Effective Date: 11/1/2022

Phillips 66 Carrier LLC

Amarillo-Lubbock Pipeline (SAAL)
Product Specifications

Current Publication Date: 9/23/2022

Previous Publication Date: 1/27/2022

Revision Notes:

Revised Diesel Fuel cold flow requirements to be consistent with other pipelines.

Added unwashed gums specification.

Published 9/23/2022

Effective Date: 11/1/2022

Phillips 66 Carrier LLC

Amarillo-Lubbock Pipeline (SAAL)
Product Specifications

Product Index

Product Name	Destination(s)	Trac66 Product Code(s)
Gasoline, Regular CBOB, 86.3 octane after 10% Ethanol	PSX Lubbock, TX Terminal	D07 (9.0#), D02 (>9.0#), D6Z (>9.0# TX ONLY)
Gasoline, Premium CBOB, 91 octane (Neat)	PSX Lubbock, TX Terminal	P1U (9.0#), P64 (>9.0#)
Volatility Schedule, CBOB, All Grades, Texas and New Mexico Fuel Outlets	PSX Lubbock, TX Terminal; PSX Amarillo, TX Terminal; PSX Albuquerque, NM, Terminal; MEETS NEW MEXICO SPECIFICATIONS	Reg.- D07 (9.0#), D02 (>9.0#) Prem.- P1U (9.0#), P64 (>9.0#)
Volatility Schedule, CBOB, All Grades, Texas Fuel Outlets Only (Does NOT Meet New Mexico Specifications)	PSX Lubbock, TX Terminal; PSX Amarillo, TX Terminal; NOT FOR DISTRIBUTION TO NEW MEXICO	Reg.- D07 (9.0#), D6Z (>9.0#) Prem.- P1U (9.0#), P64 (>9.0#)
Distillate, #2 Diesel Fuel / Fuel Oil, Ultra-Low Sulfur (15 ppm max), may contain up to 5 vol % biodiesel; EPA Designation: ULSD	PSX Lubbock, TX Terminal	VBA
Biodiesel Fuel (B100), Ultra-Low Sulfur (15 ppm max)	For injection into #2 ULSD at Amarillo, NOT for shipment on pipeline as B100	IM7

Effective Date: 11/1/2022

Trac66 Code(s):
D07 (9.0#), D02 (>9.0#), D6Z (>9.0# TX ONLY)

Phillips 66 Carrier LLC

Destinations:
PSX Lubbock, TX Terminal

Amarillo-Lubbock Pipeline (SAAL)
Product Specifications

Gasoline, Regular CBOB, 86.3 octane after 10% Ethanol

Property	Test Method	Units	Min	Max	Specific	Note#
Additives	General Note					1
API Gravity (60 Deg F)	D1298, D4052	API	Report			
Appearance	Visual		Clear & Br			2
Basicity	D1093 modified- see note		Pass			3
Benzene	D3606	Vol%		4.0	E10	
Color, Visual	Visual		Undyed			
Corrosion, Copper Strip	D130 3 Hr @ 122 F	Rating		1		
Corrosion, NACE	NACE TM0172	Rating	B+			
Corrosion, Silver Strip	D7667, D7671	Rating		1		
E10 Blends	General Note				E10	4
Gum- Solvent Washed	D381	mg/100ml		4.0		
Gum- Unwashed	D381	mg/100ml		10.0		5
Haze	D4176 Procedure 2	Rating		2		6
Lead (Pb)	D3237, D5059	gPb/gal		0.01		
Mercaptan Sulfur	D3227	Wt%		0.002		7
Mercaptan Sulfur	D4952	Rating	sweet			
Octane, (R+M)/2	D2699 & 2700		82.4			8
Octane, (R+M)/2	D2699 & 2700		86.3		E10	
Octane, Motor	D2700		Report			
Octane, Motor	D2700		81.3		E10	
Octane, Research	D2699		Report			
Octane, Research	D2699		Report		E10	
Odor	Non-offensive odor		Pass			9
Oxidation Stability	D525	minutes	240			
Oxygenates	D4815, D5599	Wt%		.05		10
Phosphorus	D3231	g/gal		0.003		
Product Description	See Note					11
Product Designation	See Note					12
Referee Methods	See Note					13
Sulfur	D2622, D5453, D7039	ppm		80		
Sulfur	D2622, D5453, D7039	ppm		Report	E10	
Volatility & Distillation	See D4814		see Table			

