

Fungible Specifications For Regular Conventional Blendstock for Oxygenate Blending (CBOB). For Blending with 10% Denatured Fuel Ethanol (92% purity) as Defined in ASTM D4806.

This CBOB may not be combined with any other CBOB except CBOB having the same requirement for oxygenate type and amount.

All parameters must be met **before** blending with denatured fuel ethanol *unless noted*.

Product Grade: Regular CBOB  
 CFPL Product Codes: L Grades (L6, L7, L3, L4)  
 Effective Date: September 7, 2011

Test Property	ASTM Test Method	TEST RESULTS	
		Minimum	Maximum
Benzene, wt. %	D3606		4.9
Color			Undyed
Corrosion (Cu), 3 hrs. @ 122°F (50°C)	D130		1
Corrosion (Ag) 3 hrs @ 122°F (50°C)	D4814-04b Annex A1		1
Dienes (Dicyclopentadiene)			(a)
Doctor Test -OR- Mercaptan Sulfur, wt. % <sup>(b)</sup>	D4952 D3227		Negative 0.002
Driveability Index (before & after blending)	D4814		Report
Existent Gum, mg/100 ml After Washing	D381		4
Gravity, °API at 60°F	D287, D1298, D4052		Report
Heavy Metals		not allowed	
Nace Corrosion	TM0172	B+ (Origin)	
Octane: RON ( <i>after blending</i> ) MON ( <i>after blending</i> ) AKI (R+M)/2 ( <i>after blending</i> )	D2699 D2700	Report 82.0 87.0	
Oxidation Stability, Minutes	D525	240	
Oxygen Content, wt. %	D5599, GC-OFID <sup>(c)(d)</sup>		0.05 <sup>(e)</sup>
Phosphorous, g/gal.	D3231		0.004 <sup>(f)</sup>
Port Fuel Injector (PFI) and Intake Valve Detergent Additives			(g)
Sulfur, wt. %	D2622 <sup>(h)</sup>		0.0080

- (a) Any gasoline exhibiting an offensive odor or containing more than 0.50 wt. % of dicyclopentadiene will not be accepted for shipment.
- (b) Test for mercaptan sulfur not required if Doctor test results are negative.
- (c) These product grades can not contain blends of aliphatic ethers (oxygenates). The use of any other non-hydrocarbon blending components is prohibited.
- (d) The test methods published in 40 CFR Charter 1, Part 80.46. ASTM D1319 and ASTM D4815 are alternative test methods for aromatics and oxygenates per federal and state regulations.
- (e) Parameter must be met before blending with denatured fuel ethanol.
- (f) No additives containing phosphorous may be used in this gasoline.
- (g) The use of Port Fuel injector (PFI) and intake valve detergent additives is prohibited. This is a base gasoline, not for sale to the ultimate consumer.
- (h) Refer to 40 CFR, Part 80.195 (d)(2).

Fungible Specifications For Regular Conventional Blendstock for Oxygenate Blending (CBOB).  
For Blending with 10% Denatured Fuel Ethanol (92% purity) as Defined in ASTM D4806.  
(continued from previous page)

Product Grade: Regular CBOB  
 CFPL Product Codes: L Grades (L6, L7, L3, L4)  
 Effective Date: September 7, 2011

Test Property	ASTM Test Method	TEST RESULTS	
		Minimum	Maximum
Volatility Distillation Reid Vapor Pressure <sup>(i)</sup> Vapor/Liquid Ratio (V/L)	D86 D5191 D5188		See Table Below

Volatility & Distillation - All parameters must be met <b>after</b> blending with denatured fuel ethanol							
Product Grade	Distillation Temperatures, °C(°F) at % Evaporated					RVP psi	V/L Ratio °C(°F) at 20
	10 Vol. %	50 Vol. %		90 Vol. %	End Point		
Code	Max	min	max	max	max	max	min
L6	70 (158)	66 (150)	121 (250)	190 (374)	221 (430)	8.8	45 (113)
L7	70 (158)	66 (150)	121 (250)	190 (374)	221 (430)	10.0	45 (113)
L8	60 (140)	66 (150)	116 (240)	185 (365)	221 (430)	12.5	45 (113)
L4	55 (131)	66 (150)	113 (235)	185 (365)	221 (430)	14.5	42 (107)

