Performance Fuels

Application

Chevron Phillips Chemical Company LP manufactures a range of certified diesels and gasolines to support worldwide standards for the engine industry, oil additive suppliers, and auto manufacturers. Certified fuels are formulated to specific properties to provide the necessary consistency for various engine test protocols and development. Utilizing certified fuels reduces fuel variances that could affect the quality of various engine analyses. Chevron Phillips Chemical's Fuels Blending unit and QC laboratory are audited and conform to ISO9001 quality standards. Fuels are certified using approved ASTM standards.

Deposit Test Fuels

Chevron Phillips Chemical supplies three dyed diesel blends for lubricant qualification testing. Diesel PC-10 is the ASTM referenced certified diesel for the Caterpillar C-13 Aeration control test, the Mack T-12 and T-13 Oxidation and Ring Liner/Bearing Wear Control tests, the Cummins ISB camshaft and tappet interface test, and the Daimler DD13 scuffing test. Diesel PC-9 is the ASTM referenced certified fuel for the Caterpillar 1P, 1N, 1R high temperature performance tests, the Mack T-11 viscosity and soot test, and the Cummins ISM wear and deposit test. Japanese Automobile Standards Organization (JASO) Diesel is available for the M336-98 and M354-99 lubricant performance tests.

Chevron Phillips Chemical supplies the base gasoline for Top Tier Detergent Gasoline for deposit control performance testing. This fuel conforms to ASTM D4814 and contains fuel grade ethanol conforming to ASTM D4814.

Table 1 provides some of the product specifications for each fuel. For complete specifications, please view the appropriate Deposit Test Fuels Technical Data Sheet (TDS) on our website.

Emission Certification Fuels

Chevron Phillips Chemical manufactures two certified diesel fuels at various sulfur levels for emission service testing of heavy and light duty OEMs to meet EPA 40 CFR 1065.703 specifications. Diesel 2007 ULS Fuel is blended to EPA ultra-low sulfur specifications per 40CFR 1036 on-road engine emission testing requirements, while Diesel .05 5Y5 Cert Fuel is blended to low sulfur specifications for 40CFR 1039 off-road engine emission testing requirements. In addition, Chevron Phillips Chemical's Diesel No Sulfur (<3ppm) Fuel is available for the NREL DECSE project.

Chevron Phillips Chemical formulates three certified gasolines for emission testing. UTG 96 gasoline meets EPA emission testing as required in 40CFR 86.113-94. California Phase 3 reformulated gasoline meets the stringent standards for California emission testing and is certified for conformance by the California Air Resources Board (CARB). In addition, certified Tier 3 E10 gasoline for new EPA emission testing is also available.

Table 1 provides some of the product specifications for each fuel. For complete specifications, please view the appropriate Emission Certification Fuels Technical Data Sheet (TDS) on our website.

Initial Fill Fuels

Chevron Phillips Chemical manufactures both a high performance and low impurity gasoline and diesel fuel blends for new engines when they are at their most sensitive state. With no bio-components and low cloud points, Initial Fill fuels also remain stable during the vehicle transport period to its final destination.

Table 1 provides some of the product specifications for each fuel. For complete specifications, please contact Chevron Phillips Chemical

Chevron Phillips Chemical can also custom blend. Please contact us for any specialty needs.

Chevron Phillips Chemical Company LP
Specialty Chemicals Division
10001 Six Pines Drive
The Woodlands, TX 77380
www.cpchem.com/specialtychemicals

U.S., Canada & Latin America: 1-800-858-4327
Europe, Africa & Middle East: +32 (0) 2 689 12 11
Asia Pacific: +65-6517 3100
sc@cpchem.com

Safety and Handling

Gasoline and diesel fuels are extremely volatile and flammable liquids. These products have the potential to cause fires if exposed to an ignitable source. Electrostatic charge can accumulate and create a hazardous condition when handling these materials. Due to their inherent characteristics, there are specific requirements for handling, storage, transportation, labeling and disposal. Gasoline and diesel fuels are also described as being hazardous to human health and the environment. Therefore use only in well vented areas, wear proper protective equipment, and care should be taken to avoid releases to sewage and drainage systems and water bodies.

Gasoline and diesel fuels are compatible and should be stored in carbon or stainless steel, aluminum, fluorinated polyethylene, fluorinated polypropylene, and most fiberglasses. Gaskets should be Teflon® or Viton® fluoroelastomer; diesels are not compatible with nitrile elastomers, EPDM, butyl, or silicone materials. Both fuels should be kept away from oxygen and strong oxidizing agents.

Gasoline and diesel fuels are not appreciably soluble in water. Neither fuel should be allowed to enter drains, water courses or the soil. Spillage collected with non-combustible absorbent material such as sand should be placed in containers using spark resistant tools for disposal according to local/national regulations.

Please reference the Safety Data Sheet for additional handling and safety recommendations. Safety Data Sheets are available upon request and on our website: www.cpchem.com/specialtychemicals

Table 1 – Product Specifications:

Diesels

Test	Units	Method	PC-10	PC-9	JASO	D2007	.05 5Y5	No Sulfur	Initial Fill
Dyed			Yes	Yes	No	No	Yes	No	No
Bio-components			No	No	No	No	No	No	No
API Gravity		D-4052	34-37	34.5-36.5	36-41	34-37	32-37	35-41	36-41
Aromatics	LV%	D-1319	28-33.5	28-33		28-32	28-31	25-32	<8
Cetane Number		D-613	43-47	42-48	>50	43-47	46-48	42-48	>51
Distillation 90%	FAH	D-86	560-630	540-640	590-662	560-630	560-630	570-620	
Sulfur (natural)	ppm	D-5453	7.0-15.0	400-500	<500	7.0-15.0	300-500	<3	<10
Viscosity @ 40C	cSt	D-445	2.0-2.6	2.4-3.0	2.5-5.0	2.0-3.0	2.2-3.2	>2.0	2.0-4.5

Gasoline

Test	Units	Method	UTG96	CARB	Top Tier	Initial Fill
Ethanol		GC	0	8.3-10	8.3-10	0
API Gravity		D-4052	58.7-61.2			
Aromatics	LV%	D-1319	<35	28-35	28-35	<5
AKI		D-2699	>96 (RON)	86.6-87.4	86.6-87.4	>95 (RON)
Distillation 90%	FAH	D-86	300-325	310-330	310-330	
Olefins	LV%	D-1319	<10	8-10	8-10	<2
Sulfur (natural)	ppm	D-5453	15-40	16-20	>24	<10
Vapor Pressure	PSI	D-5191	8.7-9.2	6.7-7	6.7-7	7.3-10.1

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Asia Pacific: +65-6517 3100
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