Amarillo-Lubbock Pipeline (SAAL)
Product Specifications

Gasoline, Regular CBOB, 86.3 octane after 10% Ethanol

Notes:

1. All additives and their concentrations must be previously approved by the pipeline Regional Fuel Quality Director and must be clearly indicated on the Certificate of Analysis. No intentional addition of MMT, phosphorus, lead, or additives containing other heavy metals is allowed.

2. This product must be clear and bright and visually free from undissolved water, sediment, and particulates.

3. ASTM D1093 should be performed to test for basicity according to the instructions in section 9.3 and 9.4 of the ASTM method using a phenolphthalein indicator solution, except as noted below. Combine 50 ml of the sample, 15 ml of water, and 3 drops of phenolphthalein indicator solution in a clean centrifuge tube, shake vigorously for 30 seconds, let stand for 3 minutes and observe against a white background (the centrifugation step in the ASTM method is not required). See the method for additional details. If a slightly pink to red color is observed in the water phase, the sample shows alkalinity and fails the test. The sample tested should be a lower sample as described in ASTM D4057, "...a spot sample of liquid from the middle of the lower one-third of the tank's content..."

4. Properties to be tested on the 10 volume percent ethanol hand blend have “E10” listed in the specific column.

For summer gasoline with a maximum RVP specification of less than 9.0 psi (as indicated in the Volatility Table) the following language is applicable:

(a) Suitable for the special RVP provisions for ethanol blends that contain between 9 and 10 vol% ethanol.
(b) The RVP of this blendstock/gasoline does not exceed 9.0 psi.
(c) The use of this gasoline to manufacture a gasoline-ethanol blend containing anything other than between 9 and 10 volume percent ethanol may cause a summertime RVP violation.

5. If the initial unwashed gum value is greater than or equal to 4.0 mg/100ml, then a solvent-washed gum test does not need to be run on the sample.

6. Compliance with ASTM D4176 will be determined using Procedure 2 at the following temperatures, adjusted seasonally:

February 16 – September 30	55 °F max
October 1– February 15	45 °F max

7. The Mercaptan Sulfur determination may be waived if the fuel is considered sweet by the Doctor Test described in ASTM D 4952.

8. While the typical octane value of the target is around 82.4, the absolute minimum is 82.2 for downstream terminal octane blending purposes.

9. Any gasoline exhibiting an offensive odor and/or containing more than 0.30 wt % dicyclopentadiene will not be accepted for shipment.

10. These fuels may not contain oxygenates, such as ethers and alcohols. The use of non-hydrocarbon blending components in these grades is prohibited.

Amarillo-Lubbock Pipeline (SAAL)
Product Specifications

Gasoline, Regular CBOB, 86.3 octane after 10% Ethanol

11. This fuel meets or exceeds all the requirements of ASTM D 4814 (Unleaded Gasoline). This product does not meet EPA additive addition requirements for finished gasoline. This product does not meet the requirements for reformulated gasoline (RFG) and may not be used in any reformulated gasoline covered area.

12. In accordance with EPA 40 CFR 1090, gasoline shall be designated as either E0 or E10 for oxygenate blending. However, all gasoline will be designated as E10 CBOB (Conventional Blendstock for Oxygenate Blending) upon receipt by Phillips 66 Pipeline. It is the shipper's responsibility to account for their own neat (no ethanol) sales at downstream terminals in coordination with the shipping designations to ensure ethanol dilution impacts are considered per EPA requirements in 40 CFR 1090.740.

13. Referee Methods for Gasoline are as follows:
Oxygenates, ASTM D5599; Sulfur, ASTM D2622; Vapor Pressure, ASTM D5191; V/L, ASTM D5188.

