

Accreditation Scope

**SGS Gulf Limited, Dubai, SGS Oil, Gas and Chemical Laboratory, NAL 024
Testing Laboratory, (ISO/IEC 17025:2017)
Jebel Ali Free Zone, Dubai, UAE**

**Issue Date: 04-01-2020
Issue No: 06**

Expiry Date: 10-06-2021

Testing Field	Materials/ Products tested	Type of test/ Test parameter/ Properties measured/Range of measurement	Test Method (Standard, Internal Procedure, Technique)	Permanent lab (P) / Client-site (S)
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Chemical	Gas Oil	Ash Content / 0.001 to 0.0180%mass	ASTM D482-13	P
		Appearance / Clear to Hazy	Visual	
		Calculated Cetane Index by Four Variable Equation	ASTM D4737-10 (Reapproved 2016)	
		Calculated Cetane Index of Distillate Fuel	ASTM D976-06 (Reapproved 2016)	
		Cloud Point / below 49°C	ASTM D2500-17a	
		Cold Filter Plugging Point (CFPP)	IP 309-16	
		Colour, ASTM / 0.5 to 8.0 Rating	ASTM D1500-12 (Reapproved 2017)	
		Conradson Carbon Residue (CCR) / 0.01 to 100 %mass	ASTM D189-06 (Reapproved 2014)	
		Copper Corrosion / 1a to 4c Rating	ASTM D130-18	
		Density	ASTM D4052-18a	

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Chemical	Gas Oil	Density	ASTM D1298-12b (Reapproved 2017)	P
		Distillation	ASTM D86-18	
		Determination of Aromatics Hydrocarbon Types in Middle Distillate - High Performance Liquid Chromatography method with refractive index detection / Mono Aromatic Hydrocarbons (MAH) - 6 to 30%mass, Di-Aromatic Hydrocarbon (DAH) - 1 to 10 %mass Tri-Aromatic Hydrocarbon (TAH) - 0 to 2 %mass, Poly Aromatic Hydrocarbon (PAH) - 1 to 12 %mass, Total Aromatics - 7 to 42%mass	IP 391-07	
Chemical	Gas Oil	Electrical Conductivity of Aviation and Distillate Fuel / 0 to 2000 pS/m	ASTM D2624-15	P
		Flash Point, PMCC / 40 to 370 °C	ASTM D93-18	

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		Estimation of Net and Gross Heat of Combustion of Hydrocarbon Burner and Diesel Fuel	ASTM D4868-17	
		Kinematic Viscosity / 0.2 to 300000 cst	ASTM D445-18	
		Evaluating Lubricity of Diesel Fuel by High Frequency Reciprocal Rig (HFRR)	ASTM D6079 - 18	
		Assessment of Lubricity using High Frequency Reciprocal Rig (HFRR)	IP 450-00	
		Oxidation Stability of Distillate Fuel Oil (Accelerated Method) / 0.1 to 3.0 mg/100mL	ASTM D2274-14	
		Pour Point	ASTM D97-17b	
Chemical	Gas Oil	Ramsbottom Carbon Residue (RCR) / 0.01 to 30 %mass	ASTM D524-15	P
		Sediments by Extraction / 0.01 to 0.40 % mass	ASTM D473-07(Reapproved 2017) ^{ε1}	
		Strong/Total Acid Number / 0.02 to 250 mg KOH/g	ASTM D974-14 ^{ε2}	
		Sulphur Content / 17 mg/kg - 4.6 % mass	ASTM D4294-16 ^{ε1}	

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		Water by Distillation / 0 to 25%vol	ASTM D95- 13(Reapproved 2018)	
		Water and Sediments / above 0.01%	ASTM D2709-16	
		Micro Carbon Residue on 10% (V/V) Distillation Residue / 0.10 to 30.0 % mass	ASTM D4530-15	
		FAME Content in Middle Distillate / 0.05 to 50% v/v	I.S. EN14078-2014	
	Crude Oil	Density	ASTM D4052-18a	P
		Density	ASTM D1298-12b (Reapproved 2017)	
		Density	ASTM D5002-19	
	Sulphur Content / 17 mg/kg - 4.6 % mass	ASTM D4294-16 ⁶¹		
Chemical	Crude Oil	Hydrogen Sulphide (Liquid Phase) / 0.5 to 500 ppm	UOP 163-10	P
		Hydrogen Sulphide (Vapour Phase) / 5 to 4000 ppm	ASTM D5705-15	
		Kinematic Viscosity / 0.2 to 300000 cst	ASTM D445-18	
		Pour Point	ASTM D97-17b	

