

Appendix A

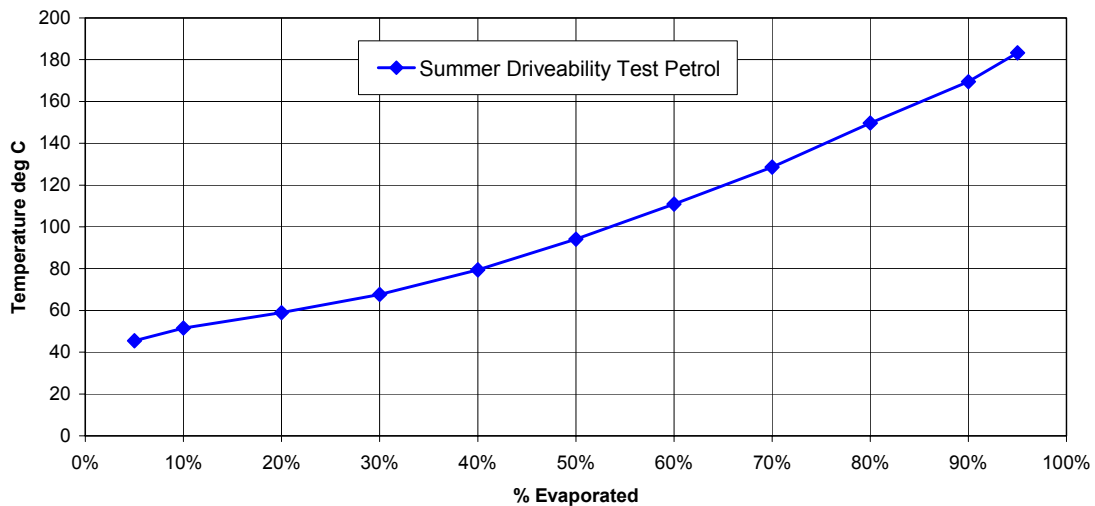
Test Fuel Data / Reports

Attachments:

1. Fuel data
2. ULP Test Fuel Distillation Curve
3. CSR Ethanol Product Specification
4. Orbital Test Fuel Density and Ethanol Concentrations

Caltex driveability test petrol		
Property	Result ULP	Method
Density @ 15 deg C kg/l	0.7358	ASTM D4052
Distillation		ASTM D86
IBP	32.4	
5%	45.5	
10%	51.5	
20%	58.9	
30%	67.6	
40%	79.4	
50%	94.1	
60%	110.9	
70%	128.6	
80%	149.7	
90%	169.5	
95%	183.3	
EP	212.6	
Residue %	1.1	
Benzene, Vol %	0.41	LM301
Oxygen	-	
Existent Gum, mg/l	8	ASTM D381
Motor Octane Number	81.4	ASTM D2700
Research Octane Number	91.2	ASTM D2699
Reid Vapour Pressure, 37.8 deg C, kPa	62	ASTM D323

ULP Driveability Test Petrol Distillation Curve





FOR FURTHER INFORMATION CONTACT:
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PRODUCT SPECIFICATION SHEET ETHANOL
 100 Fuel Grade
(Special Methylated Spirits)

CODE 100SGF21

CAS Number: 64-17-5

PARAMETER	TEST METHOD	SPECIFICATION LIMIT
DESCRIPTION	BP73 & BP98	Clear colourless liquid free from matter in suspension and apart from water consisting essentially of ethanol.
STRENGTH	BP73 & BP98	99.4% (min.) ethanol v/v at 20°C
WATER CONTENT	CSR AP-09-27	1.0% by weight (max.)
ALKALINITY	BP98	Alkalinity to Phenolphthalein - Nil
ACIDITY	BP73 & BP98	0.005% by weight (max.) as acetic acid.
CLARITY OF SOLUTION	BP98	Sample diluted in the ratio 1:19 with water remains clear
ALDEHYDES & KETONES	BP73	100ppm as Acetaldehyde (max.)
REDUCING SUBSTANCES	BP73	10 minutes (min.)
NON-VOLATILE MATTER	BP98	0.005% mg/100ml (max.)
OTHER ALCOHOLS	BP73	Passes Test

Tests are carried out in accordance with the requirements of British Pharmacopoeia 1973 and British Pharmacopoeia 1998.

Safe handling information for this product can be obtained from the MSDS.
Product is manufactured under a certified Quality System.

FORMULA	DENATURANT	SPECIFIC GRAVITY (Max @ 20°C)	CONCENTRATION (Nominal)
F21	Unleaded Petrol	0.793	1% v/v

Special Methylated Spirits is ethanol which has been denatured in accordance with Regulations under the Spirits Act.

**SPECIFICATIONS WITH RED TEXT BOXES ARE CONTROLLED COPIES. BLACK TEXT BOXES ARE UNCONTROLLED COPIES
 THE LATEST ISSUE CAN BE OBTAINED UPON REQUEST**

Orbital Test Fuel Density and Ethanol Concentrations

Date	Fuel Type	OEC Fuel #	S.G. @ 20degrees C	Measured Ethanol Concentration (%)
OPERABILITY FUEL				
	Ethanol	34	0.797	
6/01/2003	Summer ULP batch #2	20	0.738317	-
14/01/2003	Summer ULP E10	26	0.745688	9.82
14/01/2003	Summer ULP E20	21	0.748005	20.1
RUN-IN FUEL				
6/01/2003	Perth ULP	3	0.745	-