

Section 3

Product Codes and Specifications

Effective Date - December 1, 2018

Colonial Pipeline Company

PRODUCT CODES - SUMMARY

Product Groupings

A	CBOB - 87 Octane after blending with 10% denatured fuel Ethanol
D	CBOB - 93 Octane after blending with 10% denatured fuel Ethanol
F	RBOB - 87 Octane after blending with 10% denatured fuel Ethanol
H	RBOB - 93 Octane after blending with 10% denatured fuel Ethanol
L	Gasoline Blendstocks
M	Conventional - 87 Octane
V	Conventional - 93 Octane
BU	Butane
48	R100 Renewable Diesel
49	B100 Bio-Diesel
51-58	Kerosene
59	Distillate Blendstock - Not Dyed by Colonial
61-67	Ultra Low Sulfur Diesel
69	Ultra Low Sulfur Diesel Blendstock
70-78	Fuel Oil, Diesel Fuel, Military DFM- Not Dyed by Colonial
72	Distillate Blendstock - Not Dyed by Colonial
79	Distillate Blendstock - Not Dyed by Colonial
80-88	Fuel Oil, Diesel Fuel - Dyed by Colonial
89	Distillate Blendstock - Dyed by Colonial
90-94, 96	Transmix

Colonial Pipeline Company

PRODUCT CODES - GASOLINE

Fungible Product Code	Segregated Product Code	Description
CBOB - 87 octane after blending with 10% denatured fuel ethanol		
A1	1A	8.8 psi RVP
A2	2A	10.0 psi RVP
A3	3A	12.5 psi RVP
A4	4A	14.5 psi RVP
A5	5A	15.5 psi RVP
CBOB - 93 octane after blending with 10% denatured fuel ethanol		
D1	1D	8.8 psi RVP
D2	2D	10.0 psi RVP
D3	3D	12.5 psi RVP
D4	4D	14.5 psi RVP
D5	5D	15.5 psi RVP
RBOB - 87 octane after blending with 10% denatured fuel ethanol		
F1	1F	Region 1 VOC controlled RBOB for blending with 10% denatured fuel ethanol
F2	2F	Region 2 VOC controlled RBOB for blending with 10% denatured fuel ethanol
F3	3F	11.5 psi RVP RBOB for blending with 10% denatured fuel ethanol
F4	4F	13.5 psi RVP RBOB for blending with 10% denatured fuel ethanol
F5	5F	15.0 psi RVP RBOB for blending with 10% denatured fuel ethanol
RBOB - 93 octane after blending with 10% denatured fuel ethanol		
H1	1H	Region 1 VOC controlled RBOB for blending with 10% denatured fuel ethanol
H2	2H	Region 2 VOC controlled RBOB for blending with 10% denatured fuel ethanol
H3	3H	11.5 psi RVP RBOB for blending with 10% denatured fuel ethanol
H4	4H	13.5 psi RVP RBOB for blending with 10% denatured fuel ethanol
H5	5H	15.0 psi RVP RBOB for blending with 10% denatured fuel ethanol

Notes:

1. Delivery of certain products may be limited by facilities and some grades may only be transported seasonally.
2. See product specifications for detailed transfer document information.

Colonial Pipeline Company

PRODUCT CODES - GASOLINE

Fungible Product Codes	Segregated Product Codes	Description
		Gasoline Blendstocks - Segregated Only
	1L	Low Octane (Octane R+M/2 <83)
	2L	Regular (83< Octane R+M/2 <87)
	3L	Mid-grade (87< Octane R+M/2 <93)
	4L	Premium (Octane R+M/2 >93)
		Conventional Gasoline - 87 Octane
M1	1M	7.8 psi RVP (Without Ethanol) 8.8 RVP (With Ethanol)
M2	2M	9.0 psi RVP
M3	3M	11.5 psi RVP
M4	4M	13.5 psi RVP
M5	5M	15.0 psi RVP
V1	1V	7.8 psi RVP (Without Ethanol) 8.8 RVP (With Ethanol)
V2	2V	9.0 psi RVP
V3	3V	11.5 psi RVP
V4	4V	13.5 psi RVP
V5	5V	15.0 psi RVP
BU		Butane Segregated Only

Notes:

1. Delivery of certain products may be limited by facilities and some grades may only be transported seasonally.
2. See product specifications for detailed transfer document information.

Colonial Pipeline Company

PRODUCT CODES - DISTILLATE		
Fungible Product Codes	Segregated Product Codes	Description
48		Renewable Diesel R100 Renewable Diesel
		Bio - Diesel
49		B100 Bio-Diesel
		Ultra Low Sulfur Kerosene
51		15 ppm Sulfur Kerosene
		Kerosene
52		Military Jet JP-5
	53	Aviation Kerosene
54		Aviation Kerosene
55		Aviation Kerosene/K-1
56		Bonded Aviation Kerosene
	57	Aviation Kerosene
58		Military Jet JP-8
	59	Distillate Blendstock - Not Dyed by Colonial
		15 ppm Sulfur Diesel Fuel - Not Dyed by Colonial
61		15 ppm Sulfur Diesel Fuel
62		15 ppm Sulfur Diesel Fuel
63		15 ppm Sulfur Diesel Fuel
	65	15 ppm Sulfur Diesel Fuel
67		15 ppm Heating Oil
	69	15 ppm Sulfur Diesel Blendstock
		Fuel Oils, Diesel Fuels, Military DFM – Not Dyed by Colonial
70		Dyed Heating Oil - 2000 ppm - Intraharbor Only
	71	Undyed, Distillate Fuel for Export Only - 2000 ppm sulfur
	72	Distillate Blendstock 500 ppm sulfur
	73	Undyed 500 ppm Sulfur LM Diesel Fuel
75		Undyed, 420 ppm Sulfur Heating Oil
77		Undyed Heating Oil - 2000 ppm Sulfur
78		Undyed Military Diesel Fuel Marine
	79	Distillate Blendstock
		Fuel Oils, Diesel Fuels - Dyed by Colonial
80		Dyed 420 ppm Sulfur LM Diesel Fuel
83		Dyed 15 ppm Sulfur Diesel Fuel
	84	Segregated Dyed 420 ppm Sulfur LM Diesel Fuel
85		Dyed 420 ppm Sulfur Heating Oil
87		Dyed 15 ppm Heating Oil
88		Dyed Heating Oil - 2000 ppm sulfur
	89	Distillate Blendstock
		Transmix - Fungible Only
90		Distillate - Conventional Gasoline
91		Distillate RFG - VOC Controlled
92		Distillate RFG - Non-VOC Controlled
93		Distillate RBOB - VOC Controlled
94		Distillate RBOB - Non-VOC Controlled
96		Distillate
		High Sulfur Kerosene
		Distillate
		Ultra Low Sulfur Diesel

Notes:

1. All products are not delivered to all locations, see product specifications for applicable limitations.
2. See product specifications for detailed transfer document information.

Colonial Pipeline Company

PRODUCT SPECIFICATIONS INDEX

3.1.1

Product Specifications

This section contains specifications for products that are handled on a segregated and fungible (common-stream) basis. A "fungible batch" is defined as a batch of petroleum product meeting carrier's established specifications that may be commingled with other quantities of petroleum product meeting the same specifications. A "segregated batch" is defined as a batch of petroleum product being the property of a single shipper and meeting carrier's established specifications.

Not all products are delivered to all locations. Please see each product specification for delivery restrictions. Additionally, some grades may only be transported seasonally. Seasonal restrictions are set forth in the RVP calendar, which is in Section 4 of the Shipper Manual.

For gasoline product codes the order of the letter and number designates whether the product is fungible or segregated. Gasoline product codes that begin with a letter are fungible and with a number are segregated.

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3.3	A	grades (1-5) - CBOB 87 octane after blending with 10.0% denatured fuel ethanol
3.4	D	grades (1-5) - CBOB 93 octane after blending with 10.0% denatured fuel ethanol
3.5	F	grades (1-5) - RBOB 87 octane after blending with 10.0% denatured fuel ethanol
3.6	H	grades (1-5) - RBOB 93 octane after blending with 10.0% denatured fuel ethanol
3.7	L	grades (1-4) - Gasoline blendstocks
3.8	M	grades (1-5) - 87 octane non-oxygenated conventional gasoline
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3.10	BU	Butane - For Blending purposes only

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PRODUCT SPECIFICATIONS INDEX

3.1.2

Product Specifications

Section

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3.13	Grade 51 - Fungible 15 ppm Sulfur Kerosene
3.14	Grade 52 - Fungible military JP-5
3.15	Grade 53 - Segregated aviation kerosene
3.16	Grade 54 - Fungible aviation kerosene
3.17	Grade 55 - Fungible aviation kerosene/1-K
3.18	Grade 56 - Fungible bonded aviation kerosene.
3.19	Grade 57 - Segregated aviation kerosene - 500 ppm sulfur
3.20	Grade 58 - Fungible military JP-8
3.21	Grade 59 - Segregated undyed distillate blendstock
3.22	Grade 61 - Fungible 15 ppm sulfur diesel fuel (< 5% Renewable Hydrotreated Diesel)
3.23	Grade 62 - Fungible 15 ppm sulfur diesel fuel
3.24	Grade 63 - Fungible 15 ppm Sulfur diesel Fuel (< 5% Renewable Hydrotreated Diesel)
3.25	Grade 65 - Segregated 15 ppm Sulfur diesel (May Contain Renewable Hydrotreated Diesel)
3.26	Grade 67 - Fungible 15 ppm sulfur Heating Oil
3.27	Grade 69 - Segregated 15 ppm Sulfur diesel blendstock
3.28	Grade 70 - Fungible dyed 2000 ppm heating oil – For Intraharbor movements only
3.29	Grade 71 - Segregated high sulfur distillate fuel for export only - 2000 ppm sulfur
3.30	Grade 72 - Segregated 500 ppm sulfur diesel blendstock
3.31	Grade 73 - Segregated undyed 500 ppm sulfur LM diesel fuel
3.32	Grade 75 - Fungible undyed, 420 ppm sulfur Heating Oil
3.33	Grade 77 - Fungible undyed 2000 ppm sulfur heating oil
3.34	Grade 78 - Segregated military marine diesel fuel
3.35	Grade 79 - Segregated distillate blendstock
3.36	Grade 80 - Fungible dyed 420 ppm sulfur LM diesel fuel
3.37	Grade 83 - Fungible dyed 15 ppm Sulfur diesel Fuel (< 5% Renewable Hydrotreated Diesel)
3.38	Grade 84 - Segregated dyed 500 ppm Sulfur LM Diesel Fuel
3.39	Grade 85 - Fungible dyed 420 ppm sulfur Heating Oil
3.40	Grade 87 - Fungible 15 ppm sulfur dyed Heating Oil
3.41	Grade 88 - Fungible dyed 2000 ppm sulfur heating oil
3.42	Grade 89 - Segregated distillate blendstock
3.43	Grades 90-94, 96 - Transmix

For complete listing of all product codes, refer to individual product specifications.

Colonial Pipeline Company

PRODUCT SPECIFICATIONS

ADDITIVE REQUIREMENTS/RESTRICTIONS

3.2 Colonial will permit only the types and concentrations of additives detailed below; all other types and concentrations or additives are prohibited.

3.2.1 Gum Inhibitors and Metal Deactivators

Gasoline shipments may, but are not required to, contain the following:

N, N'di-secondary butyl para-phenylenediamine	N, N'disalicylidene-l, 2 propanediamine
N, N'di (l-ethyl-2-methylpentyl) para-phenylenediamine	2, 6-di-tertiary butyl 4 methyl phenol
N, N'di-isopropyl-para-phenylenediamine	n-Butyl para-aminophenol
N, N'bis-(l, 4-diamethylpentyl)-p-phenylenediamine	2,4,6 - tritertiary butylphenol
Ortho-tertiary butylphenol	2,4-diamethyl-6-tertiary-butylphenol
2,4-di-tertiary butylphenol	2,6-tertiary butylphenol
N,secondary butyl, N' phenyl-para-phenylenediamine	Mixed propylated and butylated phenols
Butylated ethyl,methyl and dimethyl phenols	2,4,6 tri-isopropylphenol

3.2.2 Corrosion Inhibitors

All products shipped on Colonial Pipeline, with the exception of all grades of Aviation Kerosine, are required to meet a minimum level of corrosion protection prior to shipment. The concentration of inhibitor dosage will be controlled to meet a minimum rating of B+ (less than 5% of test surface rusted) as determined by NACE Standard TM0172-2001, Test Method-Antirust Properties of Petroleum Products Pipeline Cargoes.

Diesel and gasolines shipped on Colonial Pipeline may contain only the following corrosion inhibitors

Aqua Process	11CH77	Nalco	5403, 5405, 5406, EC5624A, EC5626A
Afton Chem.	HiTEC 6455,4875	SPEC-AID	8Q22, 8Q110ULS, 8Q112ULS, 8Q123ULS
Corexit	5267		
Innospec	DCI-4A, DCI-6A, DCI-11 DCI-30.N	Tolad	245, 249, 351, 3232, 3232D, 4410
Ethyl HiTec	580	Unichem	7500, 7501, 7510
Lubrizol	8014, 8017,541	UOP	Unicor, Unicor J, Unicor PL
MidContinental	MCC5001	Champion	RPS-622,807
Mobil	C-605		

In addition to the above additives, the following may be used in diesel fuels and fuel oil transported by Colonial: Dupont AFA-1, Innospec DMA-4, Nalco 5400-A.

3.2.3 Static Dissipator Additives (Conductivity Improvers)

Product shipments may, but are not required to, contain static dissipator additive(SDA). The only approved SDA for use on Colonial Pipeline is Innospec Stadis® 450. SDA is prohibited from all aviation kerosine grades (grades 51, 53, 54, 55, 56, 57, and 59). The origin maximum concentration of Stadis® 450 is 0.75 mg/l, and the origin maximum conductivity allowed is 250 pS/m at 21°C(70°F) by ASTM D2624.

3.2.4 Aviation Kerosene Additives

Product may only contain antioxidants and metal deactivators specified and within the concentration noted in *Table 2: Detailed Requirements for Additives in Aviation Turbine Fuels* of latest ASTM D-1655 with advance approval from Colonial prior to shipment. Use of these additives is expected to be short term at reasonable treat levels. All other additives are prohibited. Use of these additives must be clearly indicated on Certificate of Analysis. Colonial reserves the right to deny shipment of product containing these additives.

