AVIATION, TURBINE FUEL (JP-8) (*)

The product meets MSB Specification (F-34) **MIL-DTL-83133H AMD.2 December 2013

Property	Test Unit	Guarantee	Limit	Test Method ASTM	Test Method IP
Appearance	Clear, bright and visually free from solid matter and undissolved water at normal ambient ambient temperature.				
Color, Saybolt		To be reported		D 156 or D 6045	
Total acid number	mg KOH/g	0.015	Max	D 3242	
Aromatics	vol %	25.0	Max	D 1319	
Sulfur, total	wt %	0.30	Max	D 129 D 1266 D 2622 D 3120 D 4294 or D 5453	
Sulfur, mercaptan or Doctor Test	wt %	0.002 Negative	Max	D 3227 D 4952	
Distillation temperature	^{0}C			D 86 or D 2887	
IBP		To be reported			
10 %		205	Max		
20 %		To be reported			
50%		To be reported			
90%		To be reported			
EP		300	Max		
Residue	vol %	1.5	Max		
Loss	vol %	1.5	Max		
Flash point	^{0}C	38	Min	D 56, D 93 (1) D 3828	170
Density at 15 ^{0}C Gravity, API at 60 ^{0}F	kg/l	0.775-0.840 37-51		D 1298 D 4052 or D 7777	
Freezing point	^{0}C	-47	Max	D 2386 D 5972 D 7153 or D 7154	
Viscosity at –20 ^{0}C	cst	8	Max	D 445	
Net heat of combustion	MJ/kg	42.8	Min	D 3338 D 4529 or D 4809	
Hydrogen content	wt %	13.4	Min	D 3343 D 3701 or D 7171	
Smoke point or Smoke point and Naphthalenes	Mm mm vol %	25.0 19.0 3	Min Min Max	D 1322 D 1322 D 1840	
Calculated Cetane Index		To be reported		D 976 or D 4737	
Copper Strip Corrosion 2 hr at 100 ^{0}C		No.1	Max	D 130	
Thermal Stability : (2)				D 3241	
Change in pressure drop	mm Hg	25	Max		
Heater tube deposit	visual	Less than 3			
Existent gum	mg/100 ml	7	Max	D 381	540
Particulate matter (3) Filtration time, (3)	mg/l minutes	1 15	Max Max	D 2276 or D 5452	
Particulate counting, ≥ 4 µm ≥ 6 µm ≥ 14 µm ≥ 21 µm ≥ 25 µm ≥ 30 µm	Cumulative channel counts	Report Report Report Report Report Report		D 7619	564 565 577
Water reaction Interface rating		1 b	Max	D 1094	
Microseparometer Rating (4)				D 3948 or D 7224	
Fuel System icing inhibitor				D 5006	
Vol % (5)		0.1	Min		
Vol % (5)		0.15	Max		
Fuel electrical conductivity	pS/m	150-600		D 2624	
Additivies :					
Corrosion inhibitor (6)	g/m3				
Static Dissipator Additive (7)					
Metal Deactivator (8)	g/m3	5.7	Max		
Antioxsidant (9)	g/m3	17.2-24			

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1- ASTM D-56 may give results up to 1 ^{0}C (2 ^{0}F) below the ASTM D-93 results. ASTM D-3828 may give results up to 1.7 ^{0}C (3 ^{0}F) below the ASTM D-93 results. Method IP-170 is also permitted, may give results up to 2.2 ^{0}C (4 ^{0}F) below the ASTM D93 results.

2- See(**) 4.5.3 for ASTM D-3241 test conditions and test limitations.

3- A minimum sample size of 3.785 liters (1 gallon) shall be filtered. Filtration time will be determined in accordance with procedure in(**) Appendix C. This procedure may also be used for the determination of particulate matter as an alternate to ASTM D-2276 or ASTM D-5452.

4- The minimum microseparometer rating at point of manufacture using a Micro-Separometer (MSEP) shall be as follows.

JP-8 Additives	MSEP Rating, min
Antioxidant (AO)***, Metal Deactivator (MDA)***	90
AO***, MDA***, and Fuel System Icing Inhibitor (FSII)	85
AO***, MDA***, and Corrosion Inhibitor/Lubricity Improver (CI/LI)	80
AO***, MDA***, FSII and CI/LI	70

*** *Even though the presence or absence does not change these limits, samples submitted for specification or conformance testing shall contain the same additives present in the refinery batch. Regardless of which minimum the refiner selects to meet, the refiner shall report the MSEP rating on a laboratory hand blend of the fuel with all additives required by the specification.*

5- Test shall be performed in accordance with ASTM D-5006 using the DiEGME scale of the refractometer.

6- Shall be blended according to QPL-25017.

7- A static dissipator additive Stadis-450 marketed by Octel shall be added JP-8 fuels in sufficient concentration to increase the conductivity of the fuel to within the range of 150 to 600 picosiemens per meter at the point of injection.

8- A metal deactivator N.N-disalicylidene-1.2 propanediamine may be blended into the fuel.The concentration of active material used on initial batching of the fuel at the refinery shall not exceed 2.0 mg/L.Cumulative addition of metal deactivator when redoping the fuel,shall not to exceed 5.7 mg/L.Metal deactivator additive shall not be used in JP-8 unless the supplier has obtained written consent from the procuring activity and user.

9- The following antioxidant formulations are approved:

a) 2.6-di-tert-butyl-4-methylphenol

b) 6-tert-butyl-2.4-dimethylphenol

c) 2.6-di-tert butylphenol

d) 75 percent min-2.6-di-tert-butylphenol
25 percent max tert-butylphenols and tri-tert-butylphenols

e) 72 percent min 6-tert-butyl-2.4-dimethylphenol
28 percent max tert-butyl-methylphenolls and tert-butyl-dimethylphenols.

f) 55 percent min 2.4-dimethyl-6-tert-butylphenol and
15 percent min 2.6-di-tert-butyl-4-methylphenol and
30 percent max mixed methyl and dimethyl tert-butylphenols.

(*) This product is produced in İzmit, İzmir and Kırıkkale Refineries of Tüpraş.