Volatility & Distillation - All parameters must be met <b>before</b> blending with denatured fuel ethanol							
Product Grade	Distillation Temperatures, °C(°F) at % Evaporated					RVP psi	V/L Ratio °C(°F) at 20
	10 Vol. %	50 Vol. %		90 Vol. %	End Point		
Code	Max	min	max	max	max	max	min
L6	70 (158)	77 (170)	121 (250)	190 (374)	221 (430)	7.8	47 (116)
L7	70 (158)	77 (170)	121 (250)	190 (374)	221 (430)	9.0	47 (116)
L8	60 (140)	77 (170)	116 (240)	185 (365)	221 (430)	11.5	47 (116)
L4	55 (131)	77 (170)	113 (235)	185 (365)	221 (430)	13.5	47 (116)

Note: Plantation Pipe Line (PPL) L2 can be substituted for Central Florida Pipeline (CFPL) L7. The difference in the two pipeline gasoline specifications is Vapor/Liquid Ratio.

<sup>(i)</sup> During the VOC control period, testing must be performed in accordance with 40 CFR, Part 80.

Fungible Specifications For Premium Conventional Blendstock for Oxygenate Blending (CBOB). For Blending with 10% Denatured Fuel Ethanol (92% purity) as Defined in ASTM D4806.

This CBOB may not be combined with any other CBOB except CBOB having the same requirement for oxygenate type and amount.

All parameters must be met **before** blending with denatured fuel ethanol *unless noted*.

Product Grade: Premium CBOB  
 CFPL Product Codes: U Grades (U6, U7, U3, U4)  
 Effective Date: September 7, 2011

Test Property	ASTM Test Method	TEST RESULTS	
		Minimum	Maximum
Benzene, wt. %	D3606		4.9
Color			Undyed
Corrosion (Cu), 3 hrs. @ 122°F (50°C)	D130		1
Corrosion (Ag) 3 hrs @ 122°F (50°C)	D4814-04b Annex A1		1
Dienes (Dicyclopentadiene)			(a)
Doctor Test -OR- Mercaptan Sulfur, wt. % <sup>(b)</sup>	D4952 D3227		Negative 0.002
Driveability Index (before & after blending)	D4814		Report
Existent Gum, mg/100 ml After Washing	D381		4
Gravity, °API at 60°F (before blending)	D287, D1298, D4052		Report
Heavy Metals		not allowed	
Nace Corrosion	TM0172	B+ (Origin)	
Octane: RON ( <i>after blending</i> ) MON ( <i>after blending</i> ) AKI (R+M)/2 ( <i>after blending</i> )	D2699 D2700	Report Report 93.0	
Oxidation Stability, Minutes	D525	240	
Oxygen Content, wt. %	D5599, GC-OFID <sup>(c)(d)</sup>		0.05 <sup>(e)</sup>
Phosphorous, g/gal.	D3231		0.004 <sup>(f)</sup>
Port Fuel Injector (PFI) and Intake Valve Detergent Additives			(g)
Sulfur, wt. %	D2622 <sup>(h)</sup>		0.0080

- (a) Any gasoline exhibiting an offensive odor or containing more than 0.50 wt. % of dicyclopentadiene will not be accepted for shipment.
- (b) Test for mercaptan sulfur not required if Doctor test results are negative.
- (c) These product grades can not contain blends of aliphatic ethers (oxygenates). The use of any other non-hydrocarbon blending components is prohibited.
- (d) The test methods published in 40 CFR Charter 1, Part 80.46. ASTM D1319 and ASTM D4815 are alternative test methods for aromatics and oxygenates per federal and state regulations.
- (e) Parameter must be met before blending with denatured fuel ethanol.
- (f) No additives containing phosphorous may be used in this gasoline.
- (g) The use of Port Fuel injector (PFI) and intake valve detergent additives is prohibited. This is a base gasoline, not for sale to the ultimate consumer.
- (h) Refer to 40 CFR, Part 80.195 (d)(2).