3.2.5 Cloud and Pour Point Depressant Additives

Product may only contain ethylene vinyl acetate copolymer based cloud and pour point depressant additives only upon advance approval from Colonial prior to shipment. Use of these additives is expected to be short term at reasonable treat levels. Colonial reserves the right to deny shipment of product containing cloud and pour point depressant additives.

Colonial Pipeline Company

PRODUCT SPECIFICATIONS ADDITIVE REQUIREMENTS/RESTRICTIONS

3.2.6 Cetane Improver Additives

Product may only contain 2-ethyl hexyl nitrate or T-butyl peroxide based cetane improver additives only upon advance approval from Colonial prior to shipment. Use of these additives is expected to be short term at reasonable treat levels. Colonial reserves the right to deny shipment of product containing cetane improver additives.

3.2.7 Renewable Diesel

Renewable diesel is a liquid fuel derived from 100% hydrotreated bio-mass feedstocks that meets the registration requirements for fuels and fuel additives established by the EPA under section 211 of the Clean Air Act and the requirements of ASTM D975. Renewable diesel containing fatty acid esters (FAME, FAEE, or other esters) is prohibited for all distillate grades which allow up to 5% renewable (63,83). Product with >5% renewable diesel may be shipped as 65 or 69 grade.

Colonial assumes no responsibility as a blender and all RIN'S (Renewable Identification Number) must be separated before entering Colonial's system. The volume of Renewable Diesel must be disclosed on the COA (Certificate of Analysis).

3.2.8 Prohibited Additives

As stated in Section 3.2 above, Colonial only permits certain types and concentrations of additives and all other types and concentrations of additives are prohibited. Prohibited additives include, but are not limited to, the following:

Lubricity additives	Port Fuel Injector(PFI) additives	Biodiesel(See Section 3.2.10)
Intake Valve Detergent Additives	Additives containing Phosphorus	Marker Solvent Yellow 124

3.2.9 Additive Documentation Requirements

If present, the type and concentration of approved additives must be clearly indicated on Certificate of Analysis. Additive treat rates are acceptable for concentration reporting. Carrier may request review of volume reconciliation data to verify actual treat rates.

3.2.10 Bio-Diesel Injection

Up to 5% Bio-Diesel (Grade 49) may be injected into diesel on lines # 17, 22, 24, and Greensboro local lines.

Colonial assumes no responsibility as a blender and all RIN'S (Renewable Identification Number) must be separated before entering Colonial's system.

3.2.11 Butane

Segregated batches of butane may be transported and handled through Baton Rouge.

Colonial Pipeline Company

3.3.1

Cancels Previous Issues of A grades

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 after blending with denatured fuel ethanol unless noted.

ALL A GRADE REQUIREMENTS (SEGREGATED AND FUNGIBLE)

Product Property		ASTM Test	Test Results		Note
		Method	Minimum	Maximum	
Octane	RON	D2699	Report		
	MON	D2700	82.0		
	(R+M)/2		87.0		
Oxygen Content, weight %		D5599		0.1	1,2,6
RVP (psi)		D5191			3
Grades					
A1,1A				8.8	
A2,2A				10.0	
A3,3A				12.5	
A4,4A				14.5	
A5,5A				15.5	

A1,1A, the RVP of this blendstock/gasoline for oxygenate blending does not exceed 7.8 psi

A2,2A, the RVP of this blendstock/gasoline for oxygenate blending does not exceed 9.0 psi

Gasoline designed for gasoline-ethanol blends in accordance with 40 CFR 80.27(d)(2)

Suitable for the special RVP provisions for ethanol blends that contain 9 and 10 vol % ethanol.

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.

Heavy Metals are not allowed to be present.

Additive requirements/restrictions - refer to section 3.2.

This is a base gasoline, not for sale to the ultimate consumer.

Any gasoline exhibiting an offensive odor and/or poses a personal health hazard will not be accepted for shipment.

Any gasoline containing more than 0.50 wt. % of dicyclopentadiene will not be accepted for shipment.

The referee method will be based on a gas chromatograph test.

Delivery test results may vary by the smaller of ASTM reproducibility for a given test or any test tolerance as allowed by state or EPA regulations at the point of delivery.

Colonial Pipeline Company

3.3.2

PRODUCT SPECIFICATIONS CONVENTIONAL REGULAR GASOLINE BLENDSTOCK (CBOB) FOR BLENDING WITH 10% DENATURED FUEL ETHANOL (92% PURITY) AS DEFINED IN ASTM D4806

Cancels Previous Issues of A grades

FUNGIBLE ONLY REQUIREMENTS:

Product Property	ASTM Test Method	Test Results		Note
Benzene (vol%)	D3606	Minimum	Maximum	
Color			3.8	
Corrosion (Cu) 3 hrs @122°F (50°C)	D130		Undyed	
Corrosion (Ag) 3 hrs @122°F (50°C)	D7671		1	
Doctor test	D4952		1	
or			Negative (sweet)	4
Mercaptan sulfur, wt.%	D3227		0.002	
Solvent Washed Gum mg/100 ml	D381		4	
Gravity °API at 60°F	D4052	Report		6
Oxidation stability-minutes	D525	240		6
Phosphorous, gms/gal	D3231		0.004	
Sulfur (ppmw)	D2622		80	7
	or equivalent			
Nace Corrosion	TM0172	B+ (Origin)		6
Volatility:				
Driveability Index	D4814		See Chart	
Distillation, °C (°F) @ %Evap.	D86			
Vapor/Liquid Ratio (V/L), °C (°F) @ 20	D5188 [C] (See Note 6)			5

Grades	Driveability	10 vol%	50 vol%		90 vol%	End Pt.	V/L
	Index	Max	Min	Max	Max	Max	Min
A1,A2	1250	70(158)	66(150)	121(250)	190(374)	221(430)	50 (122)
A3	1230	60(140)	66(150)	116(240)	185(365)	221(430)	47(116)
A4	1220	55(131)	66(150)	113(235)	185(365)	221(430)	42(107)
A5	1200	50(122)	66(150)	110(230)	185(365)	221(430)	39(102)

- All A grades may not contain oxygenates, such as ethers and alcohols. The use of non-hydrocarbon blending components in these grades is prohibited.
- Refer to test methods published in 40 CFR Chapter 1, Part 80.46. Alternative aromatics and oxygenates test methods, ASTM D1319 and ASTM D 4815, may be used according to federal and state regulations.
- For products blended to meet EPA or state imposed summer VOC requirements, tests must be performed in accordance with the procedures described in 40 CFR, Part 80.
- Mercaptan Sulfur waived if fuel is negative by Doctor test.
- Computer and Linear methods may be used to determine V/L value.
- Specifications must be met before blending of denatured fuel ethanol.
- Refer to 40 CFR Part 80.195 (d)(2). Alternative sulfur test methods, ASTM D 5453 and D 7039, may be used according to federal and state regulations.
- Colonial will accept test methods results that are listed in ASTM D4814 for all tests. Test methods listed in the table above are considered referee methods by Colonial Pipeline. Referee methods apply for any dispute.
- Use of these grades is controlled by the RVP calendar.

Colonial Pipeline Company

3.4.1

PRODUCT SPECIFICATIONS CONVENTIONAL PREMIUM GASOLINE BLENDSTOCK (CBOB) FOR BLENDING WITH 10% DENATURED FUEL ETHANOL (92% PURITY) AS DEFINED IN ASTM D4806

Cancels Previous Issues of D grades

**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 after blending with denatured fuel ethanol unless noted.**

ALL D GRADE REQUIREMENTS (SEGREGATED AND FUNGIBLE)

Product Property		ASTM Test	Test Results		Note
		Method	Minimum	Maximum	
Octane	RON	D2699	Report		
	MON	D2700	Report		
	(R+M)/2		93.0		
Oxygen Content, weight %		D5599		0.1	1,2,6
RVP (psi)		D5191			3
Grades					
D1,1D				8.8	
D2,2D				10.0	
D3,3D				12.5	
D4,4D				14.5	
D5,5D				15.5	

D1,1D, the RVP of this blendstock/gasoline for oxygenate blending does not exceed 7.8 psi

D2,2D, the RVP of this blendstock/gasoline for oxygenate blending does not exceed 9.0 psi

Gasoline designed for gasoline-ethanol blends in accordance with 40 CFR 80.27(d)(2)

Suitable for the special RVP provisions for ethanol blends that contain 9 and 10 vol % ethanol.

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.

NOTES (Apply to Fungible and Segregated):

Heavy Metals are not allowed to be present.

Additive requirements/restrictions - refer to section 3.2.

This is a base gasoline, not for sale to the ultimate consumer.

Any gasoline exhibiting an offensive odor and/or poses a personal health hazard will not be accepted for shipment.

Any gasoline containing more than 0.50 wt. % of dicyclopentadiene will not be accepted for shipment.

The referee method will be based on a gas chromatograph test.

Delivery test results may vary by the smaller of ASTM reproducibility for a given test or any test tolerance as allowed by state or EPA regulations at the point of delivery.

Colonial Pipeline Company

3.4.2

PRODUCT SPECIFICATIONS CONVENTIONAL PREMIUM GASOLINE BLENDSTOCK (CBOB) FOR BLENDING WITH 10% DENATURED FUEL ETHANOL (92% PURITY) AS DEFINED IN ASTM D4806

Cancels Previous Issues of D grades

FUNGIBLE ONLY REQUIREMENTS:

Product Property	ASTM Test Method	Test Results		Note
		Minimum	Maximum	
Benzene (vol%)	D3606		3.8	
Color			Undyed	
Corrosion (Cu) 3 hrs @122°F (50°C)	D130		1	
Corrosion (Ag) 3 hrs @122°F (50°C)	D7671		1	
Doctor test	D4952		Negative (sweet)	4
or				
Mercaptan sulfur, wt.%	D3227		0.002	
Solvent Washed Gum mg/100 ml	D381		4	
Gravity °API at 60°F	D4052	Report		6
Oxidation stability-minutes	D525	240		6
Phosphorous, gms/gal	D3231		0.004	
Sulfur (ppmwt)	D2622		80	7
	or equivalent			
Nace Corrosion	TM0172	B+ (Origin)		6
Volatility:				
Driveability Index	D4814		See Chart	
Distillation, °C (°F) @ %Evap.	D86			
Vapor/Liquid Ratio (V/L), °C (°F) @ 20	D5188 [C] (See Note 6)			5

Grades	Driveability	10 vol%	50 vol%		90 vol%	End Pt.	V/L
	Index	Max	Min	Max	Max	Max	Min
D1,D2	1250	70(158)	66(150)	121(250)	190(374)	221(430)	50(122)
D3	1230	60(140)	66(150)	116(240)	185(365)	221(430)	47(116)
D4	1220	55(131)	66(150)	113(235)	185(365)	221(430)	42(107)
D5	1200	50(122)	66(150)	110(230)	185(365)	221(430)	39(102)

1. All D grades may not contain oxygenates, such as ethers and alcohols. The use of non-hydrocarbon blending components in these grades is prohibited.
2. Refer to test methods published in 40 CFR Chapter 1, Part 80.46. Alternative aromatics and oxygenates test methods, ASTM D1319 and ASTM D 4815, may be used according to federal and state regulations.
3. For products blended to meet EPA or state imposed summer VOC requirements, tests must be performed in accordance with the procedures described in 40 CFR, Part 80.
4. Mercaptan Sulfur waived if fuel is negative by Doctor test.
5. Computer and Linear methods may be used to determine V/L value.
6. Specifications must be met before blending of denatured fuel ethanol.
7. Refer to 40 CFR Part 80.195 (d)(2). Alternative sulfur test methods, ASTM D 5453 and D 7039, may be used according to federal and state regulations.
8. Colonial will accept test methods results that are listed in ASTM D4814 for all tests. Test methods listed in the table above are considered referee methods by Colonial Pipeline. Referee methods apply for any dispute.
9. Use of these grades is controlled by the RVP calendar.

Colonial Pipeline Company

3.5.1

PRODUCT SPECIFICATIONS REFORMULATED REGULAR GASOLINE BLENDSTOCK (RBOB) FOR BLENDING WITH 10% DENATURED FUEL ETHANOL (92% PURITY) AS DEFINED IN ASTM D4806

Cancels Previous Issues of F grades

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

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

ALL F GRADE REQUIREMENTS (SEGREGATED AND FUNGIBLE)

Product Property		ASTM Test	Test Results		Note
		Method	Minimum	Maximum	
Octane	RON	D2699	Report		
	MON	D2700	82.0		
	(R+M)/2		87.0		
Benzene (vol%)		D3606		1.30	
Oxygen Content, weight %		D5599 (See Note)		1,2,7,8	
Aromatics (vol%)		D5769 (See Note)		2	
E200 (vol%)		D86	30	70	
E300 (vol%)		D86	70	100	
Olefins (vol%)		D1319		25	
Sulfur (ppmwt)		D2622		80	9
Non-VOC Controlled Requirements					
RVP (psi)		D5191			3
Grades					
F3,3F (Non-VOC Controlled)				11.5	
F4,4F (Non-VOC Controlled)				13.5	
F5,5F (Non-VOC Controlled)				15.0	
VOC Controlled Requirements					
(Grades F1,F2,1F,2F, only)					2
RVP (psi)		D5191		Report	3
Emissions Performance Reductions (%)					4
Region 1 (Grades F1,1F)		Origin:		-28.0%	11
				-27.0%	
		Delivery:		-25.0%	
Region 2 (Grades F2,2F)		Origin:		-26.4%	11
				-25.4%	
		Delivery:		-23.4%	

Colonial Pipeline Company

3.5.2

PRODUCT SPECIFICATIONS REFORMULATED REGULAR GASOLINE BLENDSTOCK (RBOB) FOR BLENDING WITH 10% DENATURED FUEL ETHANOL (92% PURITY) AS DEFINED IN ASTM D4806

Cancels Previous Issues of F grades

FUNGIBLE ONLY REQUIREMENTS:

Product Property	ASTM Test Method	Test Results		Note
		Minimum	Maximum	
Color			Undyed	
Corrosion (Cu) 3 hrs @122°F (50°C)	D130		1	
Corrosion (Ag) 3 hrs @122°F (50°C)	D7671		1	
Doctor test	D4952		Negative (sweet)	5
or				
Mercaptan sulfur, wt. %	D3227		0.002	
Solvent Washed Gum mg/100 ml	D381		4	
Gravity °API at 60°F	D4052	Report		7
Oxidation stability-minutes	D525	240		7
Phosphorous, gms/gal	D3231		0.004	
Nace Corrosion	TM0172	B+ (Origin)		7
Volatility:				
Driveability Index	D4814		See Chart	
Distillation, °C (°F) @ %Evap.	D86			
Vapor/Liquid Ratio (V/L), °C (°F) @ 20	D5188 [C] (See Note 6)			6

Grades	Driveability	10 vol%	50 vol%		90 vol%	End Pt.	V/L
	Index	Max	Min	Max	Max	Max	Min
F1,F2	1250	70(158)	66(150)	121(250)	190(374)	221(430)	50(122)
F3	1230	60(140)	66(150)	116(240)	185(365)	221(430)	47(116)
F4	1220	55(131)	66(150)	113(235)	185(365)	221(430)	42(107)
F5	1200	50(122)	66(150)	110(230)	185(365)	221(430)	39(102)

NOTES (Apply to Fungible and Segregated):

Heavy Metals are not allowed to be present.

