



KAR GROUP - ERBIL REFINERY

QUALITY CONTROL DEPARTMENT
AVIATION TURBINE FUEL TEST RESULT

Sample Name :-	JET A - 1	Laboratory Analytical
Batch Quantity :-	Liter	last Batch No. :- 83
Terminal :-	Bazian Refinery /TK103	Batch No. :- 84
Sampling Date :-	18/ 08 /2021	Testing Date :- 23,24 / 08/2021

PROPERTY	LIMITS	TEST RESULTS	TEST METHOD
Appearance			
Visual Appearance	Clear & Bright visually free from solid matter & undissolved water at normal ambient temperature	Visually few solid matter & free from undissolved water at normal ambient temperature	ASTM D 4176
Color Saybolt	Report	18	ASTM D 6045
Total Particular Contamination mg/l	max. 1	0.4	ASTM D 5452
Particulate cumutative channel particle count ISO Code & Individual Channel Counts	Channel Counts Iso Code		
>4 µm@	Report	14	IP 565
>6 µm@	Report	12	
>14 µm@	Report	9	
>21 µm@	Report	7	
>25 µm@	Report	6	
>30 µm@	Report	5	
COMPOSITION			
Total Acidity , mg KOH /g	Max 0.015	0.0016	ASTM D 3242
** Total Aromatics , % volume	Max 25	17.5	ASTM D 1319
Sulfur , Total % Mass	Max 0.30	0.173	ASTM D 4294
Sulfur , Mercaptane % Mass	Max 0.003	0.0001	ASTM D3227
Refining Components, at point of manufacture			
Non HydroprocessedComponents %V/V	Report	100	
Mildly HydroprocessedComponents %V/V	Report	nil	
Severely HydroprocessedComponents %V/V	Report	nil	
Synthetic Components %V/V	Report	nil	
VOLATILITY			
Distillation			
Initial Boiling Point IBP C°	Report	160	ASTM D 86
10% Volume @ C°	Max 205	174	
50% Volume @ C°	Report	187	
90% Volume @ C°	Report	204	
End Point EP C°	Max 300	224	
Residue % volume	Max 1.5	1	
Loss % volume	Max 1.5	0.8	
Flash point , C° Abel	Min 38	41	IP 170
Density@ 15 C° kg/m³	775.0 - 840.0	785.7	ASTM D 4052
FLUIDITY			
Freezing point , C°	Max - 47	-59.1	ASTM D 7153
Viscosity @ - 20 C° ,cSt	Max 8.0	3.1	ASTM D 445
COMBUSTION			
Specific Energy , net MJ/Kg Coorrected For the Sulfur Content	Min 42. 80	43.30	ASTM D 3338
Smoke point , mm	Min 25	26.8	ASTM D 1322
CORROSION			
Corrosion Copper strip classification (2h @ 100 C°)	Max 1	1a	ASTM D 130
STABILYY			
Thermal stability (JFTOT) @ 260 C° -Filter pressure Differential , mmHg	Max 25	0.2	ASTM D 3241
Tube Deposit Rating (Visual)	<3 no Peacock or Abnormal color deposit	1 no Peacock or Abnormal color deposit	
CONTAMINANTS			
Exitent Gum , mg/100ml	max 7	1.0	IP 540
Microseparator (MSEP) Rating Fuel Without Static Dissipator additive	Min 85 without Static Dissipator , Min 70 with Static Dissipator	98	ASTM D 3948
CONDUCTIVITY			
Electrical conductivity PS/m @ 30 C°	no statis 450 addition	1.0	ASTM D 2624

Material conforms to the Jointly Operated Systems (AFQRJOS) Issue 32 – NOV 2020, Aviation Fuel Quality requirements on above relevant points of testing.

Embodying the most stringent requirements in the following specifications (latest edition) as they are stated/qualified in the:

- *Aviation Fuel Quality Requirements for Jointly Operated Systems*
 - a) British Ministry of Defense Standard Def Stan 91-091/Issue 12 14th September 2020 for Turbine Fuel , Kerosene Type Jet A1, NATO Code F35, Joint Service Designation AVTUR
 - b) ASTM Standard Specification D1655 - 15 for AviationTurbine Fuels"Jet A-1"
- ** Lot numbers of FIA Reagent Fluorescent Indicator Dyed Gel :- 300000944

Lab Stamp:



Lab Technician Name: Abdujilla M. Abdujilla Signature: _____	Lab Manager Name: Hanan M. Aljohar Signature: _____
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