Fungible Specifications For Premium Conventional Blendstock for Oxygenate Blending (CBOB). For Blending with 10% Denatured Fuel Ethanol (92% purity) as Defined in ASTM D4806.

(continued from previous page)

Product Grade: Premium CBOB  
 CFPL Product Codes: U Grades (U6, U7, U3, U4)  
 Effective Date: September 7, 2011

Test Property	ASTM Test Method	TEST RESULTS	
		Minimum	Maximum
Volatility Distillation Reid Vapor Pressure <sup>(i)</sup> Vapor/Liquid Ratio (V/L)	D86 D5191 D5188		See Table Below

Volatility & Distillation - All parameters must be met <b>after</b> blending with denatured fuel ethanol							
Product Grade	Distillation Temperatures, °C(°F) at % Evaporated				RVP psi	V/L Ratio °C(°F) at 20	
	10 Vol. %	50 Vol. %		90 Vol. %			End Point
Code	Max	min	max	max	max	min	
U6	70 (158)	66 (150)	121 (250)	190 (374)	221 (430)	8.8	45 (113)
U7	70 (158)	66 (150)	121 (250)	190 (374)	221 (430)	10.0	45 (113)
U8	60 (140)	66 (150)	116 (240)	185 (365)	221 (430)	12.5	45 (113)
U4	55 (131)	66 (150)	113 (235)	185 (365)	221 (430)	14.5	42 (107)

Volatility & Distillation - All parameters must be met <b>before</b> blending with denatured fuel ethanol							
Product Grade	Distillation Temperatures, °C(°F) at % Evaporated				RVP psi	V/L Ratio °C(°F) at 20	
	10 Vol. %	50 Vol. %		90 Vol. %			End Point
Code	Max	min	max	max	max	min	
U6	70 (158)	77 (170)	121 (250)	190 (374)	221 (430)	7.8	47 (116)
U7	70 (158)	77 (170)	121 (250)	190 (374)	221 (430)	9.0	47 (116)
U8	60 (140)	77 (170)	116 (240)	185 (365)	221 (430)	11.5	47 (116)
U4	55 (131)	77 (170)	113 (235)	185 (365)	221 (430)	13.5	47 (116)

<sup>(i)</sup> During the VOC control period, testing must be performed in accordance with 40 CFR, Part 80.

Fungible Specifications for Aviation Kerosine, 3000 ppm wt. sulfur max.

Product Grade: Jet-A (3000 ppm wt. sulfur max)  
 CFPL Product Codes: 54 & 56  
 Effective Date: March 1, 2011

Test Property	ASTM Test Method	TEST RESULTS	
		Minimum	Maximum
General Properties			
Clear & Bright <sup>(a)</sup>			
Additives <sup>(b)</sup>			Report
Gravity, °API at 60°F	D287, D1298, D4052	37	51
Net Heat of Combustion (BTU/Pound)	D3338, D4529, D4809	18,400	
Corrosion - 2 hrs. @ 212°F (100°C)	D130		1
MSEP Rating	D3948		
Origin		85	
Delivery		75	
Electrical Conductivity	D2624		Report
Particulate Analysis <sup>(c)</sup>	MIL-T-5624P, D5452		Report
Filtration Time Test			Report
Total Solids			Report
Low Temperature Properties			
Freezing Point, °C	D2386, D5972, D7153, D7154		-40
Viscosity, cSt @ -4°F (-20°C)	D445		8.0
Volatility			
Flash Point, °F	D56, D3828	108	
Distillation, °F	D86		
10% Recovered			400
50% Recovered		Report	
90% Recovered		Report	
End Point			572
Residue, %			1.5
Loss, %			1.5
Or Simulated Distillation, °F	D2887		
10% Recovered			365
50% Recovered		Report	
90% Recovered		Report	
End Point			644

<sup>(a)</sup> This product grade shall be clear and bright and free of suspended matter.

<sup>(b)</sup> Only those additives specified and within the concentration noted in Section 5.2 through 5.2.2.1 of the latest ASTM D-1655 are permitted. The use of any other additives is prohibited.

<sup>(c)</sup> Report actual values for filtration time test and total solids. The results are for informational purposes only.