Additive requirements/restrictions - refer to section 3.2.

This is a base gasoline, not for sale to the ultimate consumer.

Any gasoline exhibiting an offensive odor and/or poses a personal health hazard will not be accepted for shipment.

Any gasoline containing more than 0.50 wt. % of dicyclopentadiene will not be accepted for shipment.

The referee method will be based on a gas chromatograph test.

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

2. Refer to test methods published in 40 CFR Chapter 1, Part 80.46. Alternative aromatics and oxygenates test methods, ASTM D1319 and ASTM D 4815, may be used according to federal and state regulations.

3. For products blended to meet EPA or state imposed summer VOC requirements, tests must be performed in accordance with the procedures described in 40 CFR, Part 80.

Delivery test results may vary by the smaller of ASTM reproducibility for a given test or any test tolerance as allowed by state or EPA regulations at the point of delivery.

Colonial Pipeline Company

PRODUCT SPECIFICATIONS

3.5.3

REFORMULATED REGULAR GASOLINE BLENDSTOCK (RBOB) FOR BLENDING WITH 10% DENATURED FUEL ETHANOL (92% PURITY) AS DEFINED IN ASTM D4806

Cancels Previous Issues of F grades

NOTES CONTINUED (Apply to Fungible and Segregated):

4. Emissions reductions must be calculated using EPA guidelines.
5. Mercaptan Sulfur waived if fuel is negative by Doctor test.
6. Computer and Linear methods may be used to determine V/L value.
7. Specifications must be met before blending of denatured fuel ethanol.
8. Oxygen content must meet a minimum of 1.7 wt.% and a maximum of 4.0 wt.% after blending of denatured fuel ethanol.
9. Refer to 40 CFR Part 80.195 (d)(2). Alternative sulfur test methods, ASTM D 5453 and D 7039, may be used according to federal and state regulations.
10. Woodbury and Linden facilities will only allow shipments of region 2 fuels.
Any Region 1 fuels shipped downstream of Aberdeen will be comingled with region 2 fuels
11. Refer to Colonial's current RVP schedule for cycle numbers
12. Colonial will accept test methods results that are listed in ASTM D4814 for all tests. Test methods listed in the table above are considered referee methods by Colonial Pipeline. Referee methods apply for any dispute.
13. Use of these grades is controlled by the RVP calendar.

Colonial Pipeline Company

3.6.1

PRODUCT SPECIFICATIONS REFORMULATED PREMIUM GASOLINE BLENDSTOCK (RBOB) FOR BLENDING WITH 10% DENATURED FUEL ETHANOL (92% PURITY) AS DEFINED IN ASTM D4806

Cancels Previous Issues of H grades

**This RBOB may not be combined with any other RBOB except RBOB having the same requirement for oxygenate type and amount.
All parameters must be met after blending with denatured fuel ethanol unless noted.**

ALL H GRADE REQUIREMENTS (SEGREGATED AND FUNGIBLE)

Product Property		ASTM Test Method	Test Results		Note
			Minimum	Maximum	
Octane	RON	D2699	Report		
	MON	D2700	Report		
	(R+M)/2		93.0		
Benzene (vol%)		D3606		1.30	
Oxygen Content, weight %		D5599 (See Note)			1,2,7,8
Aromatics (vol%)		D5769 (See Note)		50	2
E200 (vol%)		D86	30	70	
E300 (vol%)		D86	70	100	
Olefins (vol%)		D1319		25	
Sulfur (ppmw)		D2622		80	9
Non-VOC Controlled Requirements					
RVP (psi)		D5191			3
Grades					
H3,3H (Non-VOC Controlled)				11.5	
H4,4H (Non-VOC Controlled)				13.5	
H5,5H (Non-VOC Controlled)				15.0	
VOC Controlled Requirements					
(Grades H1,H2,1H,2H, only)					2
RVP (psi)		D5191		Report	3
Emissions Performance Reductions (%)					4
Region 1 (Grades H1,1H)		Origin:		-28.0%	11
				-27.0%	
		Delivery:		-25.0%	
Region 2 (Grades H2,2H)		Origin:		-26.4%	11
				-25.4%	
		Delivery:		-23.4%	

Colonial Pipeline Company

3.6.2

PRODUCT SPECIFICATIONS REFORMULATED PREMIUM GASOLINE BLENDSTOCK (RBOB) FOR BLENDING WITH 10% DENATURED FUEL ETHANOL (92% PURITY) AS DEFINED IN ASTM D4806

Cancels Previous Issues of H grades
FUNGIBLE ONLY REQUIREMENTS:

Product Property	ASTM Test Method	Test Results		Note
		Minimum	Maximum	
Color			Undyed	
Corrosion (Cu) 3 hrs @122°F (50°C)	D130		1	
Corrosion (Ag) 3 hrs @122°F (50°C)	D7671		1	
Doctor test	D4952		Negative (sweet)	5
or				
Mercaptan sulfur, wt. %	D3227		0.002	
Solvent Washed Gum mg/100 ml	D381		4	
Gravity °API at 60°F	D4052	Report		7
Oxidation stability-minutes	D525	240		7
Phosphorous, gms/gal	D3231		0.004	
Nace Corrosion	TM0172	B+ (Origin)		7
Volatility:				
Driveability Index	D4814		See Chart	
Distillation, °C (°F) @ %Evap.	D86			
Vapor/Liquid Ratio (V/L), °C (°F) @ 20	D5188 [C] (See Note 6)			6

Grades	Driveability	10 vol%	50 vol%		90 vol%	End Pt.	V/L
	Index	Max	Min	Max	Max	Max	Min
H1,H2	1250	70(158)	66(150)	121(250)	190(374)	221(430)	50(122)
H3	1230	60(140)	66(150)	116(240)	185(365)	221(430)	47(116)
H4	1220	55(131)	66(150)	113(235)	185(365)	221(430)	42(107)
H5	1200	50(122)	66(150)	110(230)	185(365)	221(430)	39(102)

NOTES (Apply to Fungible and Segregated):

Heavy Metals are not allowed to be present.

Additive requirements/restrictions - refer to section 3.2.

This is a base gasoline, not for sale to the ultimate consumer.

Any gasoline exhibiting an offensive odor and/or poses a personal health hazard will not be accepted for shipment.

Any gasoline containing more than 0.50 wt. % of dicyclopentadiene will not be accepted for shipment.

The referee method will be based on a gas chromatograph test.

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

2. Refer to test methods published in 40 CFR Chapter 1, Part 80.46. Alternative aromatics and oxygenates test methods, ASTM D1319 and ASTM D 4815, may be used according to federal and state regulations.

3. For products blended to meet EPA or state imposed summer VOC requirements, tests must be performed in accordance with the procedures described in 40 CFR, Part 80.

Delivery test results may vary by the smaller of ASTM reproducibility for a given test or any test tolerance as allowed by state or EPA regulations at the point of delivery.

Colonial Pipeline Company

3.6.3

PRODUCT SPECIFICATIONS REFORMULATED PREMIUM GASOLINE BLENDSTOCK (RBOB) FOR BLENDING WITH 10% DENATURED FUEL ETHANOL (92% PURITY) AS DEFINED IN ASTM D4806

Cancels Previous Issues of H grades

NOTES (Apply to Fungible and Segregated):

4. Emissions reductions must be calculated using EPA guidelines.
5. Mercaptan Sulfur waived if fuel is negative by Doctor test.
6. Computer and Linear methods may be used to determine V/L value.
7. Specifications must be met before blending of denatured fuel ethanol.
8. Oxygen content must meet a minimum of 1.7 wt.% and a maximum of 4.0 wt.% after blending of denatured fuel ethanol.
9. Refer to 40 CFR Part 80.195 (d)(2). Alternative sulfur test methods, ASTM D 5453 and D 7039, may be used according to federal and state regulations.
10. Woodbury and Linden facilities will only allow shipments of region 2 fuels.
Any Region 1 fuels shipped downstream of Aberdeen will be comingled with Region 2 fuels.
11. Refer to Colonial's current RVP schedule for cycle numbers.
12. Colonial will accept test methods results that are listed in ASTM D4814 for all tests. Test methods listed in the table above are considered referee methods by Colonial Pipeline. Referee methods apply for any dispute.
13. Use of these grades is controlled by the RVP calendar.

Colonial Pipeline Company

PRODUCT SPECIFICATIONS BLENDSTOCKS

3.7

Cancels Previous Issues of L Grades

ALL L GRADE REQUIREMENTS (SEGREGATED ONLY)

In order to allow for the proper placement of the batch in our sequence, when nominating the batch, the shipper must supply to the best of their knowledge the following information:

Octane

Oxygen Content, weight %

RVP (psi)

Any other product property that does not meet Colonial's fungible specification for M grades

The Pre-shipment/Transfer Document must be received before shipment with the actual results.

Product Property	ASTM Test Method	Test Results		Note
		Minimum	Maximum	
Gravity °API at 60°F	D4052	48	80	
Benzene (vol%)	D3606		3.8	
Nace Corrosion	TM0172	B+ (origin)		
Sulfur, (ppmw)	D2622 or equivalent		Report	
RVP (psi)	D5191	4.0		

Grades

- 1L This product code is intended for the shipment of low octane (<83 R+M/2) gasoline blendstocks. Nomination and shipment of a buffer batch is required with the batch. All interfaces will be cut into the 1L product in order to protect other batches. The nomination volumes of the buffer batch and 1L product will be adjusted to reflect actual barrels delivered.
- 2L This product code is intended for the shipment of >83 and <87 R+M/2 gasoline blendstocks. This product does not require a buffer batch and will be handled with normal procedures.
- 3L This product code is intended for the shipment of >87 and <93 R+M/2 gasoline blendstocks. This product does not require a buffer batch and will be handled with normal procedures.
- 4L This product code is intended for the shipment of >93 R+M/2 gasoline blendstocks. This product does not require a buffer batch and will be handled with normal procedures.

Colonial will accept test methods results that are listed in ASTM D4814 for all tests. Test methods listed in the table above are considered referee methods by Colonial Pipeline. Referee methods apply for any dispute.

Delivery test results may vary by the smaller of ASTM reproducibility for a given test or any test tolerance as allowed by state or EPA regulations at the point of delivery.

Additive requirements/restrictions - refer to section 3.2.

Use of these grades is controlled by the RVP calendar.

Colonial Pipeline Company

PRODUCT SPECIFICATIONS

3.8.1

SPECIFICATIONS FOR 87 OCTANE INDEX CONVENTIONAL GASOLINE

Cancels Previous Issues of M Grades

This product does not meet requirements for reformulated gasoline, and may not be used in any reformulated gasoline covered area.

ALL M GRADE REQUIREMENTS (SEGREGATED AND FUNGIBLE)

Product Property		ASTM Test	Test Results		
		Method	Minimum	Maximum	Note
Octane	RON	D2699	Report		
	MON	D2700	82.0		
	(R+M)/2		87.0		
Oxygen Content, weight %		D5599		0.1	1
RVP (psi)		D5191			2
Grades			Without Ethanol	With Ethanol	
M1,1M			7.8	8.8	6
M2,2M			9.0	X	
M1,1M the RVP of this blendstock/gasoline for oxygenate blending does not exceed 7.8 psi					
Gasoline designed for gasoline-ethanol blends in accordance with 40 CFR 80.27(d)(2)					
Suitable for the special RVP provisions for ethanol blends that contain 9 and 10 vol % ethanol.					
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.					

Heavy Metals are not allowed to be present.

Additive requirements/restrictions - refer to section 3.2.

This is a base gasoline, not for sale to the ultimate consumer.

Any gasoline exhibiting an offensive odor and/or poses a personal health hazard will not be accepted for shipment.

Any gasoline containing more than 0.50 wt. % of dicyclopentadiene will not be accepted for shipment.

The referee method will be based on a gas chromatograph test.

Delivery test results may vary by the smaller of ASTM reproducibility for a given test or any test tolerance as allowed by state or EPA regulations at the point of delivery.