Effective Date: 11/1/2022

Trac66 Code(s):
P1U (9.0#), P64 (>9.0#)

Phillips 66 Carrier LLC

Destinations:
PSX Lubbock, TX Terminal

Amarillo-Lubbock Pipeline (SAAL)
Product Specifications

Gasoline, Premium CBOB, 91 octane (Neat)

Property	Test Method	Units	Min	Max	Specific	Note#
Additives	General Note					1
API Gravity (60 Deg F)	D1298, D4052	API	Report			
Appearance	Visual		Clear & Br			2
Basicity	D1093 modified- see note		Pass			3
Benzene	D3606	Vol%		4.0	E10	
Color, Visual	Visual		Undyed			
Corrosion, Copper Strip	D130 3 Hr @ 122 F	Rating		1		
Corrosion, NACE	NACE TM0172	Rating	B+			
Corrosion, Silver Strip	D7667, D7671	Rating		1		
E10 Blends	General Note				E10	4
Gum- Solvent Washed	D381	mg/100ml		4.0		
Gum- Unwashed	D381	mg/100ml		10.0		5
Haze	D4176 Procedure 2	Rating		2		6
Lead (Pb)	D3237, D5059	gPb/gal		0.01		
Mercaptan Sulfur	D3227	Wt%		0.002		7
Mercaptan Sulfur	D4952	Rating	sweet			
Octane, (R+M)/2	D2699 & 2700		91.0			
Octane, (R+M)/2	D2699 & 2700		93.0		E10	
Octane, Motor	D2700		82.0			
Octane, Research	D2699		Report			
Odor	Non-offensive odor		Pass			8
Oxidation Stability	D525	minutes	240			
Oxygenates	D4815, D5599	Wt%		.05		9
Phosphorus	D3231	g/gal		0.003		
Product Description	See Note					10
Product Designation	See Note					11
Referee Methods	See Note					12
Sulfur	D2622, D5453, D7039	ppm		80		
Sulfur	D2622, D5453, D7039	ppm		Report	E10	
Volatility & Distillation	See D4814		see Table			

Amarillo-Lubbock Pipeline (SAAL)
Product Specifications

Gasoline, Premium CBOB, 91 octane (Neat)

Notes:

1. All additives and their concentrations must be previously approved by the pipeline Regional Fuel Quality Director and must be clearly indicated on the Certificate of Analysis. No intentional addition of MMT, phosphorus, lead, or additives containing other heavy metals is allowed.

2. This product must be clear and bright and visually free from undissolved water, sediment, and particulates.

3. ASTM D1093 should be performed to test for basicity according to the instructions in section 9.3 and 9.4 of the ASTM method using a phenolphthalein indicator solution, except as noted below. Combine 50 ml of the sample, 15 ml of water, and 3 drops of phenolphthalein indicator solution in a clean centrifuge tube, shake vigorously for 30 seconds, let stand for 3 minutes and observe against a white background (the centrifugation step in the ASTM method is not required). See the method for additional details. If a slightly pink to red color is observed in the water phase, the sample shows alkalinity and fails the test. The sample tested should be a lower sample as described in ASTM D4057, "...a spot sample of liquid from the middle of the lower one-third of the tank's content..."

4. Properties to be tested on the 10 volume percent ethanol hand blend have “E10” listed in the specific column.

For summer gasoline with a maximum RVP specification of less than 9.0 psi (as indicated in the Volatility Table) the following language is applicable:

(a) Suitable for the special RVP provisions for ethanol blends that contain between 9 and 10 vol% ethanol.
(b) The RVP of this blendstock/gasoline does not exceed 9.0 psi.
(c) The use of this gasoline to manufacture a gasoline-ethanol blend containing anything other than between 9 and 10 volume percent ethanol may cause a summertime RVP violation.

5. If the initial unwashed gum value is greater than or equal to 4.0 mg/100ml, then a solvent-washed gum test does not need to be run on the sample.

6. Compliance with ASTM D4176 will be determined using Procedure 2 at the following temperatures, adjusted seasonally:

February 16 – September 30	55 °F max
October 1– February 15	45 °F max

7. The Mercaptan Sulfur determination may be waived if the fuel is considered sweet by the Doctor Test described in ASTM D 4952.

