

# Test List by Product Type

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## Asphalt & Bitumen

Test Name	Method
Acidity of Bitumen	IP 213
Asphaltenes by Spectrometer	AMS 831-1
Viscosity @135°C*	ASTM D2170
Viscosity @60°C*	ASTM D2171
Density by Hydrometer*	ASTM D1298
Density by Pycnometer*	ASTM D70
Flash Point (PMCC)*	ASTM D92
Penetration*	ASTM D5
Sodium and Vanadium by ICP-OES*	IP 501
Softening Point*	ASTM D36
Solubility in TCE*	ASTM D2042
Specific Gravity by Pycnometer*	ASTM D70

Approximate Turnaround for this product: 2 days per sample

## Biodiesel- B100 and blends

Test Name	Method
Aromatic Hydrocarbons- Poly, Di & Tri*	IP 391
Appearance	ASTM D4176
Ash Content*	ASTM D482
Cloud Point*	ASTM D5773
Cold Filter Plugging Point (CFPP)*	IP 309
Cold Soak Filtration*	ASTM D7501
Colour*	ASTM D1500
Copper Strip*	ASTM D130
Density by Anton Parr*	ASTM D4052
Density by Hydrometer*	ASTM D1298
Determination of Polyunsaturated Methyl Esters	EN 15779
Distillation*	ASTM D86
Fatty Acid Methyl Ester Content*	EN 14103
Filter Blocking Tendency*	IP 387
Flash Point (PMCC)*	ASTM D93
Glycerides - Free and Total	ASTM D6584
Gravimetric Particulates	ASTM D6217
Iodine Value*	BS EN 14111
Lubricity*	IP 450
Metallic Elements (Ca, K, Mg & Na)	EN 14538

Test Name	Method
Methanol Content of FAME*	EN 14110
Micro Carbon Residue*	ASTM D4530
Micro Carbon Residue on 10% Res	ASTM D86 / ASTM D4530
Oxidation Stability of Biofuel*	EN 14112
Oxidation Stability of Biofuel Blends	EN 15751
Oxidation Stability of Gas Oil*	ASTM D2274
Phosphorus	EN 14107 (modified)
Specific FAME in Biodiesel (Methyl palmitate, Methyl stearate & Methyl oleate)*	EN 14103
Sulphated Ash*	ASTM D482
Sulphur*	IP 497
Total Acid Number*	ASTM D664
Water*	IP 438
Total Contamination	IP 440

Approximate Turnaround for this product: 7 days

## Ethanol- E100 and Blends

Test Name	Method
Aromatics*	ASTM D5580
Copper Strip*	ASTM D130
Density (Anton Parr)*	ASTM D4052
Distillation*	ASTM D86
Ethanol Content of Denatured Fuel Ethanol	ASTM D5501
Ethanol & Oxygenates	ASTM D4815
Gum*	ASTM D381
Manganese*	ASTM D5185 (modification B)
Mini Vapour Pressure*	ASTM D5191
Motor Octane Number*	ASTM D2700
Olefins by FIA*	ASTM D1319
Olefins by PIONA*	ASTM D6839
Oxidation Stability of Mogas*	ASTM D525
pHe	ASTM D6423
Phosphorus*	ASTM D3231
Phosphorus	EN 15487
Research Octane Number*	ASTM D2699
Sulphates and Chlorides	ASTM D7328 mod
Sulphur*	ASTM D5453
Sulphur*	IP 497

Test Name	Method
Total Acidity	ASTM D1613
Trace Lead*	ASTM D5815 (modified)
Trace Lead*	IP 224

Approximate Turnaround for this product: 5 days

## Calibration

Test Name	Method
Conductivity Meter	ASTM D2624
Densitometer	IP 559
Dip Tape	OIML R 35-1
Hydrometer	ASTM E126
Thermometer	ASTM E77
Thermoprobe	ASTM E77

Approximate Turnaround for this service: 3 days

## Gas

Test Name	Method
Ammonia by GasTec	ANC 007
CO2 by GasTec	ANC 007
Full Gas Analysis	ANC 004
H2S by GasTec	ANC 007
HCl by GasTec	ANC 007
Low level Hydrogen	ANC 004
Mercaptans by GasTec	ANC 007
Oxygen and Carbon Dioxide by Orsat Gas Analysis	SMS 1322
Mercury & H <sub>2</sub> S in gaseous samples	ANC 016
Hydrogen sulphide/mercaptan/carbonyl sulphide in gas	UOP163-10
Metals in gas	APHA 3030/3125 (Mod)