Colonial Pipeline Company

PRODUCT SPECIFICATIONS

3.8.2

SPECIFICATIONS FOR 87 OCTANE INDEX CONVENTIONAL GASOLINE

Cancels Previous Issues of M Grades

FUNGIBLE ONLY REQUIREMENTS:

Product Property	ASTM Test Method	Test Results		Note
		Minimum	Maximum	
Benzene, vol.%	D3606		3.8	
Color			Undyed	
Corrosion (Cu) 3 hrs @122°F (50°C)	D130		1	
Corrosion (Ag) 3 hrs @122°F (50°C)	D7671		1	
Doctor test	D4952		Negative (sweet)	3
or				
Mercaptan sulfur, wt.%	D3227		0.002	
Solvent Washed Gum mg/100 ml	D381		4	
Gravity °API at 60°F	D4052	Report		
Oxidation stability-minutes	D525	240		[C] 6
Phosphorous, gms/gal	D3231		0.004	
Sulfur (ppmw)	D2622		80	5
	or equivalent			
Nace Corrosion	TM0172	B+ (Origin)		
Volatility:				
Driveability Index	D4814		See Chart	
Distillation, °C (°F) @ %Evap.	D86			
Vapor/Liquid Ratio (V/L), °C (°F) @ 20	D5188 [C] (See Note 5)			4

Grades	Driveability	10 vol%	50 vol%		90 vol%	End Pt.	V/L
	Index	Max	Min	Max	Max	Max	Min
M1,M2	1250	70(158)	77(170)	121(250)	190(374)	221(430)	56(133)
M3	1230	60(140)	77(170)	116(240)	185(365)	221(430)	51(124)
M4	1220	55(131)	77(170)	113(235)	185(365)	221(430)	47(116)
M5	1200	50(122)	77(170)	110(230)	185(365)	221(430)	41(105)

NOTES (Apply to Fungible and Segregated):

1. Non-oxygenated is defined as having no more than 0.1 wt.% oxygen. The use of oxygenated and/or non-hydrocarbon blending components in these grades is prohibited.
2. For products blended to meet EPA or state imposed summer VOC requirements, tests must be performed in accordance with the procedures described in 40 CFR, Part 80.
3. Mercaptan Sulfur waived if fuel is negative by Doctor test.
4. Computer and Linear methods may be used to determine V/L value.
5. Refer to 40 CFR Part 80.195 (d)(2). Alternative sulfur test methods, ASTM D 5453 and D 7039, may be used according to federal and state regulations.
6. M1 is the only RVP volatility class that requires dual certification on certificate of analysis for RVP.
7. Colonial will accept test methods results that are listed in ASTM D4814 for all tests. Test methods listed in the table above are considered referee methods by Colonial Pipeline. Referee methods apply for any dispute.
8. Use of these grades is controlled by the RVP calendar.
9. Not available for delivery to Belton.

Colonial Pipeline Company

PRODUCT SPECIFICATIONS

3.9.1

SPECIFICATIONS FOR 93 OCTANE INDEX CONVENTIONAL GASOLINE

Cancels Previous Issues of V Grades

This product does not meet requirements for reformulated gasoline, and may not be used in any reformulated gasoline covered area.

ALL V GRADE REQUIREMENTS (SEGREGATED AND FUNGIBLE)

Product Property		ASTM Test Method	Minimum	Test Results Maximum		Note
Octane	RON	D2699	Report			
	MON	D2700	Report			
	(R+M)/2		93.0			
Oxygen Content, weight %		D5599		0.1		1
RVP (psi)		D5191				2
				Without Ethanol	With Ethanol	
Grades						
V1,1V				7.8	8.8	6
V2,2V				9.0	X	
V3,3V				11.5	X	
V4,4V				13.5	X	
V5,5V				15.0	X	
V1,1V the RVP of this blendstock/gasoline for oxygenate blending does not exceed 7.8 psi						
Gasoline designed for gasoline-ethanol blends in accordance with 40 CFR 80.27(d)(2)						
Suitable for the special RVP provisions for ethanol blends that contain 9 and 10 vol % ethanol.						
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.						

Heavy Metals are not allowed to be present.

Additive requirements/restrictions - refer to section 3.2.

This is a base gasoline, not for sale to the ultimate consumer.

Any gasoline exhibiting an offensive odor and/or poses a personal health hazard will not be accepted for shipment.

Any gasoline containing more than 0.50 wt. % of dicyclopentadiene will not be accepted for shipment.

The referee method will be based on a gas chromatograph test.

Delivery test results may vary by the smaller of ASTM reproducibility for a given test or any test tolerance as allowed by state or EPA regulations at the point of delivery.

Colonial Pipeline Company

PRODUCT SPECIFICATIONS

3.9.2

SPECIFICATIONS FOR 93 OCTANE INDEX CONVENTIONAL GASOLINE

Cancels Previous Issues of V Grades

FUNGIBLE ONLY REQUIREMENTS:

Product Property	ASTM Test Method	Test Results		Note
		Minimum	Maximum	
Benzene, vol.%	D3606		3.8	
Color			Undyed	
Corrosion (Cu) 3 hrs @122°F (50°C)	D130		1	
Corrosion (Ag) 3 hrs @122°F (50°C)	D7671		1	
Doctor test	D4952		Negative (sweet)	3
or				
Mercaptan sulfur, wt.%	D3227		0.002	
Solvent Washed Gum mg/100 ml	D381		4	
Gravity °API at 60°F	D4052	Report		
Oxidation stability-minutes	D525	240		[C] 6
Phosphorous, gms/gal	D3231		0.004	
Sulfur (ppmwt)	D2622		80	5
	or equivalent			
Nace Corrosion	TM0172	B+ (Origin)		
Volatility:				
Driveability Index	D4814		See Chart	
Distillation, °C (°F) @ %Evap.	D86			
Vapor/Liquid Ratio (V/L), °C (°F) @ 20	D5188 [C] (See Note 5)			4

Grades	Driveability	10 vol%	50 vol%		90 vol%	End Pt.	V/L
	Index	Max	Min	Max	Max	Max	Min
V1,V2	1250	70(158)	77(170)	121(250)	190(374)	221(430)	56(133)
V3	1230	60(140)	77(170)	116(240)	185(365)	221(430)	51(124)
V4	1220	55(131)	77(170)	113(235)	185(365)	221(430)	47(116)
V5	1200	50(122)	77(170)	110(230)	185(365)	221(430)	41(105)

NOTES (Apply to Fungible and Segregated):

1. Non-oxygenated is defined as having no more than 0.1 wt.% oxygen. The use of oxygenated and/or non-hydrocarbon blending components in these grades is prohibited.
2. For products blended to meet EPA or state imposed summer VOC requirements, tests must be performed in accordance with the procedures described in 40 CFR, Part 80.
3. Mercaptan Sulfur waived if fuel is negative by Doctor test.
4. Computer and Linear methods may be used to determine V/L value.
5. Refer to 40 CFR Part 80.195 (d)(2). Alternative sulfur test methods, ASTM D 5453 and D 7039, may be used according to federal and state regulations.
6. V1 is the only RVP volatility class that requires dual certification on certificate of analysis for RVP.
7. Colonial will accept test methods results that are listed in ASTM D4814 for all tests. Test methods listed in the table above are considered referee methods by Colonial Pipeline. Referee methods apply for any dispute.
8. Use of these grades is controlled by the RVP calendar.
9. Deliveries to Belton will be downgraded to A grade or D grade.

Colonial Pipeline Company

3.10.1

Product Specification

SPECIFICATION FOR SEGREGATED BUTANE BU

This product is available to ship in segregated batches only.

NOTE: The shipper will supply Colonial with Certificate of Analysis (COA)
Only available for movement on the Baton Rouge Dock Lines.

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Colonial Pipeline Company

Product Specifications

SPECIFICATIONS FOR SEGREGATED R100 RENEWABLE DIESEL 100% Grade 48

3.11.1

This grade is for billing purposes only and is NOT AVAILABLE FOR SHIPMENT

Grade to be used to track renewable diesel injected in connection with renewable services provided by Colonial.

Colonial Pipeline Company

Product Specifications

SPECIFICATIONS FOR FUNGIBLE B99/B100 BIO-DIESEL Grade 49

3.12.1

EPA Designation: MVNRLM 15 PPM Sulfur

Cancels Previous Issues of Grade 49

PRODUCT PROPERTY	Test Method	Test Results	
		Minimum	Maximum
API Gravity	D1298	Report	Report
Flash Point, °C (°F)			
Pensky-Martin	D93	93 (199.4)	
Distillation Temp °C @ 90% Rec. 90%	D1160		360
Color Visual		Undyed	
Appearance (HAZE)	D4176		2
Viscosity, cSt @ 40°C (104°F)	D445	1.9	6.0
Cloud Point °C (°F)	D2500		
Summer			10 (50)
Winter			2 (35.6)
Corrosion, 3 hrs. @ 50°C (122°F)	D130	1B	
Total Sulfur, ppmwt	D5453		11
Cetane Number	D613	47	
Sulfated Ash, wt. %	D874		0.02
Oxidation stability, (hours)	EN14112	3	
Methanol Content			
Methanol by Flash Point °C (°F)	D93	130 (266)	
Or			
Methanol (mass %)	EN14110		0.2
Carbon Residue: (% by mass)	D4530		0.050
BS&W, vol. %	D2709		0.050
Group I Sodium & Potassium Combined (ppm)	EN14538		5
Group II Calcium & Magnesium Combined (ppm)	EN14538		5
Phosphorous (ppm)	D4951		10
Nace Corrosion	TM0172	B+	

Colonial Pipeline Company

Product Specifications

SPECIFICATIONS FOR FUNGIBLE B99/B100 BIO-DIESEL Grade 49

3.12.2

EPA Designation: MVNRLM 15 PPM Sulfur

Cancels Previous Issues of Grade 49

PRODUCT PROPERTY	Test Method	Test Results		Note
		Minimum	Maximum	
Acid Number (mg KOH/g)	D664		0.50	
Cold Soak Filterability (seconds)	D7501			
Summer			360	
Winter			200	
Free Glycerin (mass%)	D6584		0.020	
			0.24	
Total Glycerin (mass%)	D6584			
Monoglycerides (mass%)	D6584		0.40	
Summer			Report	
Winter			0.40	
Antioxidants (ppm)				3

NOTES:

1. Visually free of undissolved water, sediment and suspended water
2. This schedule denotes the fluidity of the distillate at the time and place of origin.
 - Cloud Point – October 1st through April 30th
 - Cloud Point – May 1st through September 31st
3. Antioxidants must be reported with name and concentration
4. Must meet ASTM D6751, Table 1
5. Supplier must be BQ 9000 accredited
6. This grade is not available for shipping; it is intended for blending purposes only.

Maximum: 2°C (35.6°F)

Maximum: 10°C (50°F)

Colonial Pipeline Company

PRODUCT SPECIFICATIONS

3.13.1

SPECIFICATIONS FOR FUNGIBLE 15 ppm SULFUR KEROSENE GRADE 51

EPA Designation: MVNRLM, Motor vehicle diesel fuel 15 ppm sulfur

Cancels Previous Issues of Grade 51

Product Property	ASTM Test Method	Test Results		Note
		Minimum	Maximum	
General Properties				
Color: Origin	D6045	21		
Color: Delivery	D6045	18		
Gravity	D4052	37	51	
Net Heat of combustion BTU/Pound	D3338	18,400		
Corrosion 2 hrs. @ 212°F (100°C)	D130		1	
Cetane Index	D613	40		6
MSEP: Origin	D3948	85		
MSEP: Delivery	D7224	75		
Electrical				
Conductivity, pS/m @ 21°C(70°F)	D2624		Report	
Ash, wt.%	D482		0.01	
Determination of	MIL-T-5624P, D5452			
Filtration Time or Volume			Report	3
Total Solids or Particulate			Report	
Low Temperature Properties				
Freezing Point,°C	D2386		-40	7
Viscosity, cSt @ 104°F (40°C)	D445	1.3	1.9	
Viscosity, cSt @ -4°F (-20°C)	D445		8.0	
Volatility				
Flash Point, °F	D56	123		
Distillation, °C(°F)	D86			7
10% recovered			205(400)	
50% recovered		Report		
90% recovered			288(550)	
End Point			300(572)	
Residue, %			1.5	
Loss, %			1.5	
or Simulated Distillation, °C(°F)	D2887			7
10% recovered			185(365)	
50% recovered		Report		
90% recovered			304(579)	
End Point			340(644)	
Stability				
Existent Gum, mg/100 ml	D381,IP540		7.0	
Thermal Stability @ 275°C	D3241			Origin
Pres. drop in mm/Hg			25	
Tube deposit less than code			Code 3	
No Peacock or Abnormal Color Deposits				

Colonial Pipeline Company

PRODUCT SPECIFICATIONS

3.13.2

SPECIFICATIONS FOR FUNGIBLE 15 ppm SULFUR KEROSENE GRADE 51

Cancels Previous Issues of Grade 51

Product Property	ASTM Test Method	Test Results		Note
		Minimum	Maximum	
Stability (continued)				
Thermal Stability @ 260°C	D3241			Delivery
Pres. drop in mm/Hg			25	
Tube deposit less than code			Code 3	
		No Peacock or Abnormal Color Deposits		
Thermal Stability ASTM D 3241				
Tube rating: one of the following requirement shall be met				
(1) Annex A1 VTR, VTR color code		Less than	:	
		No Peacock or abnormal color deposits		
(2) Annex A2 ITR or Annex 3 ETR		Max	8	
nm average over area of 2.5 mm ²				
Refer ASTM D1655 note M for referee method				
Carbon Residue: Ramsbottom	D524			
on 10% bottom			0.15	
Composition Properties				
Total Sulfur, ppmwt	D5453			4
			11	Origin
			14	Delivery
Aromatics, vol.%	D1319		25	
Mercaptan Sulfur, wt.%	D3227		0.003	5
OR				
Doctor test	D4952		Negative (sweet)	
Acidity total max, mg KOH/g	D3242		0.1	
Combustion Properties				
Smoke point, mm	D1322	25		
OR				
Smoke point, mm and	D1322	18		
Naphthalenes, vol.%	D1840		3.0	
Burning Quality	D187	Report		8

NOTES:

- Product shall be clear and bright and free of suspended matter.
- Additive requirements/restrictions - refer to section 3.2.
- At this time, the test limits described in MIL-T-5624P, Appendix A, parts 70.a(1) and 70.b will not be imposed.
- Origin laboratory certifying sulfur content can qualify the test method used per EPA performance based testing criteria (see CFR 80.584).
- Mercaptan Sulfur waived if fuel is negative by Doctor test.
- Where cetane number by test method D613 is not available, test method D4737A can be used as an approximation.
- Either physical or simulated distillation can be used.
- Typical results pass according to Paragraph 4.2 of ASTM D3699 Standard Specifications for kerosene.
- On Lines # 17, 22, 24, and Greensboro local deliveries may contain trace amounts of Bio-Diesel and can't be used for aviation kerosene.
- Colonial will accept test methods results that are listed in ASTM D1655 and ASTM D975 for all tests. Test methods listed in the table above are considered referee methods by Colonial Pipeline. Referee methods apply for any dispute.
- Not available for delivery to Spartanburg or Explorer.

Colonial Pipeline Company

PRODUCT SPECIFICATIONS SPECIFICATIONS FOR FUNGIBLE MILITARY JP-5

3.14

EPA Designation: Exempt distillate covered by national security exemption under 80.606

Cancels Previous Issues of Grade 52.