8. Any gasoline exhibiting an offensive odor and/or containing more than 0.30 wt % dicyclopentadiene will not be accepted for shipment.

9. These fuels may not contain oxygenates, such as ethers and alcohols. The use of non-hydrocarbon blending components in these grades is prohibited.

10. This fuel meets or exceeds all the requirements of ASTM D 4814 (Unleaded Gasoline). This product does not meet EPA additive addition requirements for finished gasoline. This product does not meet the requirements for reformulated gasoline (RFG) and may not be used in any reformulated gasoline covered area.

Amarillo-Lubbock Pipeline (SAAL)
Product Specifications

Gasoline, Premium CBOB, 91 octane (Neat)

11. In accordance with EPA 40 CFR 1090, gasoline shall be designated as either E0 or E10 for oxygenate blending. However, all gasoline will be designated as E10 CBOB (Conventional Blendstock for Oxygenate Blending) upon receipt by Phillips 66 Pipeline. It is the shipper's responsibility to account for their own neat (no ethanol) sales at downstream terminals in coordination with the shipping designations to ensure ethanol dilution impacts are considered per EPA requirements in 40 CFR 1090.740.

12. Referee Methods for Gasoline are as follows:
Oxygenates, ASTM D5599; Sulfur, ASTM D2622; Vapor Pressure, ASTM D5191; V/L, ASTM D5188.

Effective Date: 11/1/2022

Trac66 Code(s):
Reg.- D07 (9.0#), D02 (>9.0#)
Prem.- P1U (9.0#), P64 (>9.0#)

Phillips 66 Carrier LLC

Destinations:
PSX Lubbock, TX Terminal;
PSX Amarillo, TX Terminal;
PSX Albuquerque, NM, Terminal;
MEETS NEW MEXICO SPECIFICATIONS

Amarillo-Lubbock Pipeline (SAAL)
Product Specifications

Volatility Schedule, CBOB, All Grades, Texas and New Mexico Fuel Outlets

Month(s)	Class	Pipeline Grade(s)	Clear RVP max, psi	E10 RVP max, psi	E10 V/L Test Temp min, °F	Clear V/L Test Temp min, °F	Drive Index max	Distillation Requirements, °F: 10% max	E10 50% min	Clear 50% min	50% max	90% max	End Pt max	Dist Resid max, %
Jan	D-4	D02, P64	13.5*	14.5	107	116*	1220	131	150	170*	235	365	430	2
Feb	D-4	D02, P64	13.5*	14.5	116	116*	1220	131	150	170*	235	365	430	2
Mar	C-3	D02, P64	11.5*	12.5	116	124*	1230	140	150	170*	240	365	430	2
Apr	B-2	D02, P64	10.0*	11.0	122	133*	1240	149	150	170*	245	374	430	2
May	A-2	D07, P1U	9.0*	10.0	122	133*	1250	158	150	170*	250	374	430	2
Jun	A-1	D07, P1U	9.0*	10.0	129	140*	1250	158	150	170*	250	374	430	2
Jul	A-1	D07, P1U	9.0*	10.0	129	140*	1250	158	150	170*	250	374	430	2
Aug	A-1	D07, P1U	9.0*	10.0	129	140*	1250	158	150	170*	250	374	430	2
Sep 1 - 15	A-1	D07, P1U	9.0*	10.0	129	140*	1250	158	150	170*	250	374	430	2
Sep 16 - 30	B-2	D02, P64	10.0*	11.0	122	133*	1240	149	150	170*	245	374	430	2
Oct	C-3	D02, P64	11.5*	12.5	116	124*	1230	140	150	170*	240	365	430	2
Nov	D-4	D02, P64	13.5*	14.5	116	116*	1220	131	150	170*	235	365	430	2
Dec	D-4	D02, P64	13.5*	14.5	116	116*	1220	131	150	170*	235	365	430	2

Vapor pressure and T50 minimum limits marked with an * apply to the fuel without ethanol, but this only applies to those facilities that sell gasoline without ethanol. Unmarked limits apply to the fuel with 10 vol% ethanol. V/L limits for Classes 4 and 5 are more severe than for many other fuels because Northern New Mexico is in the high altitude area V and is treated as such within ASTM D4814.

