

Certificate of Analysis

Lot : 10016168
Batch : 12/338

Customer Name
Customer No
Consignee
Delivery Address

Product Name Hiperflo Turbo Ultimate
Product Number 22644
Certificate No 20031781
Certificate Date 17/09/2012
Approval Date 17/09/2012
Approved By: Stuart Calver
Checked by Hannah Ponting
Approval Status Released For Sale
Spec No 22644 v 11

PCL Order Reference
Customer Reference
Customer Item Code
Customer Description

Method	Description	Min	Max	Results	Unit
ASTM D4052	Density at 15°C	0.720	0.785	0.7800	g/mL
Distillation					
ASTM D86	I.B.Pt.			36.4	°C
ASTM D86	10 % Evaporated at			50.7	°C
ASTM D86	50 % Evaporated at			89.8	°C
ASTM D86	90 % Evaporated at			119.2	°C
ASTM D86	Evaporated at 70°C	10	47	37.9	%
ASTM D86	Evaporated at 100°C	30	70	55.9	%
ASTM D86	Evaporated at 150°C			>98.8	%
ASTM D86	Evaporated at 180°C	85		>98.8	%
ASTM D86	F.B.Pt.		225	139.8	°C
ASTM D86	Residue		2	1.1	% vol
Engine Tests					
ASTM D2699	R.O.N.	95	102	102	Units
ASTM D2700	M.O.N.	85	90	87.8	Units
FIA					
ASTM D1319	Aromatics			47.1	% vol
ASTM D1319	Olefins			19.8	% vol
General Properties					
ASTM D5191	Vapour pressure (DVPE) 37.8°C	450	900	595	hPa
EN 238	Benzene		5	<0.1	% v/v
ASTM D5762	Nitrogen		100	<40	mg/kg
ASTM D3703	Peroxides		100	0	mg/kg
EN 237	Lead		0.013	<0.0025	g/L
IP 490	Sulphur Content		10	<3.0	mg/kg
ASTM D130	Copper Corrosion, 3hrs at 50°C			1A	
ASTM D2624	Conductivity	200		>2000	pS/m
ASTM D381	Gum, - washed		5	<0.5	mg/100mL
ASTM D525	Oxidation Stability	360		>360	minutes
IP 466	Oxygen Content		3.7	3.03	% mass
To Be Recorded					
ASTM D5291	Carbon Content			85.58	% mass
ASTM D5291	Hydrogen Content			11.39	% mass
CALCULATION	Atomic H/C Ratio			1.5858	Ratio
CALCULATION	Atomic O/C Ratio			0.0266	Ratio
CALCULATION	C/H Mass Ratio			7.51	Ratio
CALCULATION	Stoichiometric Air/Fuel Ratio			13.622	Ratio
IP 12	Gross Heat of Combustion			43.16	MJ/kg
IP 12	Net Calorific Value			40.74	MJ/kg