Shipments of grade 52 must meet the latest military specification for JP-5.

Notes

1. Not available for delivery to Spartanburg, Explorer, Greensboro local lines or lines #17, and 24. Line 22 deliveries may contain up to 50 ppm of biodiesel.

Colonial Pipeline Company

PRODUCT SPECIFICATIONS

3.15

SPECIFICATIONS FOR SEGREGATED KEROSENE GRADE 53

EPA Designation: Kerosene

Cancels Previous Issues of Grade 53

Product Property	ASTM Test Method	Test Results		Note
		Minimum	Maximum	
Gravity	D4052	37	51	
Flash Point, °F	D56	100		
Sulfur, ppmwt	D4294		3000	3
Electrical				
Conductivity, pS/m @ 21°C(70°F)	D2624		Report	

In order to allow for the proper placement of the batch in our sequence, when nominating the batch, the shipper must supply to the best of his knowledge any product property that does not meet our fungible specifications for 54 grade.

NOTES:

1. Product shall be clear and bright and free of suspended matter.
2. The pre-shipment documentation with the actual results must be received before shipment.
3. Origin laboratory certifying sulfur content can qualify the test method used per EPA performance based testing criteria (see CFR 80.584).
4. Additive requirements/restrictions - refer to section 3.2.
5. Colonial will accept test methods results that are listed in ASTM D1655 for all tests. Test methods listed in the table above are considered referee methods by Colonial Pipeline. Referee methods apply for any dispute.
6. Not available for delivery to Spartanburg or Explorer.
7. Lines # 17, 22, 24, and Greensboro local deliveries may contain trace amounts of Bio-Diesel and can't be used for aviation kerosene.

Colonial Pipeline Company

PRODUCT SPECIFICATIONS

3.16.1

SPECIFICATIONS FOR FUNGIBLE AVIATION KEROSENE GRADE 54

EPA Designation: Jet Fuel

Cancels Previous Issues of Grade 54

Product Property	ASTM Test Method	Test Results		Note
		Minimum	Maximum	
General Properties				
Gravity	D4052	37	51	
Net Heat of combustion				
BTU/Pound	D3338	18,400		
Corrosion 2 hrs. @ 212°F (100°C)	D130		1	
MSEP: Origin	D3948	85		
MSEP: Delivery	D7224	75		8
Electrical				
Conductivity, pS/m @ 21°C(70°F)	D2624		Report	
Determination of	MIL-T-5624P, D5452			
Filtration Time or Volume			Report	3
Total Solids or Particulate			Report	
Low Temperature Properties				
Freezing Point, °C	D2386		-40	
Viscosity, cSt @ -4°F (-20°C)	D445		8.0	
Volatility				
Flash Point, °F	D56	108		
Physical Distillation, °C(°F)	D86			6
10% recovered			205(400)	
50% recovered		Report		
90% recovered		Report		
End Point			300(572)	
Residue, %			1.5	
Loss, %			1.5	
or Simulated Distillation, °C(°F)	D2887			6
10% recovered			185(365)	
50% recovered		Report		
90% recovered		Report		
End Point			340(644)	
Stability				
Existent Gum, mg/100 ml	D381, IP540		7.0	
Thermal Stability @ 275°C	D3241			Origin
Pres. drop in mm/Hg			25	
Tube deposit less than code			Code 3	
No Peacock or Abnormal Color Deposits				

Colonial Pipeline Company

PRODUCT SPECIFICATIONS

3.16.2

SPECIFICATIONS FOR FUNGIBLE AVIATION KEROSENE GRADE 54

Cancels Previous Issues of Grade 54

Product Property	ASTM Test Method	Test Results		Note
		Minimum	Maximum	
Stability				
Thermal Stability @ 260°C	D3241			Delivery
Pres. drop in mm/Hg			25	
Tube deposit less than code			Code 3	
		No Peacock or Abnormal Color Deposits		
Thermal Stability ASTM D 3241				
Tube rating: one of the following requirement shall be met				
(1) Annex A1 VTR, VTR color code		Less than	3	
		No Peacock or abnormal color deposits		
(2) Annex A2 ITR or Annex 3 ETR		Max	85	
nm average over area of 2.5 mm ²				
Refer ASTM D1655 note M for referee method				
Composition Properties				
Sulfur, ppmwt	D4294		3000	5
Mercaptan Sulfur, wt.%	D3227		0.003	4
OR				
Doctor test	D4952		Negative (sweet)	
Aromatics, vol.%	D1319		25	
Acidity total max, mg KOH/g	D3242		0.1	
Combustion Properties				
Smoke point, mm	D1322	25		
OR				
Smoke point, mm and	D1322	18		
Naphthalenes, vol.%	D1840		3.0	

NOTES:

- Product shall be clear and bright and free of suspended matter.
- Additive requirements/restrictions - refer to section 3.2.
- At this time, the test limits described in MIL-T-5624P, Appendix A, parts 70.a(1) and 70.b will not be imposed.
- Mercaptan Sulfur waived if fuel is negative by Doctor test.
- Origin laboratory certifying sulfur content can qualify the test method used per EPA performance based testing criteria (see CFR 80.584).
- Either physical or simulated distillation can be used.
- Not allowed to be delivered down lines #17, 24, or Greensboro local lines. Line 22 deliveries may contain up to 50 ppm of biodiesel.
- Colonial filters the product downstream before delivering to the airport at the following locations: Atlanta, Greensboro, Raleigh Durham, and Dorsey. The MSEP specification downstream the filtration system should be 85 minimum.
- Colonial will accept test methods results that are listed in ASTM D1655 for all tests. Test methods listed in the table above are considered referee methods by Colonial Pipeline. Referee methods apply for any dispute.
- Not available for delivery to Spartanburg.

Colonial Pipeline Company

PRODUCT SPECIFICATIONS

3.17.1

SPECIFICATIONS FOR FUNGIBLE AVIATION KEROSENE GRADE 55

EPA Designation: Kerosene

Cancels Previous Issues of Grade 55

Product Property	ASTM Test Method	Test Results		Note
		Minimum	Maximum	
General Properties				
Color: Origin	D6045	21		
Color: Delivery	D6045	18		
Gravity	D4052	37	51	
Net Heat of combustion BTU/Pound	D3338	18,400		
Corrosion 2 hrs. @ 212°F (100°C)	D130		1	
Cetane Index	D613	40		8
MSEP: Origin	D3948	85		
MSEP: Delivery	D7224	75		
Electrical				
Conductivity, pS/m @ 21°C(70°F)	D2624		Report	
Ash, wt. %	D482		0.01	
Determination of	MIL-T-5624P, D5452			
Filtration Time or Volume			Report	3
Total Solids or Particulate			Report	
Low Temperature Properties				
Freezing Point, °C	D2386		-40	7
Viscosity, cSt @ 104°F (40°C)	D445	1.3	1.9	
Viscosity, cSt @ -4°F (-20°C)	D445		8.0	
Volatility				
Flash Point, °F	D56	123		
Distillation, °C(°F)	D86			7
10% recovered			205(400)	
50% recovered		Report		
90% recovered			288(550)	
End Point			300(572)	
Residue, %			1.5	
Loss, %			1.5	
or Simulated Distillation, °C(°F)	D2887			7
10% recovered			185(365)	
50% recovered		Report		
90% recovered			304(579)	
End Point			340(644)	
Stability				
Existent Gum, mg/100 ml	D381,IP540		7.0	
Thermal Stability @ 275°C	D3241			Origin
Pres. drop in mm/Hg			25	
Tube deposit less than code			Code 3	
No Peacock or Abnormal Color Deposits				

No Peacock or Abnormal Color Deposits

Colonial Pipeline Company

PRODUCT SPECIFICATIONS

3.17.2

SPECIFICATIONS FOR FUNGIBLE AVIATION KEROSENE GRADE 55

Cancels Previous Issues of Grade 55

Product Property	ASTM Test Method	Test Results		Note
		Minimum	Maximum	
Stability (continued)				
Thermal Stability @ 260°C	D3241			Delivery
Pres. drop in mm/Hg			25	
Tube deposit less than code			Code 3	
		No Peacock or Abnormal Color Deposits		
Thermal Stability ASTM D 3241				
Tube rating: one of the following requirement shall be met				
(1) Annex A1 VTR, VTR color code		Less than	3	
		No Peacock or abnormal color deposits		
(2) Annex A2 ITR or Annex 3 ETR		Max	85	
nm average over area of 2.5 mm ²				
Refer ASTM D1655 note M for referee method.				
Carbon Residue: Ramsbottom	D524			
on 10% bottom			0.15	
Composition Properties				
Sulfur, ppmwt	D5453		400	4
Aromatics, vol.%	D1319		25	
Mercaptan Sulfur, wt.%	D3227		0.003	5
OR				
Doctor test	D4952		Negative (sweet)	
Acidity total max, mg KOH/g	D3242		0.1	
Combustion Properties				
Smoke point, mm	D1322	25		
OR				
Smoke point, mm and	D1322	18		
Naphthalenes, vol.%	D1840		3.0	
Burning Quality	D187	Report		6

NOTES:

- Product shall be clear and bright and free of suspended matter.
- Additive requirements/restrictions - refer to section 3.2.
- At this time, the test limits described in MIL-T-5624P, Appendix A, parts 70.a(1) and 70.b will not be imposed.
- Origin laboratory certifying sulfur content can qualify the test method used per EPA performance based testing criteria (see CFR 80.584).
- Mercaptan Sulfur waived if fuel is negative by Doctor test.
- Typical results pass according to Paragraph 4.2 of ASTM D3699 Standard Specifications for kerosine.
- Either physical or simulated distillation can be used.
- Where cetane number by test method D613 is not available, test method D4737A can be used as an approximation.
- Lines # 17, 22, 24, and Greensboro local deliveries may contain trace amounts of Bio-Diesel and can't be used for aviation kerosene.
- Colonial will accept test methods results that are listed in ASTM D1655 for all tests. Test methods listed in the table above are considered referee methods by Colonial Pipeline. Referee methods apply for any dispute.
- Not available for delivery to Spartanburg or Explorer.

Colonial Pipeline Company

PRODUCT SPECIFICATIONS

3.18

SPECIFICATIONS FOR BONDED AVIATION KEROSENE GRADE 56

EPA Designation: Jet Fuel

Cancels Previous Issues of Grade 56.

Shipments of Grade 56 must meet specifications for Fungible Aviation Kerosine Grade 54.

1. Not available for delivery to Spartanburg, Greensboro local lines or lines #17, 22 and 24.

Colonial Pipeline Company

PRODUCT SPECIFICATIONS

3.19

SPECIFICATIONS FOR SEGREGATED KEROSENE GRADE 57

EPA Designation: Kerosene

Cancels Previous Issues of Grade 57

Product Property	ASTM Test Method	Test Results		Note
		Minimum	Maximum	
Sulfur, ppmwt	D5453		500	1

In order to allow for the proper placement of the batch in our sequence, when nominating the batch, the shipper must supply to the best of his knowledge the following information:

Gravity
Flash
WSIM
Electrical Conductivity
Any other product property that does not meet our fungible specifications for 54 grades.

The pre-shipment documentation with the actual results must be received before shipment.

Notes:

1. Origin laboratory certifying sulfur content can qualify the test method used per EPA performance based testing criteria (see CFR 80.584).
2. Additive requirements/restrictions - refer to section 3.2.
3. Colonial will accept test methods results that are listed in ASTM D1655 for all tests. Test methods listed in the table above are considered referee methods by Colonial Pipeline. Referee methods apply for any dispute.
4. Not available for delivery to Spartanburg or Explorer.
5. Lines # 17, 22, 24 and Greensboro local deliveries may contain trace amounts of Bio-Diesel and can't be used for aviation kerosene.

Colonial Pipeline Company

PRODUCT SPECIFICATIONS SPECIFICATIONS FOR FUNGIBLE MILITARY JP-8

3.20

EPA Designation: Except distillate covered by national security exemption under 80.606

Cancels Previous Issues of Grade 58

Shipments of Grade 58 must meet the latest military specifications for JP-8.

1. Not available for delivery to Spartanburg, Explorer, Greensboro local lines or lines #17 and 24.
Line 22 deliveries may contain up to 50 ppm of biodiesel.

Colonial Pipeline Company

PRODUCT SPECIFICATIONS

3.21

SPECIFICATIONS FOR SEGREGATED DISTILLATE BLENDSTOCK GRADE 59

EPA Designation: None Required (Product is an unfinished blendstock)

Cancels Previous Issues of Grade 59

Product Property	ASTM Test Method	Test Results		Note
		Minimum	Maximum	
Gravity	D4052	37	51	
Flash Point, °F	D56	100		
Sulfur, ppmwt	D4294		3000	3
Nace Corrosion	TM0172	B+ (origin)		
Electrical				
Conductivity, pS/m @ 21°C(70°F)	D2624		Report	

In order to allow for the proper placement of the batch in our sequence, when nominating the batch, the shipper must supply to the best of his knowledge any product property that does not meet our fungible specifications for 54 grade.

NOTES:

1. Product shall be clear and bright and free of suspended matter.
2. The pre-shipment documentation with the actual results must be received before shipment.
3. Origin laboratory certifying sulfur content can qualify the test method used per EPA performance based testing criteria (see CFR 80.584).
4. Additives requirements/restrictions - refer to section 3.2.
5. Colonial will accept test methods results that are listed in ASTM D1655 for all tests. Test methods listed in the table above are considered referee methods by Colonial Pipeline. Referee methods apply for any dispute.
6. Not available for delivery to Spartanburg or Explorer.
7. Lines # 17, 22, 24, and Greensboro local deliveries may contain trace amounts of Bio-Diesel and can't be used for aviation kerosene.