Ethanol at 7.7 vol% minimum is mandated in the Albuquerque area during the months of Nov-Feb.

A 1.0 psi higher vapor pressure is allowed for conventional gasoline-ethanol blends that contain greater than 1% vol ethanol, and this allowance is reflected in the table. During the period of May 1 through September 15 this allowance only pertains to blends that contain between 9 and 10 vol % ethanol.

Test Methods: (latest version unless otherwise indicated)
Distillation: ASTM D86, corrected to 760 mm Hg;
Driveability Index: ASTM D4814;
V/L: ASTM D5188, or the estimate method using Appendix X2 of ASTM D4814;
Vapor Pressure: ASTM D5191. For conventional gasoline that meets a summer RVP specification of 9.0 psi or less and which is intended for sale in the summer, EPA requires the use of the EPA equation and also requires that batch reporting of RVP be to 2 decimal places (example; 8.97 psi).

Effective Date: 11/1/2022

Trac66 Code(s):
Reg.- D07 (9.0#), D6Z (>9.0#)
Prem.- P1U (9.0#), P64 (>9.0#)

Phillips 66 Carrier LLC

Destinations:
PSX Lubbock, TX Terminal;
PSX Amarillo, TX Terminal;
NOT FOR DISTRIBUTION TO NEW MEXICO

Amarillo-Lubbock Pipeline (SAAL)
Product Specifications

Volatility Schedule, CBOB, All Grades, Texas Fuel Outlets Only (Does NOT Meet New Mexico Specifications)

Month(s)	Class	Pipeline Grade(s)	Clear RVP max, psi	E10 RVP max, psi	E10 V/L Test Temp min, °F	Clear V/L Test Temp min, °F	Drive Index max	Distillation Requirements, °F 10% max	E10 50% min	Clear 50% min	50% max	90% max	End Pt max	Dist Resid max, %
Jan	D-4	D02, P64	13.5**	14.5	NA*	116**	1220	131	150	170*	235	365	430	2
Feb	D-4	D02, P64	13.5**	14.5	NA*	116**	1220	131	150	170*	235	365	430	2
Feb	C-3	D02, P64	11.5**	12.5	NA*	124**	1230	140	150	170*	240	365	430	2
Mar	C-3	D02, P64	11.5**	12.5	NA*	124**	1230	140	150	170*	240	365	430	2
Mar	B-2	D02, P64	10.0**	11.0	NA*	133**	1240	149	150	170*	245	374	430	2
Apr	B-2	D02, P64	10.0**	11.0	NA*	133**	1240	149	150	170*	245	374	430	2
Apr	A-2	D07, P1U	9.0**	10.0	NA*	133**	1250	158	150	170*	250	374	430	2
May	A-2	D07, P1U	9.0**	10.0	NA*	133**	1250	158	150	170*	250	374	430	2
Jun	A-1	D07, P1U	9.0**	10.0	NA*	140**	1250	158	150	170*	250	374	430	2
Jul	A-1	D07, P1U	9.0**	10.0	NA*	140**	1250	158	150	170*	250	374	430	2
Aug	A-1	D07, P1U	9.0**	10.0	NA*	140**	1250	158	150	170*	250	374	430	2
Sep 1 - 15	A-1	D07, P1U	9.0**	10.0	NA*	140**	1250	158	150	170*	250	374	430	2
Sep 16 - 30	A-2	D07, P1U	9.0**	10.0	NA*	133**	1250	158	150	170*	250	374	430	2
Sep 16 - 30	B-2	D02, P64	10.0**	11.0	NA*	133**	1240	149	150	170*	245	374	430	2
Oct	B-2	D02, P64	10.0**	11.0	NA*	133**	1240	149	150	170*	245	374	430	2
Oct	C-3	D02, P64	11.5**	12.5	NA*	124**	1230	140	150	170*	240	365	430	2
Nov	C-3	D02, P64	11.5**	12.5	NA*	124**	1230	140	150	170*	240	365	430	2
Nov	D-4	D02, P64	13.5**	14.5	NA*	116**	1220	131	150	170*	235	365	430	2
Dec	D-4	D02, P64	13.5**	14.5	NA*	116**	1220	131	150	170*	235	365	430	2

*Per the Texas Department of Agriculture's Title 4, Part 1, Chapter 5, Rule 5.7 Minimum Motor Fuel Standards "The vapor/liquid (V/L) ratio shall be waived for motor fuels blended with ethanol".