(continued on next page)

Fungible Specifications for Aviation Kerosine, 3000 ppm wt. sulfur max.  
(continued from previous page)

Product Grade: Jet-A (max. 3000 ppm wt. sulfur)  
 CFPL Product Code: 54 & 56  
 Effective Date: March 1, 2011

Test Property	ASTM Test Method	TEST RESULTS	
		Minimum	Maximum
Stability			
Existent Gum, mg/100 ml	D381, IP540		7.0
Thermal Stability <sup>(d)</sup> @275°C for Receipt @260°C for Delivery Pressure Drop, mm/hg Tube Deposit Code	D3241		25 <3 <sup>(e)</sup>
Composition Properties			
Sulfur, ppm wt.	D2622, D5453, D1266, D4294 <sup>(f)</sup>		3000
Mercaptan Sulfur, wt. % <b>OR</b> Doctor Test <sup>(g)</sup>	D3227 D4952		0.003 Negative
Aromatics, vol. %	D1319		25
Acidity Total Max, mg KOH/g	D3242		0.1
Combustion Properties			
<i>One of the following requirements must be met:</i>			
Smoke Point, mm	D1322	25	
Smoke Point, mm <b>AND</b> Naphthalenes, vol. %	D1322 D1840	18	3.0

<sup>(d)</sup> Refer to the latest ASTM D1655.

<sup>(e)</sup> No peacock or abnormal color deposits.

<sup>(f)</sup> Origin can qualify sulfur content test method per EPA Performance Based Testing Criteria (CFR 80.584). The referee test method will be ASTM D5453.

<sup>(g)</sup> Mercaptan sulfur waived if product is negative by Doctor test. Also, Doctor test is not necessary if mercaptan sulfur test is performed.

Fungible Specifications for Ultra Low Sulfur Diesel Fuel

Product Grade: Ultra Low Diesel Fuel, 15 ppm sulfur for Delivery  
 CFPL Product Code: 61 / 68  
 Effective Date: September 7, 2011

Test Property	ASTM Test Method	TEST RESULTS	
		Minimum	Maximum
Gravity, °API at 60°F	D287, D1298, D4052	30	
Flash Point, Pensky-Martens, °F	D93	130	
Distillation, °F	D86		
50% Recovered			Report
90% Recovered		540	640
End Point			690
or Simulated Distillation, °F	D2887		
50% Recovered			Report
90% Recovered		572	673
End Point			790
Color, ASTM	D1500, D6045		2.5
Color, Visual			Undyed
Viscosity, cSt @ 38°C (100°F)	D445	1.9	3.4
Pour Point, °C (°F) <sup>(a)</sup>	D97, D5949, D5950, D5985		per ASTM guidance
Cloud Point, °C (°F)	D2500, D5771, D5772, D5773		per ASTM guidance
Corrosion - 3 hrs. @ 50°C (122°F)	D130		1
Total Sulfur, ppm wt.	D2622, D5453, D7039 <sup>(b)</sup>		10 Origin 15 Delivery
Cetane Number <sup>(c)</sup>	D613, D6890, D7170	40	
Aromatics (Volume %) Or Aromatics by Cetane Index	D1319 D976	40	31.7
Ash, wt. %	D482		0.01
Carbon Residue: Ramsbottom on 10% Bottom	D524		0.35
BS&W, vol. %	D2709 or equivalent		<0.05

<sup>(a)</sup> Specifies the fluidity of the distillate at the time and place of origin.

<sup>(b)</sup> Origin can qualify sulfur content test method per EPA Performance Based Testing Criteria (CFR 80.584). The referee test method will be ASTM D5453.

<sup>(c)</sup> Where cetane number by test method D613 is not available, test method D4737 can be used as an approximation.

