

PC-10 Ultra Low Sulfur Test Fuel Task Force

Reviewed with the
ASTM HDEOCP Meeting
June 17, 2003

Task Force Membership

- Pat Fetterman – Infineum, Chairman
- Frank Bondarowicz – International
- Don Burnett – Chevron Phillips Chemical
- Jim Carter – Haltermann
- David Venhaus – Ethyl
- Tom Franklin – PerkinElmer, Secretary
- Greg Shank – Mack Volvo Powertrain
- Jim Wells – SwRI
- Lew Williams - Lubrizol

Proposed Fuel Task Force Mission Statement

- To develop an ultra low sulfur diesel fuel specification which can be used to define fuels for test engines for bid purchase for Heavy Duty engine oil categories after PC-9. This specification will be sufficiently detailed that fuels purchased against it will produce consistent results with regard to engine deposits, soot generation, wear and exhaust gas composition.

Task Force Status

- A Task Force teleconference were held on 2/17/03, 2/26/03 and 3/21/03.
- Issues reviewed:
 - Mission statement
 - PC-9 fuel bid specification as a core for a PC-10 Test Fuel Specification
 - A proposed PC-10 Test Fuel Specification was agreed to by all participants during the 3/21/03 teleconference

Proposed PC-10 Test Fuel Specification

Property	Specification	Test Method
Addition of additives	None allowed <u>except</u> lubricity additive	
Distillation Range, °F		ASTM D 86
10%		
50%		
90%	560 – 630	
Endpoint		
Specific Gravity	0.840 – 0.855	ASTM D 4052
API Gravity	34 – 37	ASTM D 4052
Corrosion, 3 h at 50 °C	1 max	ASTM D 130
Sulfur, ppm	7 – 15	ASTM D 5453
Flash Point, °F	130 min	ASTM D 93
Pour Point, °F	0 max	ASTM D 97
Cloud Point, °F	Report	ASTM D 2500
Viscosity at 40 °C, cSt	2.0 – 2.6	ASTM D 445
Ash, wt %	0.005 max	ASTM D 482
Carbon Residue on 10% Bottoms	0.35 max	ASTM D 524
Net Heat of Combustion	Report	ASTM D 3338
Water and Sediment, vol %	0.05 max	ASTM D 2709
Total Acid Number	0.05 max	ASTM D 664
Strong Acid Number	0 max	ASTM D 664
Cetane Index	Report	ASTM D 976
Cetane Number	43 – 47	ASTM D 613
Accelerated Stability, mg/100 mL	1.5 max	ASTM D 2274
Composition		
Aromatics, wt%	28 – 33.5	ASTM D 5186
Olefins, vol%	Report	ASTM D 1319
Saturates, vol %	Report	ASTM D 1319
*SLBOCLE, g	*3100 min	*ASTM D 6078

* May be altered to be consistent with soon to be released CARB or ASTM diesel fuel specifications.

Task Force Requests to HDEOCP

- Review proposed PC-10 Test Fuel Specification
- Endorse recommended specification for use in developing PC-10 engine tests (as required)
- Disband the PC-10 Test Fuel Task Force