With the exception of limits marked with **, these limits are on the finished gasoline-ethanol blend (lab blend). Values marked with an ** are on the clear sample (no ethanol). The clear V/L specifications are not required if all fuel is to be sold as a finished gasoline-ethanol blend.

Volatility dates are approximate. Shipping dates are determined by the Refinery and/or Pipeline Scheduler. The above Volatility Classes are standard as set forth by the Pipeline. Other Volatility Classes may be requested as well.

Test Methods: (latest version unless otherwise indicated)
Distillation: ASTM D86, corrected to 760 mm Hg;
Driveability Index: (DI) = (1.5 * T10) + (3.0 * T50) + (1.0 * T90) + (2.4F * ETOH Vol%), where Temps are in deg F, and ETOH Vol% = the volume of ethanol in the fuel used for the lab test. The DI specification limits are applicable at the refinery or import facility as defined by 40 CFR Part 80.2 and are not subject to correction for precision of the test method.
V/L: ASTM D5188, or the estimate method using Appendix X2 of ASTM D4814;
Vapor Pressure: ASTM D5191. For conventional gasoline that meets a summer RVP specification of 9.0 psi or less and which is intended for sale in the summer, EPA requires the use of the EPA equation and also requires that batch reporting of RVP be to 2 decimal places (example; 8.97 psi). For reformulated gasoline designated as VOC-controlled, EPA requires the use of the EPA equation and also requires that batch reporting of RVP be to 2 decimal places .

Effective Date: 11/1/2022

Trac66 Code(s):
VBA

Phillips 66 Carrier LLC

Destinations:
PSX Lubbock, TX Terminal

Amarillo-Lubbock Pipeline (SAAL)
Product Specifications

Distillate, #2 Diesel Fuel / Fuel Oil, Ultra-Low Sulfur (15 ppm max), may contain up to 5 vol% biodiesel; EPA Designation: ULSD

Property	Test Method	Units	Min	Max	Specific	Note#
Additives	General Note					1
API Gravity (60 Deg F)	D1298, D4052	API	30.0			
Appearance	Visual		Clear & Br			2
Ash	D482	Wt %		0.01		
Biodiesel Content and Quality	See Note					3
Carbon Res 10% Btms	D524	Wt%		0.30		
Cetane Index by 2-var	D976		40			
Cetane Number	D613, D6890, D7170, D7668		40.0			4
Cloud Pt- summer	D2500, D5771/2/3, D7689	Deg F		20	Apr - Aug	
Cloud Pt- winter	D2500, D5771/2/3, D7689	Deg F		15	Sep - Mar	
Color, ASTM	D1500			2.5		
Corrosion, Copper Strip	D130 3 Hr @ 122 F	Rating		1		
Corrosion, NACE	NACE TM0172	Rating	B+			
Dist 10 Vol% Rec	D86, D2887, D7345	Deg F	Report			5
Dist 50 Vol% Rec	D86, D2887, D7345	Deg F	Report			5
Dist 90 Vol% Rec	D86, D2887, D7345	Deg F	540	640		5
Dist End Pt	D86, D2887, D7345	Deg F	Report			5
Dist IBP	D86, D2887, D7345	Deg F	Report			5
Flash Pt	D56, D93, D3828, D7094	Deg F	135			
Haze @ 77F	D4176 Procedure 2	Rating		2		
Pour Pt- summer	D97, D5949	Deg F		10	Apr - Aug	
Pour Pt- winter	D97, D5949	Deg F		0	Sep - Mar	
Product Description	See Note					6
Referee Methods	See Note					7
Stability	D6468	Pad Rating		5		
Sulfur	D2622, D3120, D5453, D7039	ppm		11		
Viscosity @ 104F (40C)	D445, 7042	cSt	1.9	3.4		8
Water and Sediment	D2709	Vol%		0.05		