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		Reid Vapor Pressure / below 180 kPa (26 psi)	ASTM D323-15a	
		Sediments by Extraction / 0.01 to 0.40 % mass	ASTM D473- 07(Reapproved 2017) ^{ε1}	
		Total Mercury and Mercury Species in Liquid Hydrocarbons / minimum 0.3 ng/ml (m/v-ppb)	UOP 938-10	
		Water Content / 0.00 - 5.00% v/v and m/m	ASTM D4006-16 ^{ε1}	
		Water Content / 0.02 - 5.00% v/v and m/m	ASTM D 4928-12 (Reapproved 2018)	
		Water and Sediments / 0 to 100 %vol	ASTM D4007- 11(Reapproved 2016) ^{ε1}	
Chemical	Jet A1	Acid Number / 0 to 0.100 mg/gKOH	ASTM D3242-11 (Reapproved 2017)	P
		Colour, Saybolt / -16 to +30 Rating	ASTM D156-15	
		Copper Corrosion/ 1a to 4c Rating	ASTM D130-18	
		Density	ASTM D4052-18a	
		Density	ASTM D1298-12b (Reapproved 2017)	

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		Distillation	ASTM D86-18	
		Electrical Conductivity of Aviation and Distillate Fuel / 0 to 2000 pS/m	ASTM D2624-15	
Chemical	Jet A1	Flash Point, Abel / -30 to 70 °C	IP 170-14	P
		Freezing Point	ASTM D2386-18	
		Jet Fuel Thermal Oxidation Stability (JFTOT)	ASTM D3241-18	
		Kinematic Viscosity @ -20°C/ 0.2 to 300000 cst	ASTM D445-18	
		Mercaptan Sulfur / 0.0003 to 0.01 % mass	ASTM D3227-16	
		Determining Water Separation Characteristics of Aviation Turbine Fuels by Portable Separometer1 (MSEP) / 50 to 100 Rating	ASTM D3948-14 (Reapproved 2018)	
		Particle Count/ 40000 count/ml max	IP 564-13	
		Particulate Contamination / 0 to 0.6 mg/L	ASTM D5452-12	
		Smoke Point / 15 to 42 mm	ASTM D1322-18	

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		Sulphur Content / 17 mg/kg - 4.6 % mass	ASTM D4294-16 ^{ε1}	
Chemical	Jet A1	Appearance	Visual	P
		FAME Content in Aviation Turbine Fuel / 10 to 150 mg/kg	IP 583-15	
		Existent Gum	IP 540-08(Reapproved 2014)	
		MSEP	ASTM D7224-20	
		Particle Count	IP 565- 13	
		Aromatics	ASTM D6379-11 (Reapproved 2019)	
		Naphthalene	ASTM D1840-07 (Reapproved 2017)	
	Motor Gasoline	Copper Corrosion 1a to 4c Rating	ASTM D130-18	P
		Density	ASTM D4052-18a	
		Density	ASTM D1298-12b (Reapproved 2017)	
		Distillation	ASTM D86-18	
		Doctor Test / Negative or Positive	ASTM D4952-12 (Reapproved 2017)	
		Doctor Test /	IP30-07(2014)	

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		Negative or Positive		
		Existent Gum Aviation and Distillate Fuel / 1 mg/100ml minimum	ASTM D381-12 (Reapproved 2017)	
		Mercaptan Sulfur / 0.0003 to 0.01 % mass	ASTM D3227-16	
Chemical	Motor Gasoline	Reid Vapor Pressure / below 180 kPa (26 psi)	ASTM D323-15a	P
		Vapour Pressure of Petroleum Product (Mini Method) / 7 to 130 kPa	ASTM D5191-19	P
	Fuel Oil	Density	ASTM D1298-12b (Reapproved 2017)	P
		Density	ISO 3675:1998	
		Kinematic Viscosity / 0.2 to 300000 cst	ASTM D445-18	
		Kinematic Viscosity / 0.2 to 300000 cst	ISO 3104: 1997	
		Flash Point, PMCC / 40 to 370 °C	ASTM D93B-18	
		Flash Point, PMCC / 40 to 370 °C	ISO 2719:2016	
		Pour Point	ASTM D97-17b	

