



ARABIAN INTERNATIONAL PETROLEUM CORPORATION
LABORATORIES & CONTROL DEPARTMENT

Title: Specification for Jet A-1

Test-116

S.N	Property	Test Method (s)	Control limits			
APPEARANCE						
1	Visual appearance	ASTM D4176 Procedure 1	Clear and Bright ²			
2	Saybolt Colour	ASTM D156	Report			
3	Particulate Contamination	mg/L	ASTM D5452	Max. 1.0		
Or	Particulate, cumulative channel particle counts/ml	IP 565	(Channel Counts)	ISO4406 Classes		
4	Individual channel counts & ISO Code					
4.1	≥ 4 µm				Report	Max. 19
4.2	≥ 6 µm				Report	Max. 17
4.3	≥ 14 µm				Report	Max. 14
4.4	≥ 21 µm				Report	Report
4.5	≥ 25 µm				Report	Report
4.6	≥ 30 µm	Report	Max. 13			
COMPOSITION						
5	Total Acidity	mg KOH/g	ASTM D3242	Max. 0.015		
6	Aromatics	Volume %	ASTM D1319	Max. 25.0		
7	Sulfur, Total	Mass %	ASTM D4294	Max. 0.30		
8	Sulfur, Mercaptan	Mass %	ASTM D3227	Max. 0.0030		
Or	Doctor Test		ASTM D4952	Negative		
9	Refining Components at point of manufacture					
9.1	Non Hydroprocessed Components	Volume %		Report		
9.2	Severely Hydroprocessed Components	Volume %		Report		
9.3	Synthetic Components	Volume %		Report		
VOLATILITY						
10	Distillation: *		ASTM D86 - Automated			
10.1	Initial Boiling Point	°C		Report		
10.2	10% Recovery	°C		Max. 205.0		
10.3	50% Recovery	°C		Report		
10.4	90% Recovery	°C		Report		
10.5	End Point	°C		Max. 300.0		
10.6	Residue	Volume %		Max. 1.5		
10.7	Loss	Volume %		Max. 1.5		
11	Flash Point *	°C	ASTM D56	Min. 38.0		
12	Density at 15 °C *	Kg/m ³	ASTM D4052	775.0 – 840.0		
FLUIDITY						
13	Freezing Point *	°C	ASTM D7153	Max. – 47.0		
14	Viscosity at - 20 °C *	mm ² /s	ASTM D445	Max. 8.000		
COMBUSTION						
15	Specific Energy	MJ/Kg	ASTM D3338	Min. 42.80		
16	Smoke Point	mm	ASTM D1322	Min. 25.0		
Or	Smoke Point	mm	ASTM D1322	Min. 18.0		
17	And Naphthalene	Volume %	ASTM D1840	Max. 3.00		



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CORROSION			
18	Corrosion, Copper strip (2 h. at 100 °C)	Class. ASTM D130	Max. 1
STABILITY			
19	Thermal Stability, JFTOT	ASTM D3241	
19.1	Test Temperature Tube Rating	°C	min. 260
19.2	Pressure Differential	mmHg	Max. 25
19.3	Visual Tube Rating, VTR		< 3
CONTAMINANTS			
20	Existent Gum	mg/100 ml ASTM D381	Max. 7
WATER SEPARATION CHARACTERISTICS			
21	Microseparometer (MSEP)	Rating ASTM D3948	
21.1	Fuel with Static Dissipator Additive		Min. 70
21.2	Or Fuel without Static Dissipator Additive		Min. 85
CONDUCTIVITY			
22	Electrical Conductivity at [] °C Fuel with SDA	pS/m ASTM D2624	50 - 600
Incidental Materials			
23	Fatty acid methyl ester (FAME)	mg/Kg IP 599	Max. 50

S.N	Additives	Qualification Reference	Control Limits
24	Antioxidants	mg/L RDE/A/609	Max. 24
25	Static dissipater, First doping	mg/L RDE/A/621	Max. 3.0
26	Other (MDA, FSII, LIA)	mg/L -	-

¹ This Specification is conforms with DEF STAN 91-091, issue 16, Dated 14th December, 2023

² Clear, bright and visually free from solid matter and undissolved water at ambient fuel temperature.