

### Jet Propellant (JP-8) NATO F-34

#### Product Description:

JP-8 is the military equivalent of Jet A-1 with the addition of corrosion inhibitor and anti-icing additives (FSII); it meets the requirements of the **MIL -DTL- 83133K**. It is the dominant military jet fuel grade for NATO air forces. The UK also have a specification for this grade namely DEF STAN 91-091 AVTUR/FSII (formerly DERD 2453). NATO Code F-34. JET Fuel is obtained from the medium fractions that come from atmospheric distillation, which is the first stage of refining crude oil. Jet Fuel manufactured by Attock Refinery Limited is highly refined, homogenous mixture of hydrocarbons that go from C9 to C17 covering boiling range from 140°C to 260 °C. It's colorless or slightly yellow, with an approximate average density of 0.8 kg/L.

#### Application and Benefits:

Fuel for aviation turbine engines fitted to aircraft. In the arctic, JP-8 is a liquid fuel that is injected continuously into a combustion chamber in which a constant current of gases is produced at high pressure and temperature. This stream of gas is what generates the jet reaction that propels the aircraft. Its primary function is to supply power to the aircraft. The key parameters are its energy content and the quality of combustion.

This product is not to be used as a solvent or cleaning agent; for lighting or brightening fires; as a skin cleaner. Not to be used as a fuel for automotive vehicles. Not to be used to prevent waxing in diesel fuel.

#### Health, Safety and Environment:

Health, safety and environmental information are provided for this product in the Safety Data Sheet. This gives details of the potential hazards, precautions and First Aid measures. Attock Refinery Ltd will not accept liability if the product is used other than in the manner or with the precautions or for the purposes specified

- **Typical information from MSDS**

Do not ingest. Never siphon by mouth. If ingested, do not induce vomiting. Avoid contact with skin and clothing. Wash thoroughly after handling. Avoid contact with eyes. Use only with adequate ventilation.

#### Storage:

All packages should be stored under cover. Keep containers closed and clearly labeled. The storage area should comply with NFPA 30.

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## TECHNICAL DATA SHEET

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#### Specifications & Typical Value:

TEST DESCRIPTION	UNIT	TEST METHOD	SPECIFICATIONS	MAX / MIN	ARL TYPICAL
Visual Appearance	-	Visual	Clear & Bright	-	Clear & Bright
Color	-	ASTM D156	Report	-	+29
Particulate, ISO Code and Individual channel count	-	IP 564	Report	-	
>= 4 µm(c)			19	Max	17 (670.0)
>= 6 µm(c)			17	Max	15 (180)
>= 14 µm(c)			14	Max	11 (11.0)
>= 30µm(c)			13	Max	10 (5.8)
Particulate Contamination,	mg/L	ASTM D5452	1.0	Max	0.85
Filtration Time	minutes/L		4.0	Max	3.2
Total Acidity	mg KOH/gm	ASTM D3242	0.015	Max	0.007
Aromatics	% Vol	ASTM D1319	25.0	Max	17.0
Sulfur, Total	% mass	ASTM D4294	0.30	Max	0.020
Sulfur, Mercaptan	% mass	ASTM D3227	0.0030	Max	0.0003
Initial Boiling Point	°C	ASTM D86	Report	-	148
10 % Vol. Recovery			205.0	Max	162
20 % Vol. Recovery			Report	-	166

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50 % Vol. Recovery	°C	ASTM D86	Report	-	185
90 % Vol. Recovery			Report	-	235
End Point			300.0	Max	255
Residue	% Vol		1.5	Max	0.5
Loss			1.5	Max	0.5
Flash Point	°C		IP170	38.0	Min
Density @ 15°C	Kg/m <sup>3</sup>	ASTM D1298	775.0 - 840.0	-	803.0
Freezing Point	°C	ASTM D2386	-47	Max	-55
Viscosity @ -20 °C	mm <sup>2</sup> /s (cSt)	ASTM D445	8.000	Max	2.950
Specific Energy net	MJ/Kg	ASTM D3338	42.80	Min	43.2
Smoke Point	mm	ASTM D1322	18.0	Min	23.0
Naphthalene,	% Vol	ASTM D1840	3.0	Max	1.6
Cetane Index		ASTM D976	Report	-	38
Corrosion, Copper 2 hr @ 100°C	-	ASTM D130	1	Max	1a
JFTOT Control Temperature	°C	ASTM D3241	260	Min	260
Filter Pressure Differential	mm of Hg		25	Max	1
Tube Deposit Rating	Visual		<3	-	1

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TEST DESCRIPTION	UNIT	TEST METHOD	SPECIFICATIONS	MAX / MIN	ARL TYPICAL
Existent Gum	mg/100ml	ASTM D381	7	Max	1
Water Reaction Interface Rating	-	ASTM D1094	1b	Max	1
Water Separometer Index, With Cl/Li	-	ASTM D3948	80	Min	82
*Electrical Conductivity	pS/m	ASTM D2624	150 - 600	-	300 – 500

\*Electrical Conductivity as per MIL-DTL-83133K JP-8 (NATO F-34)

#### Contact Information:

For more Information, Please Contact **Attock Refinery Limited**.

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