Colonial Pipeline Company

PRODUCT SPECIFICATIONS

SPECIFICATIONS FOR FUNGIBLE 15 ppm SULFUR DIESEL FUEL CONTAINING UP TO 5% RENEWABLE HYDROTREATED DIESEL FUEL GRADE 61

3.22.1

EPA Designation: MVNRLM, Motor vehicle diesel fuel, 15 ppm sulfur

Cancels Previous Issues of Grade 61

PRODUCT PROPERTY	ASTM Test Method	Test Results		Origin	Note
		Minimum	Maximum		
Renewable Fuel (volume %)			0 5	Origin Delivery	5
Gravity API	D4052	30			
Flash Point, °F					
Pensky-Martin	D93	130			
Physical Distillation, °C(°F)	D86				4
50%			Report		
90%		282(540)	338(640)		
End Point			366(690)		
or Simulated Distillation, °C(°F)	D2887				4
50% recovered			Report		
90% recovered		300(572)	356(673)		
End Point			421(790)		
Color ASTM	D6045		2.5		
Color Visual		Undyed			
Viscosity, cSt @ 40°C (104°F)	D445	1.9	4.1		
Pour Point	D97				2
Cloud Point	D2500				2
Corrosion, 3 hrs. @ 50°C (122°F)	D130		1		
Total Sulfur, ppmwt	D5453		11 14	Origin Delivery	3
Cetane Number	D613	40			
Aromatics (Volume %)	D1319		31.7		
or Aromatics by Cetane Index	D976	40			
Ash, wt.%	D482		0.01		
Carbon Residue: Ramsbottom					
on 10% Bottom	D524		0.35		
BS&W, vol.%	D2709				
	or equivalent		< 0.05		
Thermal stability, 90 minutes					
150°C Pad rating,					
DuPont scale			7		
OR					
Thermal stability	D6468				
Y/Green		73%			
W Unit		65%			
OR					
Oxidation stability, mg/100 ml	D2274		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		

Colonial Pipeline Company

PRODUCT SPECIFICATIONS

SPECIFICATIONS FOR FUNGIBLE 15 ppm SULFUR DIESEL FUEL CONTAINING UP TO 5%

RENEWABLE HYDROTREATED DIESEL FUEL GRADE 61

3.22.2

Cancels Previous Issues of Grade 61

NOTES:

1. Additive requirements/restrictions - refer to section 3.2.

2. This schedule denotes the fluidity of the distillate at the time and place of origin.

Pour Point –August 1st through March 14th

Maximum: -18°C (0°F).

Pour Point – March 15th through July 31st

Maximum: -12°C (+10°F)

Cloud Point – August 1st through March 14th

Maximum: -9°C (+15°F)

Cloud Point – March 15th through July 31st

Maximum: -7°C (+20°F)

The referee method will be Pour point D97 and Cloud point D2500

3. Origin laboratory certifying sulfur content must qualify the test method used per EPA Performance based testing criteria (see CFR 80.584).

4. Either physical or simulated distillation can be used.

5. Downstream of Meridian Mississippi May contain up to 5% renewable diesel as defined in section 3.2.7

Grade 61 is-designated for 5% renewable diesel fuel blending at Baton Rouge. 61 grade will only be allowed to originate as "clear", no renewable diesel fuel allowed, at Houston, Cedar Bayou, Hebert, Lake Charles, Krotz Springs and Baton Rouge. 61 grade will not be delivered out of the pipeline at any locations and will be regraded to 63 grade downstream of Baton Rouge.

6. Colonial will accept test methods results that are listed in ASTM D975 for all tests. Test methods listed in the table above are considered referee methods by Colonial Pipeline. Referee methods apply for any dispute.

Delivery test results may vary by the smaller of ASTM reproducibility for a given test or any test tolerance as allowed by state or EPA regulations at the point of delivery.

Colonial Pipeline Company

PRODUCT SPECIFICATIONS

3.23.1 SPECIFICATIONS FOR FUNGIBLE 15 ppm SULFUR DIESEL FUEL GRADE 62

EPA Designation: MVNRLM, Motor vehicle diesel fuel, 15 ppm sulfur

Cancels Previous Issues of Grade 62

PRODUCT PROPERTY	ASTM Test Method	Test Results		Note
		Minimum	Maximum	
Gravity API	D4052	30		
Flash Point, °F				
Pensky-Martin	D93	130		
Physical Distillation, °C(°F)	D86			4
50%			Report	
90%		282(540)	338(640)	
End Point			366(690)	
or Simulated Distillation, °C(°F)	D2887			4
50% recovered			Report	
90% recovered		300(572)	356(673)	
End Point			421(790)	
Color ASTM	D6045		2.5	
Color Visual		Undyed		
Viscosity, cSt @ 40°C (104°F)	D445	1.9	4.1	
Pour Point	D97			2
Cloud Point	D2500			2
Corrosion, 3 hrs. @ 50°C (122°F)	D130		1	
Total Sulfur, ppmwt	D5453		11 14	Origin Delivery 3
Cetane Number	D613	40		
Aromatics (Volume %)	D1319		31.7	
or Aromatics by Cetane Index	D976	40		
Ash, wt.%	D482		0.01	
Carbon Residue: Ramsbottom				
on 10% Bottom	D524		0.35	
BS&W, vol.%	D2709			
	or equivalent		< 0.05	
Thermal stability, 90 minutes				
150°C Pad rating,				
DuPont scale			7	
OR				
Thermal stability	D6468			
Y/Green		73%		
W Unit		65%		
OR				
Oxidation stability, mg/100 ml	D2274		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	

Colonial Pipeline Company

PRODUCT SPECIFICATIONS

3.23.2 SPECIFICATIONS FOR FUNGIBLE 15 ppm SULFUR DIESEL FUEL GRADE 62

Cancels Previous Issues of Grade 62

NOTES:

1. Additive requirements/restrictions - refer to section 3.2.
 2. This schedule denotes the fluidity of the distillate at the time and place of origin.

Pour Point –August 1st through March 14th	Maximum: -18°C (0°F).
Pour Point – March 15th through July 31st	Maximum: -12°C (+10°F)
Cloud Point – August 1st through March 14th	Maximum: -9°C (+15°F)
Cloud Point – March 15th through July 31st	Maximum: -7°C (+20°F)
 3. Origin laboratory certifying sulfur content must qualify the test method used per EPA Performance based testing criteria (see CFR 80.584).
 4. Either physical or simulated distillation can be used.
 5. Deliveries of 62 grade that are serviced through Colonial's breakout tank farms south of Greensboro which include Pelham, Atlanta, Athens, Belton, Spartanburg, and Charlotte may contain up to 5% Renewable Diesel.
 6. Colonial will accept test methods results that are listed in ASTM D975 for all tests. Test methods listed in the table above are considered referee methods by Colonial Pipeline. Referee methods apply for any dispute.
 7. Deliveries of 62 grade on lines #17, 22, 24, and Greensboro local deliveries may contain up to 5% Bio-Diesel and 5% Renewable Diesel.
- Delivery test results may vary by the smaller of ASTM reproducibility for a given test or any test tolerance as allowed by state or EPA regulations at the point of delivery.

Colonial Pipeline Company

PRODUCT SPECIFICATIONS

3.24.1 SPECIFICATIONS FOR FUNGIBLE 15 ppm SULFUR DIESEL FUEL CONTAINING UP TO 5% RENEWABLE HYDROTREATED DIESEL FUEL GRADE 63

EPA Designation: MVNRLM, Motor vehicle diesel fuel, 15 ppm sulfur

Cancels Previous Issues of Grade 63

PRODUCT PROPERTY	ASTM Test Method	Test Results		Note
		Minimum	Maximum	
Renewable Fuel (volume %)			5	5
Gravity API	D4052	30		
Flash Point, °F				
Pensky-Martin	D93	130		
Physical Distillation, °C(°F)	D86			4
50%			Report	
90%		282(540)	338(640)	
End Point			366(690)	
or Simulated Distillation, °C(°F)	D2887			4
50% recovered			Report	
90% recovered		300(572)	356(673)	
End Point			421(790)	
Color ASTM	D6045		2.5	
Color Visual		Undyed		
Viscosity, cSt @ 40°C (104°F)	D445	1.9	4.1	
Pour Point	D97			2
Cloud Point	D2500			2
Corrosion, 3 hrs. @ 50°C (122°F)	D130		1	
Total Sulfur, ppmwt	D5453		11 14	Origin Delivery 3
Cetane Number	D613	40		
Aromatics (Volume %)	D1319		31.7	
or Aromatics by Cetane Index	D976	40		
Ash, wt. %	D482		0.01	
Carbon Residue: Ramsbottom				
on 10% Bottom	D524		0.35	
BS&W, vol. %	D2709			
	or equivalent		< 0.05	
Thermal stability, 90 minutes				
150°C Pad rating,				
DuPont scale			7	
OR				
Thermal stability	D6468			
Y/Green		73%		
W Unit		65%		
OR				
Oxidation stability, mg/100 ml	D2274		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	

Colonial Pipeline Company

PRODUCT SPECIFICATIONS

3.24.2 SPECIFICATIONS FOR FUNGIBLE 15 ppm SULFUR DIESEL FUEL CONTAINING UP TO 5% RENEWABLE HYDROTREATED DIESEL FUEL GRADE 63

Cancels Previous Issues of Grade 63

Test Results

NOTES:

1. Additive requirements/restrictions - refer to section 3.2.
2. This schedule denotes the fluidity of the distillate at the time and place of origin.

Pour Point –August 1st through March 14th	Maximum: -18°C (0°F).
Pour Point – March 15th through July 31st	Maximum: -12°C (+10°F)
Cloud Point – August 1st through March 14th	Maximum: -9°C (+15°F)
Cloud Point – March 15th through July 31st	Maximum: -7°C (+20°F)
3. Origin laboratory certifying sulfur content must qualify the test method used per EPA performance based testing criteria (see CFR 80.584).
4. Either physical or simulated distillation can be used.
5. May contain up to 5% Renewable Diesel as defined in section 3.2.7.
6. Lines #17, 22, 24, and Greensboro local deliveries may contain up to 5% Bio-Diesel (Colonial Grade 49).
7. Colonial will accept test methods results that are listed in ASTM D975 for all tests. Test methods listed in the table above are considered referee methods by Colonial Pipeline. Referee methods apply for any dispute.

Delivery test results may vary by the smaller of ASTM reproducibility for a given test or any test tolerance as allowed by state or EPA regulations at the point of delivery.

Colonial Pipeline Company

PRODUCT SPECIFICATIONS

3.25

SPECIFICATIONS FOR SEGREGATED 15 ppm SULFUR DISTILLATE GRADE 65

EPA Designation: MVNRLM 15 ppm sulfur

Cancels Previous Issues of Grade 65

Product property	ASTM Test Method	Test Results		Note
		Minimum	Maximum	
Gravity API	D4052	30		
Flash Point, °F				
Pensky-Martin	D93	100		
Nace Corrosion	TM0172	B+ (origin)		
Total Sulfur, ppmwt	D5453		15	1
Electrical				
Conductivity, pS/m @ 21°C(70°F)	D2624		250	

In order to allow for the proper placement of the batch in our sequence, when nominating the batch, the shipper must supply to the best of his knowledge the following information:

Gravity

Flash

Sulfur

volume % of Renewable Diesel

Any other product property that does not meet our fungible specifications for 63 grade.

The pre-shipment documentation with the actual results must be received before shipment.

NOTES:

The pre-shipment documentation with the actual results must be received before shipment.

1. Origin laboratory certifying sulfur content can qualify the test method used per EPA performance based testing criteria (see CFR 80.584).

2. Additive requirements/restrictions - refer to section 3.2.

3. May contain Renewable Diesel as defined in section 3.2.7.

4. Colonial will accept test methods results that are listed in ASTM D975 for all tests. Test methods listed in the table above are considered referee methods by Colonial Pipeline. Referee methods apply for any dispute.

5. Interface may result in trace amounts of renewable and/or biodiesel in the product depending on delivery location.

Delivery test results may vary by the smaller of ASTM reproducibility for a given test or any test tolerance as allowed by state or EPA regulations at the point of delivery.

Colonial Pipeline Company

PRODUCT SPECIFICATIONS

3.26.1

SPECIFICATIONS FOR FUNGIBLE 15 ppm SULFUR HEATING OIL GRADE 67

EPA Designation: Heating Oil

Cancels Previous Issues of Grade 67

PRODUCT PROPERTY	ASTM Test Method	Test Results		Note
		Minimum	Maximum	
Gravity API	D4052	30		
Flash Point, °F				
Pensky-Martin	D93	130		
Physical Distillation, °C(°F)	D86			4
50%			Report	
90%		282(540)	338(640)	
End Point			366(690)	
or Simulated Distillation, °C(°F)	D2887			4
50% recovered			Report	
90% recovered		300(572)	356(673)	
End Point			421(790)	
Color ASTM	D6045		2.5	
Color Visual		Undyed		
Viscosity, cSt @ 40°C (104°F)	D445	1.9	4.1	
Pour Point	D97			2
Cloud Point	D2500			2
Corrosion, 3 hrs. @ 50°C (122°F)	D130		1	
Total Sulfur, ppmwt	D5453		11 14	Origin Delivery 3
Cetane Number	D613	40		
Aromatics (Volume %)	D1319		31.7	
or Aromatics by Cetane Index	D976	40		
Ash, wt. %	D482		0.01	
Carbon Residue: Ramsbottom				
on 10% Bottom	D524		0.35	
BS&W, vol. %	D2709			
	or equivalent		< 0.05	
Thermal stability, 90 minutes				
150°C Pad rating,				
DuPont scale			7	
OR				
Thermal stability	D6468			
Y/Green		73%		
W Unit		65%		
OR				
Oxidation stability, mg/100 ml	D2274		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	

Colonial Pipeline Company

PRODUCT SPECIFICATIONS

3.26.2

SPECIFICATIONS FOR FUNGIBLE 15 ppm SULFUR HEATING OIL GRADE 67

EPA Designation: Heating Oil

Cancels Previous Issues of Grade 67

NOTES:

1. Additive requirements/restrictions - refer to section 3.2.
 2. This schedule denotes the fluidity of the distillate at the time and place of origin.

Pour Point –August 1st through March 14th	Maximum: -18°C (0°F).
Pour Point – March 15th through July 31st	Maximum: -12°C (+10°F)
Cloud Point – August 1st through March 14th	Maximum: -9°C (+15°F)
Cloud Point – March 15th through July 31st	Maximum: -7°C (+20°F)
 3. Origin laboratory certifying sulfur content must qualify the test method used per EPA Performance based testing criteria (see CFR 80.584).
 4. Either physical or simulated distillation can be used.
 5. Colonial will accept test methods results that are listed in ASTM D975 for all tests. Test methods listed in the table above are considered referee methods by Colonial Pipeline. Referee methods apply for any dispute.
 6. Deliveries of 67 grade that are serviced through Colonial's breakout tank farms south of Greensboro which include Pelham, Atlanta, Athens, Belton, Spartanburg, and Charlotte may contain up to 5% Renewable Diesel.
 7. Deliveries of 67 grade on lines #17, 22, 24, and Greensboro local deliveries may contain up to 5% Bio-Diesel and 5% Renewable Diesel.
- Delivery test results may vary by the smaller of ASTM reproducibility for a given test or any test tolerance as allowed by state or EPA regulations at the point of delivery.