Approximate Turnaround for this product: 5 days



## Chemical

Test Name	Method
Brookfield viscosity/Drainage & Expansion of foam and RF foam	EN 1568
Drainage of RF Foam	BS EN 1569 3:2008
Dry Point Distillation*	ASTM D1078
Expansion of RF Foam	BS EN 1569 3:2008
Foaming Tendency	SMS 1327
Loss on Ignition of Solid Catalyst	SMS 747
Metallic Elements- Semi Quantitative Analysis	WDXRF
Moisture Content	ASTM D6304
NACE Corrosion	TM0 172
pH*	APHA 4500 H+B
Platinum-cobalt colour	ASTM D 1209
Pyrophorosity	UNMTC N2
Refractive Index	IHSTM 12
Sediment/Sludge of Conc after aging	BS EN 1569 3:2008
Sediment/Sludge of Conc as received	BS EN 1569 3:2008
Sediment of Foam	Def-Stan 91-4 Annex D
Self-Heating Substances	UNMTC N4
Surface Tension	ISO 304

Approximate Turnaround for this product: 3 days

## Condensate/Crude

Test Name given to Bob 20-02-17	Method
Asphaltenes	IP 143
Base Sediment and Water	ASTM D4007
Cloud Point*	ASTM D2500
Density of crude oil	ASTM D5002
Detailed Hydrocarbon Analysis	ASTM D5134 (mod)
Distillation – Simulated*	ASTM D7169
Fisher Crude Assay – Fractional Distillation	ASTM D2892
Fisher Crude Assay – Fractional Distillation	ASTM D5236
Front End Analysis	IP 344
Hydrogen Sulphide	IP 399 (mod)
Mercury	ANC 010-014
Metallic Elements in Hydrocarbon: Al, Ba, B, Cd, Ca, Cr, Cu, Fe, Pb, Mg, Mn, Mo, Ni, P, K, Na, Si, Ag, Sn, Ti, V and Zn	ASTM D5185 (mod)
NACE Corrosion	TM0172
Pour Point (Manual)*	ASTM D97
Total Nitrogen	ASTM D4629
Total Acid Number*	ASTM D664
Vapour Pressure	ASTM D323E
Viscosity*	ASTM D445
Water*	ASTM D6304
Water*	ASTM D95

Approximate Turnaround for this product: 5 days  
 Fisher Crude Assay Turnaround time by agreement

## Lube Oils/Transfer oils/Waste oil

Test Name	Method
Arsenic	ASTM D5185
Ash Content*	ASTM D482
Distillation – Simulated*	ASTM D7169
Flash Point (PMCC)*	ASTM D93
Flash Point (PMCC)*	ASTM D92
Flouride	ASTM D7328 (mod)
Mercury	ANC 010-014
Metallic Elements in Hydrocarbon: Al, Ba, B, Cd, Ca, Cr, Cu, Fe, Pb, Mg, Mn, Mo, Ni, P, K, Na, Si, Ag, Sn, Ti, V and Zn	ASTM D5185 (mod)
Micro Carbon Residue*	ASTM D4530
Sediment by Extraction*	ASTM D473
Total Acid Number*	ASTM D664
Viscosity*	ASTM D445
Water*	ASTM D6304

Approximate Turnaround for this product: 3 days

## Mercury

Test Name	Method
Digestion of Ultra Trace Mercury in Liquid Hydrocarbons	ANC 010
Mercury in Aqueous Samples by DMA	ANC 011
Digestion of Trace Metals in Hydrocarbon Soluble Solids	ANC 012
Mercury & H <sub>2</sub> S in gaseous samples	ANC 016

## Petrochemical

Test Name	Method
Actual Total Base	SMS 2235/SMS 2236 ATB
Ammonia	SMS 1381
Aqueous Density at 20°C	NZRM 068
Caustic Strength	NZRM 026
CO2 in ADIP-X	DOW 03
Foaming Tendency	SMS 1327
Heat Stable Salts	SMS 2930 HSS
MDEA Piperazine	SMS 2930
Oxazolidone (TB-ATB)	SMS 2235/SMS 2236 Ox
Regenerable Free Base	SMS 2235/SMS 2236 RFB
Sludge in Sulphinol	SMS 1615
Sulphides	SMS 304
Sulpholane	SMS 2235/SMS 2236 S
Total Base	SMS 2235/SMS 2236 TB
Water*	ASTM D95

