

## Aviation Turbine Fuels, Kerosene Type (Jet A-1)

### IOC JETA –1:

IOC JET A-1 is a petroleum distillate blended from kerosene fractions having Aromatics below 20 % v/v, Total sulphur below 0.25 % mass, Mercaptan Sulphur below 0.002 % mass, freezing point below - 47 °C and a flash point above 38 °C. It contains Static Dissipator additive STADIS 450.

**It meets the requirement of:**

- :: IS 1571: 2001 (Seventh Revision)
- :: DEF STAN 91-91 Issue 5
- :: ASTM D 1655 (JET A-1)
- :: IATA Guidance Material for Aviation Fuel Specification - 5th Edition 2005
- :: AFQRJOS – Issue 20, March' 2005

**Specification:**

SI No.	Characteristics	Requirement
<b>Appearance</b>		
(a)	Visual	Clear, bright, visually free from solid matter and un-dissolved water at normal ambient temperature
(b)	Colour (Saybolt)	Report
(c)	Particulate contamination at point of Manufacture, mg/l, Max	1.0
<b>Composition</b>		
(a)	Acidity, total mg KOH/g, Max	0.015
(b)	<b>Aromatics, percent by volume, Max</b>	20
(c)	Olefins content, percent by volume, Max	5.0
(d)	<b>Sulphur, total percent by mass, Max</b>	0.25
	<b>Sulphur, Mercaptan, percent by mass, Max</b>	0.002
(e)	<b>OR</b>	
	Doctor test	<b>Negative</b>
(f)	<b>Refining component, at the point of manufacture:</b>	Report
	(a) Hydro processed component, %, v/v	Report

(b) Severely hydro processed component, % v/v.

### Volatility

#### (a) Distillation

##### Fuel Recovered:

Initial boiling point, °C	Report
10 percent by volume, at °C, Max	205
50 percent by volume, at °C	Report
90 percent by volume, at °C	Report
Final boiling point, °C Max	300
Residue percent by volume Max	1.5
Loss, percent by volume, Max	1.5
(b) Flash point (Abel), °C Min	38
(c) Density at 15 °C; kg/m <sup>3</sup>	775 to 840

#### Fluidity

(a) Freezing point, °C, Max	- 47
(b) Kinematic Viscosity. (mm <sup>2</sup> /s) at -20 °C Max.	8.0

#### Combustion

(a) Specific energy MJ/Kg., Min. OR	42.8
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OR

Product of API gravity and Aniline Point, Min. 4800

(b) Smoke point, mm, Min OR	25
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OR

Smoke point, mm, Min 19

and Naphthalenes, percent by volume, Max. 3.0

#### Corrosion

(a)	Copper strip corrosion, for 2 h at 100 °C	Not worse than No. 1
(b)	Silver strip corrosion, for 4 h at 50 °C classification, Max.	0

### Stability

(a)	Thermal stability (JFTOT) Filter pressure differential, mm Hg, Max.	25.0
(b)	Tube rating, visual	Less than 3, No. 'PEACOCK' or 'ABNORMAL' Colour deposits

### Contaminants

(a)	Existent gum, mg/100 ml, Max	7
(b)	Water reaction:  Interface rating, Max.	1b
(c)	Separation rating, Max.  Micro Separometer rating at point of manufacture MSEP, (WSIM)Min..	Sharp separation no emulsion or precipitate, within or upon either layer  70 (with SDA) 85 (without SDA)

### Conductivity

Electrical conductivity, pS/m (at temperature)	50, Min. 450, Max.
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### Lubricity

Lubricity, WSD mm, Max.	0.85
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