(continued on next page)

Fungible Specifications for Ultra Low Sulfur Diesel Fuel  
(continued from previous page)

Product Grade: Ultra Low Diesel Fuel, 15 ppm sulfur for Delivery  
 CFPL Product Code: 61 / 68  
 Effective Date: September 7, 2011

Test Property	ASTM Test Method	TEST RESULTS	
		Minimum	Maximum
Thermal Stability, 90 Minutes 150°C Pad Rating, Dupont Scale <b>OR</b> Thermal Stability Y with Green filter W Unit <b>OR</b> Oxidation Stability, mg/100 ml	D6468  D2274	73% 65%	7  2.5
Haze Rating @ 25°C (77°F)	D4176 (Procedure 2)		2
Nace Corrosion	TM0172	B+ (Origin)	
Electrical Conductivity, pS/m @ 21°C (70°F)	D2624		250
Additives <sup>(d)</sup>			

<sup>(d)</sup> Use of additives and concentration must be approved by carrier. Biodiesel (FAME) is not allowed at origin.

Biodiesel Requirements		
Product Code	Percent Biodiesel (FAME) <sup>(d)</sup>	
	Origin	Destination
61	Not allowed <sup>(d)</sup>	0%
68	Not allowed <sup>(d)</sup>	5%

Fungible Specifications for Denatured Fuel Ethanol

Product Grade: Denatured Fuel Ethanol  
 CFPL Product Code: E1  
 Effective Date: 5/27/09

Test Property	Test Method	TEST RESULTS	
		Minimum	Maximum
Ethanol, volume %	D5501	92.1	
Methanol, volume %	D5501		0.5
Solvent-washed gum, mg/100mL	D381		5.0
Water content, volume %	E203, E1064		1.0
Denatured content, volume %	(a)	1.96	2.5
Inorganic Chloride content, mass ppm (mg/L)	D7319, D7328		40 (32)
Copper content, mg/kg	D1688 Method A Modified per D4806		0.1
Acidity (as acetic acid CH <sub>3</sub> COOH), mass % (mg/L)	D1613		0.007 (56)
pHe	D6423	6.5	9.0
Sulfur, mass ppm	D2622, D3120, D5453		30
Sulfate, mass ppm	D7318, D7319, D7328		4
Workmanship	appearance	Visually free of suspended or precipitated contaminants. Must be clear and bright. The product shall be free of any adulterant or contaminant that may render the material unacceptable.	

(a) Approved additives are listed in D4806. The denaturant content is set by volumetric addition during the denaturing process within the guidelines provided for in IRS Notice. Current analytical procedures provide a calculated estimate.

Kinder Morgan Biodiesel Specifications

Product Grade: **B100/B99** Biodiesel (segregated)  
 CFPL Product Codes: CFPL will not transport **B100/B99**  
 Effective Date: 1/12/12

Test Property	Test Method	TEST RESULTS	
		Minimum	Maximum
Acid Number, mg KOH/g	D664		0.50
Cetane number	D613	47	
Cloud point, °C (°F)	D2500		report
Cold Soak Filterability, seconds	D6751 (Annex A1)		360 (Summer) 200 (Winter)
Distillation temperature, °C (°F) Atmospheric equivalent temperature 90% recovered	D1160		360°C (680°F)
Flashpoint (closed cup), °C (°F)	D93	93°C (199°F)	
Alcohol Control One of the following must be met: 1. Methanol content, mass % 2. Flashpoint, °C (°F)	EN 14110 D93	130°C (266°F)	0.2
Free glycerin, mass %	D6584		0.020
Total glycerin, mass %	D6584		0.240
Kinematic Viscosity @ 40°C, mm <sup>2</sup> /s	D445	1.9	6.0
Oxidation Stability, hours @ 110°C (230°F)	EN 14112	3	
Sodium and Potassium combined, ppm (µg/g)	EN 14538		5
Sulfur, mass % (ppm)	D2622, D5453, D7039		10
Water and sediment combined, volume %	D2709		0.050
Workmanship		Visually free of undissolved water, sediment, and suspended matter	

Kinder Morgan Biodiesel Specifications (a) (b) (c)

Product Grade: B100/B99 Biodiesel (fungible)  
 CFPL Product Codes: CFPL will not transport B100/B99  
 Effective Date: 1/12/12