Approximate Turnaround for this product: 2 days

## Petroleum

Test Name	Method
Analysis by Capillary	ASTM D5134
Appearance	ASTM D4176
Appearance	NZRM 071
Appearance	Visual
Aromatic Hydrocarbons- Poly, Di & Tri*	IP 391
Aromatics (Total)*	ASTM D5580
Ash Content*	ASTM D482
Asphaltenes by Pentane Reflux	SMS 2681
Base Sediment and Water	ASTM D4007
Benzene and Toluene*	ASTM D5580
Calculated Carbon Aromaticity Index	ISO8217 Annex F
Calculated Performance Number	Calculated
Cetane Index	ASTM D4737
Cetane Index*	ASTM D976
Cetane Index with Cetane Improver	Calculated
Chloride (Total)	ASTM D4929 (mod)
Cloud Point by PhaseTec*	ASTM D5773
Cold Filter Plugging Point (CFPP)*	IP 309
Colour of Diesel*	ASTM D1500
Colour of Gasoline	Visual
Colour of Mogas	NZRM 069

Test Name	Method
Conductivity*	ASTM D2624
Copper	IP 225
Copper Strip*	ASTM D130
Density (Anton Parr)*	ASTM D4052
Density by Hydrometer*	ASTM D1298
Detailed Hydrocarbon Analysis	ASTM D5134 (mod)
Distillation*	ASTM D86
Distillation – Simulated*	ASTM D7169
Doctor Test*	IP 30
Existent Gum*	IP 540
Fatty Acid Methyl Ester Content incl <C14 and >C24*	EN 14103 mod
Fatty Acid Methyl Ester (FAME) Content of Jet	IP 585
Filter Blocking Tendency*	IP 387
Flash Point (Abel)*	IP 170
Flash Point (PMCC)*	ASTM D93
Flash Point (Setaflash)	ASTM D3828
Flexible Volatility Index*	D86 and D5191
Freezing Point by Auto*	ASTM D7153
Front End Analysis	IP 344
FTIR Analysis	FTIR
GCMS Qualitative Analysis	ANC 009a
GCMS Quantitative Analysis	ANC 009b

Test Name	Method
Gravimetric Particulates in Gas Oil	ASTM D6217
Gum*	ASTM D381
Head Space	ASTM D5705
Heat of Combustion	ASTM D4868
Heavy Polycyclic Nucleic Aromatics (Total)	UOP 860
Hydrocarbon Characterisation	ENV 001C
Hydrocarbon Types by FIA*	ASTM D1319
Hydrogen Content	ASTM D3343
Hydrogen Sulphide	IP570 Procedure B
Inorganic Chloride	ASTM D4929 (mod)
Lead (Total)*	IP 270
Lead (Trace)*	IP 224
Lead in Gasoline*	ASTM D5185 (mod)
Lubricity*	IP 450
Mercaptan Sulphur*	ASTM D3227
Mercury	ANC 010-014
Metallic Elements by Standard Addition: Ca, K, Na, Pb, V	ASTM D3605
Metallic Elements in Hydrocarbon: Al, Ba, B, Cd, Ca, Cr, Cu, Fe, Pb, Mg, Mn, Mo, Ni, P, K, Na, Si, Ag, Sn, Ti, V and Zn	ASTM D5185 (mod)
Metallic Elements: Al, Si, Na, V, Ca, Fe, Ni, P, Zn*	IP 501
Metallic Elements: Trace Analysis of	ASTM D7111
Micro Carbon Residue*	ASTM D4530
Micro Carbon Residue*	IP 398

Test Name	Method
Micro Carbon Residue on 10% Res*	ASTM D86 / ASTM D4530
Microbial Contamination*	IP 385
MicrobMonitor2	MicrobMonitor2
Microseparometer*	ASTM D3948
Mini Vapour Pressure*	ASTM D5191
Motor Octane Number*	ASTM D2700
NACE Corrosion	TM0172
NIR Analysis	NIR
Nitrogen by Microcoulometer	ASTM D4629
Odour of Mogas	Olfactory
Oil Conductivity Undoped/Doped*	ASTM D2624
Organic Chloride	ASTM D4929 (mod)
Oxidation Stability of Gas Oil*	ASTM D2274
Particle Size	ISO 4406
Pentane Insolubles	ASTM D4055
Phosphorus*	ASTM D3231
Pour Point (Auto)*	ASTM D5950
Pour Point (Manual)*	ASTM D97
Reformulyser Benzene and Toluene*	ASTM D6839
Reformulyser OPNA*	ASTM D6839
Reformulyser PHONA*	ASTM D6839
Reformulyser PIANO*	ASTM D6839



