



## PRODUCT SPECIFICATION SHEET AVGAS 100LL



1. PRODUCT DETAILS				
<b>Product:</b>	Leaded Aviation Gasoline 100LL			
<b>Applicable Standards:</b>	MoD DEF-STAN 91-090			
<b>Use:</b>	Aviation Gasoline Engines			
<b>Notes:</b>	1. The visual colour must also comply with test 16 of this table 2. If no crystals appear when the thermometer indicates a temperature of -58oC, the freezing point shall be recorded as below -58oC 3. Knock rating shall be reported to the nearest 0.1 for octane number and performance number 4. IP270 is applicable 5. When a static dissipator additive has been added to the fuel, the conductivity at the point, time and temperature of delivery to the purchaser shall be in the range 50 to 600 pS/m 6. IP17 has been replaced by IP569. A 50.8mm cell shall be used. IP17 is allowed as an alternative method. See table 4 of DEF STAN 91-90			
2. SPECIFICATION				
PROPERTY	UNIT	LIMITS		TEST METHOD
		MINIMUM	MAXIMUM	
Visual appearance	-	Clear, bright and visually free from solid matter and undissolved water at ambient temperature		Visual examination
Colour, visual	-	Blue		See Note 1
Corrosion copper strip	-	-	1	IP154 / ASTM D130
Density at 15oC	kg/m3	Report		IP365 / ASTM D4052
Total Sulphur	% m/m	-	0.05	IP107 / ASTM D1266
Existent gum	mg/100ml	-	3.0	IP131 / ASTM D381
Freezing point	oC	-	-58	IP16 / ASTM D2386 (See Note 2)
Specific energy	MJ/kg	43.50	-	IP12
Reid vapour pressure at 37.8oC	kPA	38.0	49.0	IP69 / ASTM D323
<b>Knock Rating:</b>				
Lean mixture motor method octane number	-	99.6	-	IP236 / ASTM D2700 (See Note 3)
Research octane number	-	-	-	-
Performance number	-	130.0	-	IP119 / ASTM D909 (See Note 3)
<b>Distillation:</b>	IP 123 / ASTM D86 Group 2			
Initial boiling point	oC	Report		-
Temperature at % fuel evaporated				
10% vol %	oC	-	75	-
40% vol %	oC	75	-	-
50% vol %	oC	-	105	-
90% vol %	oC	-	135	-
Final boiling point	oC	-	170	-
Sum of 10% + 50% evaporated temperatures	oC	135	-	-

PROPERTY	UNIT	LIMITS		TEST METHOD
		MINIMUM	MAXIMUM	
Residue	% v/v	-	1.5	-
Loss	% v/v	-	1.5	-
<b>Oxidation stability (16 hours):</b>	IP138 / ASTM D873			
Potential gum	mg/100ml	-	6	-
Precipitate	mg/100ml	-	2	-
Tetraethyl lead content	gPb/l	-	0.56	IP270 / ASTM D3237 (See Note 4)
<b>Water reaction:</b>	IP289 / ASTM D1094			
Volume change	ml	-	2	-
Viscosity at minus 20oC	mm <sup>2</sup> /s	-	8.00	IP71 / ASTM D445
<b>Electrical conductivity:</b>				
Electrical conductivity	pS/m	See Note 5		IP274 / ASTM D2624
<b>Colour, Lovibond</b>	IP569 (See Note 6)			
Blue	Class	1.7	3.5	