Test Property	Test Method	TEST RESULTS	
		Minimum	Maximum
Acid Number, mg KOH/g	D664		0.50
API Gravity @ 60°F	D 287, D1298, D4052	28	35
Cetane number	D613	47	
Cloud point, °C (°F) March – October November - February	D2500		8°C (46°F) Summer 1°C (34°F) Winter
Cold Soak Filterability, seconds March – October November - February	D6751 (Annex A1)		360 (Summer) 200 (Winter)
Distillation temperature, °C (°F) Atmospheric equivalent temperature 90% recovered	D1160		360°C (680°F)
Flashpoint (closed cup), °C (°F)	D93	93°C (199°F)	
Alcohol Control One of the following must be met: 1. Methanol content, mass % 2. Flashpoint, °C (°F)	EN 14110 D93	130°C (266°F)	0.2
Free glycerin, mass %	D6584		0.020
Total glycerin, mass %	D6584		0.240
Kinematic Viscosity @ 40°C, mm <sup>2</sup> /s	D445	3.0	6.0
Methyl Ester, mass %	EN 14103	97	
Monoglyceride content – year round, %	EN 14105		0.40
Oxidation Stability, hours @ 110°C (230°F)	EN 14112	4	
Sodium and Potassium combined, ppm (µg/g)	EN 14538		5
Sulfur, mass % (ppm)	D2622, D5453, D7039		10
Water and sediment combined, volume %	D2709		0.050
Water, volume %	D6304		0.040
Haze Rating @ 25°C (77°F)	D4176 (Procedure 2)		1

- (a) Methyl Esters derived from used cooking oil, brown grease, or yellow grease can be used only during the Summer period.  
 (b) Supplier must be BQ9000 certified.  
 (c) Must meet ASTM D6751 latest revision.

Policy and Procedure for Establishing Product Quality Specifications

It is the Carrier's Policy to only receive, transport and distribute products that meet or exceed the local, state or federal requirements for product quality. Carrier reserves the right to impose more stringent product quality specifications due to operational considerations.

Procedure:

- Identify all local, state and federal laws and specifications pertaining to each grade of product transported via the pipeline network operated by Kinder Morgan.
- Identify any operational issues that may require the Carrier to adopt a specification other than required by any local, state or federal regulation.
- In cases where the specification can be met by a range of values, Carrier reserves the right to conduct a survey of current Shippers. In such cases, each "Shipper" (Company) shall be entitled to a single vote. A simple majority among the Shippers will determine the specification in question. Carrier reserves the right to solicit additional information as needed and set the specification as Carrier deems necessary. All information obtained by the Carrier during a survey shall remain confidential.
- It is the Carrier's intent to publish any changes in product specifications at least 60-days prior to implementation whenever possible.

Schedule of RVP Movements  
Central Florida

TAMPA Terminal			January					February					March					April				May				June				
			30	6	13	20	27	3	10	17	24	3	10	17	24	31	7	14	21	28	5	12	19	26	2	9	16	23	30	
Product Description			Cycle																											
Grade	Type	RVP with Ethanol	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	
L, U	6	8.8																												
	7	10.0																												
	8	12.5																												
	4	14.5																												

CFPL Origin			January					February					March					April				May				June				
			30	6	13	20	27	3	10	17	24	3	10	17	24	31	7	14	21	28	5	12	19	26	2	9	16	23	30	
Product Description			Cycle																											
Grade	Type	RVP with Ethanol	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	
L, U	7	10.0																												
	8	12.5																												
	4	14.5																												

Please contact scheduler if RVP schedule should be adjusted.

Schedule of RVP Movements  
Central Florida

TAMPA Terminal			July				August				September				October			November				December						
			7	14	21	28	4	11	18	25	1	8	15	22	29	6	13	20	27	3	10	17	24	1	8	15	22	29
Product Description			Cycle																									
Grade	Type	RVP with Ethanol	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53
L, U	6	8.8																										
	7	10.0																										
	8	12.5																										
	4	14.5																										

CFPL Origin			July				August				September				October			November				December						
			7	14	21	28	4	11	18	25	1	8	15	22	29	6	13	20	27	3	10	17	24	1	8	15	22	29
Product Description			Cycle																									
Grade	Type	RVP with Ethanol	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53
L, U	7	10.0																										
	8	12.5																										
	4	14.5																										

Please contact scheduler if RVP schedule should be adjusted.