Test Name	Method
Reformulyser PIPNA*	ASTM D6839
Reformulyser PNA*	ASTM D6839
Reformulyser PONA*	ASTM D6839
Reformulyser Winterspec*	ASTM D6839
Reid Vapour Pressure by Grabner	ASTM D323E
Research Octane Number*	ASTM D2699
Salt in Crude	ASTM D3230
Saybolt Colour*	ASTM D156
Saybolt Colour by Lovibond*	ASTM D6045
Sediment (Potential) by Hot Filtration	IP 390 / IP 375
Sediment (Potential) by Hot Filtration	SMS 2709
Sediment (Total) by Hot Filtration	IP 375
Sediment (Total) by Hot Filtration	SMS 2708
Sediment by Extraction*	ASTM D473
Silver Strip	D4814Annex 1
Smoke Point*	ASTM D1322
Spot Test	ASTM D4740
Spot Test	SMS2712 (mod)
Sulphur*	ASTM D4294
Sulphur*	ASTM D5453
Sulphur*	IP 497
Sulphur (high)	ASTM D2622

Test Name	Method
Thermal Stability (AFTOST)*	ASTM D3241
Total Acid Number*	ASTM D664
Vapour Pressure*	ASTM D5191
Viscosity @ 40°C*	ASTM D445
Viscosity @60°C*	ASTM D2170
Viscosity cP @ 15°C	ASTM D1298 / ASTM D445*
Water*	ASTM D4928
Water*	ASTM D95
Water*	IP 438
Water and Sediment	ASTM D2709
Water Reaction*	ASTM D1094

Approximate Turnaround for this product: 5 days

## Water

Test Name	Method
Alkalinity	APHA 2320B
Ammonia as Nitrogen*	APHA4500-NH3E
ATP by Bioscan	Bioscan
Biochemical Oxygen Demand (5 Day)*	APHA 5210B
Chemical Oxygen Demand	HACH 8000
Chloride in Water	HACH 8113
Chlorides in Process Water	SMS369
Colour of Water	ENV 004
Conductivity	APHA 2510
Copper	HACH 8506
Dissolved Oxygen	APHA 4500-0
Faecal Coliforms	APHA 9222D (mod)
Filtered Iron Oxide	Babcock & Wilcox
Free Chlorine	HACH 8021
Hardness	HACH 8030
Hardness (high range)	APHA 2340C
Hydroxide Alkalinity	ENV 006
ICP Aqueous Elements (Ag, Al, B, Ba, Bi, Ca, Cd, Co, Cr, Cu, Fe, Ga, In, K, Li, Mg, Mn, Na, Ni, Pb, Si, Sr, Tl, and Zn)	APHA 3120B (mod)
MLSS and VMLSS	APHA 2540B & E
Molybdenum	HACH 8036
Nitrate-N	HACH 8039

Test Name	Method
Nitrite	HACH 8153
Total Organic Carbon*	APHA 5310B
Oil and Grease	APHA 5520B
Oil on Water	ENV 005
pH*	APHA 4500 H+B
Phenols*	ANC-017
Phosphate	HACH 10127
Reactive Phosphate	HACH 8114
Salinity*	APHA 2520B
Settled Sludge Volume	APHA 2710C
Silica	HACH 8185
Silica (low range)	APHA 4500 SiO2D
Sludge Volume Index	APHA 2710D
Sulphide (L/R)	HACH 8131 SMS 304
Tolyltriazole	HACH 8079
Total Dissolved Solids	APHA 2540C (mod)
Total Iron by FerroMo	HACH 8365
Total Iron in Water by FerroVer	HACH 8008
Total Petroleum Hydrocarbons*	ENV-001 Water13
Total Suspended Solids*	APHA 2540D
Turbidity	APHA 2130B

Test Name	Method
Volatile Suspended Solids	APHA 2540E

Approximate Turnaround for this product: 5-10 days