Colonial Pipeline Company

PRODUCT SPECIFICATIONS

3.27 SPECIFICATIONS FOR SEGREGATED 15 ppm SULFUR DISTILLATE BLENDSTOCKS GRADE 69 EPA Designation: None Required (Product is an unfinished blendstock)

Cancels Previous Issues of Grade 69

Product property	ASTM Test Method	Test Results		Note
		Minimum	Maximum	
Gravity API	D4052	30		
Flash Point, °F				
Pensky-Martin	D93	100		
Nace Corrosion	TM0172	B+ (origin)		
Total Sulfur, ppmwt	D5453		15	1
Electrical				
Conductivity, pS/m @ 21°C(70°F)	D2624		250	

In order to allow for the proper placement of the batch in our sequence, when nominating the batch, the shipper must supply to the best of his knowledge the following information:

Gravity

Flash

Sulfur

Volume % of Renewable Diesel

Any other product property that does not meet our fungible specifications for 63 grade.

The pre-shipment documentation with the actual results must be received before shipment.

NOTES:

The pre-shipment documentation with the actual results must be received before shipment.

1. Origin laboratory certifying sulfur content can qualify the test method used per EPA performance based testing criteria (see CFR 80.584).

2. Additive requirements/restrictions - refer to section 3.2.

3. May contain Renewable Diesel as defined in section 3.2.7.

4. Colonial will accept test methods results that are listed in ASTM D975 for all tests. Test methods listed in the table above are considered referee methods by Colonial Pipeline. Referee methods apply for any dispute.

5. Interface may result in trace amounts of renewable and/or biodiesel in the product depending on delivery location.

Delivery test results may vary by the smaller of ASTM reproducibility for a given test or any test tolerance as allowed by state or EPA regulations at the point of delivery.

Colonial Pipeline Company

PRODUCT SPECIFICATIONS

3.28

SPECIFICATIONS FOR SEGREGATED DYED HEATING OIL GRADE 70 FOR INTRAHARBOR MOVEMENTS ONLY

EPA Designation: Heating Oil

Cancels Previous Issues of Grade 70

This product is for Intraharbor movements only.

Test Results

Product property	ASTM Test			Note
	Method	Minimum	Maximum	
Total Sulfur, ppmwt	D5453		2000	1
Nace Corrosion	TM0172	B+ (origin)		

Dye Requirement

This product must contain red dye at a minimum concentration, or spectral equivalence of 3.9 pounds of Solid Red #26 per 1,000 barrels.

Grade 70 Fuel Oil must meet all specifications for Grade 88 Heating Oil, with the exception of the dye requirement above. Colonial will not add dye to Grade 70.

NOTES:

1. Origin laboratory certifying sulfur content can qualify the test method used per EPA performance based testing criteria (see CFR 80.584).
 2. Additives requirements/restrictions - refer to section 3.2.
 3. Colonial will accept test methods results that are listed in ASTM D396 for all tests. Test methods listed in the table above are considered referee methods by Colonial Pipeline. Referee methods apply for any dispute.
 4. Interface may result in trace amounts of renewable and/or biodiesel in the product depending on delivery location.
- Delivery test results may vary by the smaller of ASTM reproducibility for a given test or any test tolerance as allowed by state or EPA regulations at the point of delivery.

Colonial Pipeline Company

PRODUCT SPECIFICATIONS

3.29 **SPECIFICATIONS FOR SEGREGATED HIGH SULFUR GRADE 71 DISTILLATE FUEL FOR EXPORT ONLY**
EPA Designation: Distillate fuel for export only

Cancels Previous Issues of Grade 71

Test Results

Product property	ASTM Test			Note
	Method	Minimum	Maximum	
Total Sulfur, ppmwt	D5453		2000	1
Nace Corrosion Electrical	TM0172	B+ (origin)		
Conductivity, pS/m @ 21°C(70°F)	D2624		250	

This product is for export only and is not required to contain dye. It may not be used in the continental U.S. without the addition of dye to meet domestic fuel oil requirements.

In order to allow for the proper placement of the batch in our sequence, when nominating the batch, the shipper must supply to the best of his knowledge the following information:

Gravity
Flash
Sulfur

Any other product property that does not meet our fungible specifications for 75 grade.

The pre-shipment documentation with the actual results must be received before shipment.

NOTES:

1. Origin laboratory certifying sulfur content can qualify the test method used per EPA performance based testing criteria (see CFR 80.584).
2. Additive requirements/restrictions - refer to section 3.2.
3. Colonial will accept test methods results that are listed in ASTM D396 for all tests. Test methods listed in the table above are considered referee methods by Colonial Pipeline. Referee methods apply for any dispute.
4. Interface may result in trace amounts of renewable and/or biodiesel in the product depending on delivery location. Delivery test results may vary by the smaller of ASTM reproducibility for a given test or any test tolerance as allowed by state or EPA regulations at the point of delivery.

Colonial Pipeline Company

PRODUCT SPECIFICATIONS

3.30

SPECIFICATIONS FOR SEGREGATED DISTILLATE BLENDSTOCKS GRADE 72 EPA Designation: None Required (Product is an unfinished blendstock)

Cancels Previous Issues of Grade 72

Product property	ASTM Test Method	Test Results		
		Minimum	Maximum	Note
Gravity API	D4052	25	42	
Flash Point, °F				
Pensky-Martin	D93	100		
Nace Corrosion	TM0172	B+ (origin)		
Total Sulfur, ppmwt	D5453		500	1
Electrical				
Conductivity, pS/m @ 21°C(70°F)	D2624		250	

In order to allow for the proper placement of the batch in our sequence, when nominating the batch, the shipper must supply to the best of his knowledge the following information:

Gravity

Flash

Sulfur

Any other product property that does not meet our fungible specifications for 62 grade.

The pre-shipment documentation with the actual results must be received before shipment.

NOTES:

The pre-shipment documentation with the actual results must be received before shipment.

1. Origin laboratory certifying sulfur content can qualify the test method used per EPA performance based testing criteria (see CFR 80.584).

2. Additive requirements/restrictions - refer to section 3.2.

3. Colonial will accept test methods results that are listed in ASTM D396 for all tests. Test methods listed in the table above are considered referee methods by Colonial Pipeline. Referee methods apply for any dispute.

4. Interface may result in trace amounts of renewable and/or biodiesel in the product depending on delivery location. Delivery test results may vary by the smaller of ASTM reproducibility for a given test or any test tolerance as allowed by state or EPA regulations at the point of delivery.

Colonial Pipeline Company

PRODUCT SPECIFICATIONS

3.31

SPECIFICATIONS FOR SEGREGATED 500 ppm LOCOMOTIVE FUEL GRADE 73

EPA Designation: -LM 500 ppm sulfur diesel fuel

Cancels Previous Issues of Grade 73

Product property	ASTM Test Method	Test Results		
		Minimum	Maximum	Notes
Sulfur, ppmwt	D5453		500	1
Flash Point °F	D93	140		
Nace Corrosion Electrical	TM0172	B+ (origin)		
Conductivity, pS/m @ 21°C(70°F)	D2624		250	

In order to allow for the proper placement of the batch in our sequence, when nominating the batch, the shipper must supply to the best of his knowledge the following information:

Gravity

Flash

Any other product property that does not meet our fungible specifications for 73 grade.

The pre-shipment documentation with the actual results must be received before shipment.

NOTES:

1. Origin laboratory certifying sulfur content must qualify the test method used per EPA performance based testing criteria (see CFR 80.584).
2. Additive requirements/restrictions - refer to section 3.2.

Interface may result in trace amounts of renewable and/or biodiesel in the product depending on delivery location.

3. Colonial will accept test methods results that are listed in ASTM D396 for all tests. Test methods listed in the table above are considered referee methods by Colonial Pipeline. Referee methods apply for any dispute.
4. Interface may result in trace amounts of renewable and/or biodiesel in the product depending on delivery location.

Delivery test results may vary by the smaller of ASTM reproducibility for a given test or any test tolerance as allowed by state or EPA regulations at the point of delivery.

Colonial Pipeline Company

PRODUCT SPECIFICATIONS

3.32.1

SPECIFICATIONS FOR FUNGIBLE 500 ppm SULFUR HEATING OIL GRADE 75

EPA Designation: Heating Oil
Cancels Previous Issues of Grade 75

PRODUCT PROPERTY	ASTM Test Method	Test Results		Note
		Minimum	Maximum	
Gravity API	D4052	30		
Flash Point, °F				
Pensky-Martin	D93	124 116		Origin Delivery
Physical Distillation, °C(°F)	D86			7
50%			Report	
90%		282(540)	338(640)	
End Point			366(690)	
or Simulated Distillation, °C(°F)	D2887			4
50% recovered			Report	
90% recovered		300(572)	356(673)	
End Point			421(790)	
Color ASTM	D6045		2.5	3
Color Visual		Undyed		
Viscosity, cSt @ 40°C (104°F)	D445	1.9	4.1	
Pour Point	D97			2
Cloud Point	D2500			2
Corrosion, 3 hrs. @ 50°C (122°F)	D130		1	
Total Sulfur, ppmwt	D5453			5
			420 500	Origin Delivery
Aromatics (Volume %)	D1319		31.7	
or Aromatics by Cetane Index	D976	40		
Ash, wt. %	D482		0.01	
Carbon Residue: Ramsbottom				
on 10% Bottom	D524		0.35	
BS&W, vol. %	D2709			
	or equivalent		< 0.05	
Thermal stability, 90 minutes				
150°C Pad rating,				
DuPont scale			7	
OR				
Thermal stability	D6468			
Y/Green		73%		
W Unit		65%		
OR				
Oxidation stability, mg/100 ml	D2274		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	

Colonial Pipeline Company

PRODUCT SPECIFICATIONS

3.32.2

SPECIFICATIONS FOR FUNGIBLE 500 ppm SULFUR HEATING OIL GRADE 75

Cancels Previous Issues of Grade 75

NOTES:

1. Additive requirements/restrictions - refer to section 3.2.
2. This schedule denotes the fluidity of the distillate at the time and place of origin.

Pour Point –August 1st through March 14th	Maximum: -18°C (0°F).
Pour Point – March 15th through July 31st	Maximum: -12°C (+10°F)
Cloud Point – August 1st through March 14th	Maximum: -9°C (+15°F)
Cloud Point – March 15th through July 31st	Maximum: -7°C (+20°F)
3. ASTM color measurement before addition of dye.
4. Either physical or simulated distillation can be used.
5. Origin laboratory certifying sulfur content must qualify the test method used per EPA performance based testing criteria (see CFR 80.584).
6. Interface may result in trace amounts of renewable and/or biodiesel in the product depending on delivery location.
7. Colonial will accept test methods results that are listed in ASTM D975 for all tests. Test methods listed in the table above are considered referee methods by Colonial Pipeline. Referee methods apply for any dispute.

Delivery test results may vary by the smaller of ASTM reproducibility for a given test or any test tolerance as allowed by state or EPA regulations at the point of delivery.

Colonial Pipeline Company

PRODUCT SPECIFICATIONS

3.33.1

EPA Designation: Heating Oil

Cancels Previous Issues of Grade 77

SPECIFICATIONS FOR FUNGIBLE HIGH SULFUR UNDYED HEATING OIL GRADE 77

PRODUCT PROPERTY	ASTM Test Method	Test Results		Note
		Minimum	Maximum	
Gravity API	D4052	30		
Flash Point, °F				
Pensky-Martin	D93	124 116		Origin Delivery
Physical Distillation, °C(°F)	D86			5
50%			Report	
90%		282(540)	338(640)	
End Point			366(690)	
or Simulated Distillation, °C(°F)	D2887			5
50% recovered			Report	
90% recovered		300(572)	356(673)	
End Point			421(790)	
Color ASTM	D6045		2.5	3
Color			Undyed	
Viscosity, cSt @ 40°C (104°F)	D445	1.9	4.1	
Pour Point	D97			2
Cloud Point	D2500			2
Corrosion, 3 hrs. @ 50°C (122°F)	D130		1	
Total Sulfur, ppmwt	D4294		2000	4
Ash, wt. %	D482		0.01	
Carbon Residue: Ramsbottom				
on 10% Bottom	D524		0.35	
BS&W, vol. %	D2709			
	or equivalent		< 0.05	
Thermal stability, 90 minutes				
150°C Pad rating,				
DuPont scale			7	
OR				
Thermal stability	D6468			
Y/Green		73%		
W Unit		65%		
OR				
Oxidation stability, mg/100 ml	D2274		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	

Colonial Pipeline Company

PRODUCT SPECIFICATIONS

3.33.2

SPECIFICATIONS FOR FUNGIBLE HIGH SULFUR UNDYED HEATING OIL GRADE 77

EPA Designation: Heating Oil

Cancels Previous Issues of Grade 77

NOTES:

1. Additive requirements/restrictions - refer to section 3.2.
2. This schedule denotes the fluidity of the distillate at the time and place of origin.

Pour Point –August 1st through March 14th	Maximum: -18°C (0°F).
Pour Point – March 15th through July 31st	Maximum: -12°C (+10°F)
Cloud Point – August 1st through March 14th	Maximum: -9°C (+15°F)
Cloud Point – March 15th through July 31st	Maximum: -7°C (+20°F)

3. ASTM color measurement before addition of dye.
4. Origin laboratory certifying sulfur content can qualify the test method used per EPA performance based testing criteria (see CFR 80.584).
5. Either physical or simulated distillation can be used.
6. Colonial will accept test methods results that are listed in ASTM D396 for all tests. Test methods listed in the table above are considered referee methods by Colonial Pipeline. Referee methods apply for any dispute.
7. Interface may result in trace amounts of renewable and/or biodiesel in the product depending on delivery location.