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Chemical	Fuel Oil	Pour Point	ISO 3016:1994	P
		Micro Carbon Residue / 0.10 to 30.0 % mass	ASTM D4530-15	
		Micro Carbon Residue / 0.10 to 30.0 % mass	ISO 10370: 2014	
		Ash Content / 0.001 to 0.180 % mass	ASTM D482-13	
		Ash Content / 0.001 to 0.180 % mass	ISO 6245: 2001	
		Water Content by Distillation / 0 to 25 % vol	ASTM D95-13 (Reapproved 2018)	
		Water Content by Distillation / 0 to 25 % vol	ISO 3733: 1999	
		Sulphur Content / 17 mg/kg - 4.6 % mass	ASTM D4294-16 ^{E1}	
		Sulphur Content / 17 mg/kg - 4.6 % mass	ISO 8754 : 2003	
		Calculated Carbon Aromaticity Index	ISO 8217: Annex F: 2017	

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Chemical	Fuel Oil	Acid Number (Inflection end-point) / 0.1 to 150 mg/g KOH	ASTM D664-18	P
		Elements in Residual Fuel Oil by ICP / Aluminum - 5 to 150 mg/kg Silicon - 10 to 250 mg/kg Sodium - 1 to 100 mg/kg Vanadium - 1 to 400 mg/kg Nickel - 1 to 100 mg/kg Iron - 2 to 60 mg/kg Calcium - 3 to 100 mg/kg Zinc - 1 to 70 mg/kg Phosphorus - 1 to 60 mg/kg	IP 501 - 05	
		Total Sediments in Residual Fuel Oils/ 0.005 %mass min	IP 390-11	
	Lubricant Oil	Cleveland Flash Point (Open Cup) / 79 to 400°C except Fuel Oil	ASTM D92-18	P

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Chemical	Lubricant Oil	Kinematic Viscosity / 0.2 to 300000 cst	ASTM D445-18	P
		Dynamic Viscosity	ASTM D445-18	
		Viscosity Index	ASTM D2270-10 (Reapproved 2016)	
		Base Number / 300 mg KOH/g max	ASTM D2896-15	
		Acid Number (Inflection end- point) / 0.1 to 150 mg/g KOH	ASTM D664-18 ^{E2}	
		Sulphur Content / 17 mg/kg - 4.6 % mass	ASTM D4294-16 ^{E1}	
		Colour, ASTM 0.5 to 8.0 Rating	ASTM D1500-12 (Reapproved 2017)	
	Transformer Oil	Interfacial Surface Tension / 0 to 100 mN/m	ASTM D971-12	P
		Acidity / 0.1 to 150 mg/g KOH	ASTM D664-18	
		Acidity / 0.02 to 250 mg/g KOH	ASTM D974- 14	

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Chemical	Transformer Oil	Flash Point, PMCC / 40 to 370 °C	ASTM D93B-18	P
		Flash Point, PMCC / 40 to 370 °C	ISO 2719:2016	
		Density	ASTM D4052-18a	
		Density	ASTM D1298-12b (Reapproved 2017)	
		Dielectric Breakdown Voltage / 25 Kilovolts min	EN 60156:1998	
		Dielectric Breakdown Voltage / 25 Kilovolts min	ASTM D877-13	
		Power Dissipation Factor Tester	EN 60247:2004	
		Power Dissipation Factor Tester	ASTM D924-15	
		Kinematic Viscosity / 0.2 to 300000 cst	ASTM D445-18	
		Kinematic Viscosity / 0.2 to 300000 cst	ISO 3104: 1994	
		DGA	ASTM D3612 -02 (Reapproved 2017)	
END				