Effective Date: 11/1/2022

Trac66 Code(s):
VBA

Phillips 66 Carrier LLC

Destinations:
PSX Lubbock, TX Terminal

Amarillo-Lubbock Pipeline (SAAL)
Product Specifications

Distillate, #2 Diesel Fuel / Fuel Oil, Ultra-Low Sulfur (15 ppm max), may contain up to 5 vol% biodiesel; EPA Designation: ULSD

Notes:

1. All additives and their concentrations must be previously approved by the pipeline Regional Fuel Quality Director and must be clearly indicated on the Certificate of Analysis.

2. This product must be clear and bright and visually free from undissolved water, sediment, and particulates.

3. This fuel must contain 5 vol% Biodiesel unless otherwise approved by the Regional Fuel Quality Director. All of the properties listed may be certified on the diesel fuel prior to the addition of the Biodiesel. The Biodiesel portion must meet the specifications listed in the Biodiesel (B100) specification. In addition, the Biodiesel injection process must be approved by the Regional Fuel Quality Director prior to implementation- Phillips 66 does not inject at the front or back end of the diesel batches to prevent contamination of preceding or trailing product with biodiesel.

4. Where the listed test methods for cetane number are not available, Test Method D4737 can be used as an approximation.

5. ASTM D2887 or ASTM D7345 results must be converted to "Predicted D86" results using the correlations found in each test method, and reported in the same way.

6. This fuel meets or exceeds all the requirements of ASTM D975 (Ultra Low Sulfur Grade No. 2-D S15 Diesel Fuel Oil) and ASTM D396 (Grade No. 2 Low Sulfur Fuel Oil), with the possible exception of the lubricity/conductivity requirements in ASTM D975. Additives or further blending may be utilized at downstream locations to meet these requirements.

7. ASTM Referee Methods for Diesel Fuel are as follows:
Cetane Number, ASTM D613; Cloud Pt, ASTM D2500; Distillation, ASTM D86; Flash Point, ASTM D93; Sulfur, ASTM D5453, Viscosity, ASTM D445. (source ASTM D975)

8. Results from Test Method D7042 shall be reported as bias-corrected kinematic viscosity results by application of the correction in Test Method D7042.

Effective Date: 11/1/2022

Trac66 Code(s):
IM7

Phillips 66 Carrier LLC

Destinations:
For injection into #2 ULSD at Amarillo, NOT for shipment on pipeline as B100

Amarillo-Lubbock Pipeline (SAAL)
Product Specifications

Biodiesel Fuel (B100), Ultra-Low Sulfur (15 ppm max)

Property	Test Method	Units	Min	Max	Specific	Note#
Acid Number	D664	mg KOH/g		.50		
Additives	General Note					1
API Gravity	D287, D1298, D4052		Report			
Appearance	Visual		Clear & Br			2
Biodiesel Handling	General Note					3
Ca and Mg, Combined	EN 14538	ppm		5		
Carbon Residue	D4530	Wt%		.050		4
Certificate of Analysis	General Note					5
Cetane Number	D613		47			
Cloud Pt- Cold Temps	D2500	Deg F		36		6
Cloud Pt- Warm Temps	D2500	Deg F		50		6
Cold Soak Filterability	D7501	Seconds		200		
Corrosion, Copper Strip	D130	Rating		3		7
Delivery Temperature		Deg F	50			
Distillation 90 Vol% Rec	D1160	Deg F		680		
Flash Pt	D93	Deg F	266			
General Feedstock Req's	General Note					8
General Workmanship	General Note					9
Glycerin- Diglycerides	D6584	Wt%		Report		
Glycerin- Free	D6584	Wt%		.020		
Glycerin- Monoglycerides	D6584	Wt%		.40		
Glycerin- Total	D6584	Wt%		.240		
Glycerin- Triglycerides	D6584	Wt%		Report		
Methanol Content	EN 14110	Wt%		.2		10
Na and K, Combined	EN 14538	ppm		5		
Oxidative Stability	EN 15751	Hours	6			
Phosphorus Content	D4951	Wt%		.001		
Product Description	General Note					11
Quality Assurance Program	General Note					12
Referee Methods	General Note					13
Sulfated Ash	D874	Wt%		0.020		
Sulfur	D5453	ppmw		13	Upon delivery	
Viscosity @ 40 C	D445	cSt	1.9	6.0		14
Water and Sediment	D2709	Vol%		.050		
Water Content	D6304	Vol%		.050		

