third Revision) RA 2013	0.001%wt to 0.18 % wt
		Sulfur Content	IP-336/04	0.1% to 5.0 % by mass
		Calorific Value	IS:1448 (Part 7):2004 (First Revision) RA 2016	9700% to 11000 cal/g
9.	Jet A-1	Kinematic Viscosity @ -20°C	IS:1448 (Part 25):1976 (First Revision) RA 2013	2.00 cSt to 8.00 cSt
		Silver Strip Corrosion Test	IP- 227/99	Qualitative (0 to 4 Classification)
		Existent Gum	IS:1448 (Part 29):2004 (Third Revision) RA 2016	0.5 mg to 10 mg per 100 ml
		Freezing Point	IS:1448 (Part 11):2004 (Fourth Revision) RA 2016	(- )70°C to 20 °C
		Sulfur Content	ASTM D4294-16	0 to 3000 mg/kg
		Specific Energy	ASTM D 3338-09 Re-approved:2014	40.000 MJ/kg to 45.000 MJ/kg
		Aromatics	IS:1448 (Part 23):2004 (Fourth Revision) RA 2016	5% to 99% by volume

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		Naphthalene	IS:1448 (Part 118):1985 RA 2013	0.01 MJ/kg to 5% by volume
		Sulfur Mercaptan	IS:1448 (Part 109):2004 (First Revision) RA 2016	0.0003 to 0.01% by mass
		Total Acidity	IS:1448 (Part 113):1983 RA 2016	0.000 to 0.100 mg KOH/gm
		Water Reaction - Interface rating	IS 1448 (Part 42):2015 (Third Revision)	Qualitative (1 to 4 ratings)
		Electrical Conductivity	IP 274/09	15 pS/m to 1500 pS/m

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