Amarillo-Lubbock Pipeline (SAAL)
Product Specifications

Biodiesel Fuel (B100), Ultra-Low Sulfur (15 ppm max)

Notes:

1. The Regional Fuels Quality Director may authorize the use of approved Oxidation Inhibitor Additives to meet the increased Oxidation Stability specification. When used, Oxidation Inhibitor identification and treat rate must be stated on each Certificate of Analysis (COA). Other additives are not allowed to be blended into the biodiesel without written approval from Phillips 66.

2. The biodiesel shall be visually free of undissolved water, sediment, and suspended matter. (ASTM D6751)

3. The biodiesel supplier is responsible for ensuring the transport is suitably clean and empty for loading. The transport shall always be cleaned prior to loading unless prior cargo was ultra-low sulfur diesel or biodiesel, in which case the transport shall be empty.

4. A 100% sample shall replace the 10% residual, with percent residue in the original sample reported using the 10% residual calculation. (ASTM D6751)

5. Suppliers shall provide: 1. A Certificate of Analysis identifying the test results which show that the Biodiesel complies with ASTM D6751 latest version and any additional Phillips 66 requirements. All test results reported must be performed in accordance with actual ASTM test method referenced in ASTM D6751. Inferred test methods such as Infra Red are not acceptable. 2. Suppliers shall provide custody transfer documentation that prominently states the name and address of the person selling or supplying the biodiesel and the name, location, and operator of the facility at which the biodiesel was produced. Test results shall not exceed the maximum or be less than the minimum values specified (herein). No allowance shall be made for the precision of the test methods. To determine conformance to the specification requirement, a test result may be rounded to the same number of significant figures as in this specification using Practice E 29. Where multiple determinations are made, the average result, rounded in accordance with Practice E 29, shall be used.

6. These specifications may change depending on regional temperatures, tank turnover, and biodiesel blend percentages. Consult the Regional Fuels Quality Director for further guidance on a specific facility.

7. Test result reported as a number and letter (e.g. 1a). Any letter is allowable as long as the number meets the specification.

8. The feedstocks used for the production of the biodiesel must be approved by the Phillips 66 Fuels Quality and Performance Group prior to purchase. This is likely to include testing samples from actual production lots.

9. The B-100 shall also be free of any adulterant or contaminant that may render the fuel unacceptable for its commonly used applications- or that may significantly impair engine performance.

10. Though preferred, methanol does not have to be run on a batch meeting the 266 F min requirement. When the methanol content is shown to be less than .2 mass percent (by test method EN 14410), a flash point minimum specification of 199 F may be used.

11. This fuel shall meet or exceed all of the requirements specified in the latest version of ASTM D6751 (Grade S15 Biodiesel). It should not contain any petroleum diesel upon delivery unless a minor amount (.1 vol% or less) is requested by the Trader for tax handling purposes.

12. The biodiesel supplier should be part of the BQ9000 National Biodiesel Accreditation Program to ensure proper quality control. A similar program may be acceptable but must be approved in writing by Phillips

Amarillo-Lubbock Pipeline (SAAL)
Product Specifications

Biodiesel Fuel (B100), Ultra-Low Sulfur (15 ppm max)

13. Referee test methods for biodiesel fuel can be found in ASTM D6751. Other approved methods are listed in D6751; however, in case of dispute, results obtained by the the referee test method shall prevail.

14. The upper viscosity limit is higher than petroleum based diesel fuel and shall be taken into consideration when blending. The petroleum requirement of 4.1 cSt would be preferable to use as an upper limit.