Delivery test results may vary by the smaller of ASTM reproducibility for a given test or any test tolerance as allowed by state or EPA regulations at the point of delivery.

Colonial Pipeline Company

PRODUCT SPECIFICATIONS

3.34

SPECIFICATIONS FOR FUNGIBLE MILITARY DIESEL FUEL MARINE GRADE 78

EPA Designation: Except distillate covered by national security exemption under 80.606

Cancels Previous Issues of Grade 78

Shipments of Grade 78 must meet the latest military specification for DFM.

Notes:

1. Interface may result in trace amounts of renewable and/or biodiesel in the product depending on delivery location.

Colonial Pipeline Company

PRODUCT SPECIFICATIONS

3.35

SPECIFICATIONS FOR SEGREGATED DISTILLATE BLENDSTOCKS GRADE 79

EPA Designation: None Required (Product is an unfinished blendstock)

Cancels Previous Issues of Grade 79

Product property	ASTM Test Method	Test Results		
		Minimum	Maximum	Note
Gravity API	D4052	25	42	
Flash Point, °F				
Pensky-Martin	D93	100		
Nace Corrosion	TM0172	B+ (origin)		
Total Sulfur, ppmwt	D7039		10000	1
Electrical				
Conductivity, pS/m @ 21°C(70°F)	D2624		250	

In order to allow for the proper placement of the batch in our sequence, when nominating the batch, the shipper must supply to the best of his knowledge the following information:

Gravity

Flash

Sulfur

Any other product property that does not meet our fungible specifications for 77 grade.

The pre-shipment documentation with the actual results must be received before shipment.

NOTES:

The pre-shipment documentation with the actual results must be received before shipment.

1. Origin laboratory certifying sulfur content can qualify the test method used per EPA performance based testing criteria (see CFR 80.584).

2. Additive requirements/restrictions - refer to section 3.2.

3. Colonial will accept test methods results that are listed in ASTM D396 for all tests. Test methods listed in the table above are considered referee methods by Colonial Pipeline. Referee methods apply for any dispute.

4. Interface may result in trace amounts of renewable and/or biodiesel in the product depending on delivery location.

Delivery test results may vary by the smaller of ASTM reproducibility for a given test or any test tolerance as allowed by state or EPA regulations at the point of delivery.

Colonial Pipeline Company

PRODUCT SPECIFICATIONS

3.36.1 SPECIFICATIONS FOR FUNGIBLE 500 ppm SULFUR LOCOMOTIVE MARINE DIESEL FUEL DYED BY CPC GRADE 80

EPA Designation: LM 500 ppm sulfur diesel fuel

Cancels Previous Issues of Grade 80

PRODUCT PROPERTY		ASTM Test Method	Test Results		Note
			Minimum	Maximum	
Gravity API		D4052	30		
Flash Point, °F	Pensky-Martin	D93	130		
Physical Distillation, °C(°F)		D86		Report	6
	50%				
	90%		282(540)	338(640)	
	End Point			366(690)	
or Simulated Distillation, °C(°F)		D2887		Report	6
	50% recovered				
	90% recovered		300(572)	356(673)	
	End Point			421(790)	
Color ASTM		D6045		2.5	4
Color Visual				Undyed	3
Viscosity, cSt @ 40°C (104°F)		D445	1.9	4.1	
Pour Point		D97			2
Cloud Point		D2500			2
Corrosion, 3 hrs. @ 50°C (122°F)		D130		1	
Total Sulfur, ppmwt		D5453		420	Origin
				500	Delivery
Cetane Number		D613	40		
Aromatics (Volume %)		D1319		31.7	
or Aromatics by Cetane Index		D976	40		
Ash, wt. %		D482		0.01	
Carbon Residue: Ramsbottom					
	on 10% Bottom	D524		0.35	
BS&W, vol. %		D2709			
		or equivalent		< 0.05	
Thermal stability, 90 minutes					
	150°C Pad rating,				
	DuPont scale			7	
	OR				
Thermal stability		D6468			
	Y/Green		73%		
	W Unit		65%		
	OR				
Oxidation stability, mg/100 ml		D2274		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	

Colonial Pipeline Company

PRODUCT SPECIFICATIONS

3.36.2 SPECIFICATIONS FOR FUNGIBLE 500 ppm SULFUR LOCOMOTIVE MARINE DIESEL FUEL DYED BY CPC GRADE 80

Cancels Previous Issues of Grade 80

NOTES:

1. Additive requirements/restrictions - refer to section 3.2.
2. This schedule denotes the fluidity of the distillate at the time and place of origin.

Pour Point –August 1st through March 14th	Maximum: -18°C (0°F).
Pour Point – March 15th through July 31st	Maximum: -12°C (+10°F)
Cloud Point – August 1st through March 14th	Maximum: -9°C (+15°F)
Cloud Point – March 15th through July 31st	Maximum: -7°C (+20°F)
3. Dye Requirement:
 - Delivery: This product will be dyed by CPC to meet a minimum dye concentration, or spectral equivalence, of 3.9 pounds of Solid Red #26 per 1,000 barrels.
4. ASTM color measurement before addition of dye.
5. Origin laboratory certifying sulfur content must qualify the test method used per EPA performance based testing criteria (see CFR 80.584).
6. Either physical or simulated distillation can be used.
7. Interface may result in trace amounts of renewable and/or biodiesel in the product depending on delivery location.
8. Colonial will accept test methods results that are listed in ASTM D975 for all tests. Test methods listed in the table above are considered referee methods by Colonial Pipeline. Referee methods apply for any dispute.

Delivery test results may vary by the smaller of ASTM reproducibility for a given test or any test tolerance as allowed by state or EPA regulations at the point of delivery.

Colonial Pipeline Company

PRODUCT SPECIFICATIONS

3.37.1 SPECIFICATIONS FOR FUNGIBLE 15ppm SULFUR DIESEL FUEL DYED BY CPC CONTAINING UP TO 5% RENEWABLE HYDROTREATED DIESEL FUEL NONROAD GRADE 83

EPA Designation: MVNRLM, Motor vehicle diesel fuel, 15 ppm sulfur

Cancels Previous Issues of Grade 83

PRODUCT PROPERTY	ASTM Test Method	Test Results		Note
		Minimum	Maximum	
Renewable Fuel (volume %)			5	
Gravity API	D4052	30		
Flash Point, °F				
Pensky-Martin	D93	130		
Physical Distillation, °C(°F)	D86			4
50%			Report	
90%		282(540)	338(640)	
End Point			366(690)	
or Simulated Distillation, °C(°F)	D2887			4
50% recovered			Report	
90% recovered		300(572)	356(673)	
End Point			421(790)	
Color ASTM	D6045		2.5	
Color Visual		Undyed		
Viscosity, cSt @ 40°C (104°F)	D445	1.9	4.1	
Pour Point	D97			2
Cloud Point	D2500			2
Corrosion, 3 hrs. @ 50°C (122°F)	D130		1	
Total Sulfur, ppmwt	D5453		11 14	Origin Delivery 3
Cetane Number	D613	40		
Aromatics (Volume %)	D1319		31.7	
or Aromatics by Cetane Index	D976	40		
Ash, wt. %	D482		0.01	
Carbon Residue: Ramsbottom				
on 10% Bottom	D524		0.35	
BS&W, vol. %	D2709			
	or equivalent		< 0.05	
Thermal stability, 90 minutes				
150°C Pad rating,				
DuPont scale			7	
OR				
Thermal stability	D6468			
Y/Green		73%		
W Unit		65%		
OR				
Oxidation stability, mg/100 ml	D2274		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	

Colonial Pipeline Company

PRODUCT SPECIFICATIONS

3.37.2

SPECIFICATIONS FOR FUNGIBLE 15 ppm SULFUR DIESEL FUEL DYED BY CPC CONTAINING UP TO 5% RENEWABLE HYDROTREATED DIESEL FUEL NONROAD GRADE 83

Cancels Previous Issues of Grade 83

Test Results

NOTES:

Delivery: This product will be dyed by CPC to meet a minimum dye concentration or spectral equivalence of 3.9 pounds of Solid Red #26 per 1,000 barrels.

1. Additive requirements/restrictions - refer to section 3.2.

2. This schedule denotes the fluidity of the distillate at the time and place of origin.

Pour Point – August 1st through March 14th	Maximum: -18°C (0°F).
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Pour Point – March 15th through July 31st	Maximum: -12°C (+10°F)
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Cloud Point – August 1st through March 14th	Maximum: -9°C (+15°F)
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Cloud Point – March 15th through July 31st	Maximum: -7°C (+20°F)
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3. Origin laboratory certifying sulfur content must qualify the test method used per EPA performance based testing criteria (see CFR 80.584).

4. Either physical or simulated distillation can be used.

5. May contain up to 5% Renewable Diesel as defined in section 3.2.7

6. Colonial will accept test methods results that are listed in ASTM D975 for all tests. Test methods listed in the table above are considered referee methods by Colonial Pipeline. Referee methods apply for any dispute.

7. Deliveries of 83 grade on lines #17, 22, 24, and Greensboro local deliveries may contain up to 5% Bio-Diesel.

Delivery test results may vary by the smaller of ASTM reproducibility for a given test or any test tolerance as allowed by state or EPA regulations at the point of delivery.

Colonial Pipeline Company

PRODUCT SPECIFICATIONS

3.38

SPECIFICATIONS FOR SEGREGATED 500 ppm LOCOMOTIVE FUEL GRADE 84 DYED BY CPC

EPA Designation: LM 500 ppm sulfur diesel fuel

Cancels Previous Issues of Grade 84

Product property	ASTM Test	Test Results		
	Method	Minimum	Maximum	Notes
Sulfur, ppmwt	D5453		500	1
	D6920			
Flash Point °F	D93	140		
Nace Corrosion	TM0172	B+ (origin)		
Electrical				
Conductivity, pS/m @ 21°C(70°F)	D2624		250	
Color			Undyed	

In order to allow for the proper placement of the batch in our sequence, when nominating the batch, the shipper must supply to the best of his knowledge the following information:

Gravity

Flash

Any other product property that does not meet our fungible specifications for 73 grade.

The pre-shipment documentation with the actual results must be received before shipment.

NOTES:

1. Origin laboratory certifying sulfur content must qualify the test method used per EPA performance based testing criteria (see CFR 80.584).

2. Additive requirements/restrictions - refer to section 3.2.

3. Interface may result in trace amounts of renewable and/or biodiesel in the product depending on delivery location.

4. Dye Requirement:

Delivery: This product will be dyed by CPC to meet a minimum dye concentration, or spectral equivalence, of 3.9 pounds of Solid Red #26 per 1,000 barrels.

5. Colonial will accept test methods results that are listed in ASTM D396 for all tests. Test method listed in the table above are considered referee methods by Colonial Pipeline. Referee methods apply for any dispute.

Delivery test results may vary by the smaller of ASTM reproducibility for a given test or any test tolerance as allowed by state or EPA regulations at the point of delivery.

Colonial Pipeline Company

PRODUCT SPECIFICATIONS

3.39.1

SPECIFICATIONS FOR FUNGIBLE 500 ppm SULFUR HEATING OIL GRADE 85 DYED BY CPC

EPA Designation: Heating Oil

Cancels Previous Issues of Grade 85

PRODUCT PROPERTY	ASTM Test Method	Test Results		Note
		Minimum	Maximum	
Gravity API	D4052	30		
Flash Point, °F				
Pensky-Martin	D93	124 116		Origin Delivery
Physical Distillation, °C(°F)	D86			6
50%			Report	
90%		282(540)	338(640)	
End Point			366(690)	
or Simulated Distillation, °C(°F)	D2887			6
50% recovered			Report	
90% recovered		300(572)	356(673)	
End Point			421(790)	
Color ASTM	D6045		2.5	5
Color Visual		Undyed		3
Viscosity, cSt @ 40°C (104°F)	D445	1.9	4.1	
Pour Point	D97			2
Cloud Point	D2500			2
Corrosion, 3 hrs. @ 50°C (122°F)	D130		1	
Total Sulfur, ppmwt	D5453		420 500	Origin Delivery
Aromatics (Volume %)	D1319		31.7	
or Aromatics by Cetane Index	D976	40		
Ash, wt. %	D482		0.01	
Carbon Residue: Ramsbottom				
on 10% Bottom	D524		0.35	
BS&W, vol. %	D2709			
	or equivalent		< 0.05	
Thermal stability, 90 minutes				
150°C Pad rating,				
DuPont scale			7	
OR				
Thermal stability	D6468			
Y/Green		73%		
W Unit		65%		
OR				
Oxidation stability, mg/100 ml	D2274		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	

Colonial Pipeline Company

PRODUCT SPECIFICATIONS

3.39.2

SPECIFICATIONS FOR FUNGIBLE 500 ppm SULFUR HEATING OIL GRADE 85 DYED BY CPC

Cancels Previous Issues of Grade 85

NOTES:

1. Additive requirements/restrictions - refer to section 3.2.
2. This schedule denotes the fluidity of the distillate at the time and place of origin.

Pour Point –August 1st through March 14th	Maximum: -18°C (0°F).
Pour Point – March 15th through July 31st	Maximum: -12°C (+10°F)
Cloud Point – August 1st through March 14th	Maximum: -9°C (+15°F)
Cloud Point – March 15th through July 31st	Maximum: -7°C (+20°F)
3. Dye Requirement:

Delivery:	This product will be dyed by CPC to meet a minimum dye concentration, or spectral equivalence, of 3.9 pounds of Solid Red #26 per 1,000 barrels.
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4. Certain states and localities north of Virginia have sulfur limits that are less than 0.50 wt. %. Origin laboratory certifying sulfur content can qualify the test method used per EPA performance based testing criteria (see CFR 80.584).
5. ASTM color measurement before addition of dye.
6. Either physical or simulated distillation can be used.
7. Interface may result in trace amounts of renewable and/or biodiesel in the product depending on delivery location.
8. Colonial will accept test methods results that are listed in ASTM D975 for all tests. Test method listed in the table above are considered referee methods by Colonial Pipeline. Referee methods apply for any dispute.

Delivery test results may vary by the smaller of ASTM reproducibility for a given test or any test tolerance as allowed by state or EPA regulations at the point of delivery.

Colonial Pipeline Company

3.40.1

PRODUCT SPECIFICATIONS

SPECIFICATIONS FOR FUNGIBLE 15 ppm SULFUR HEATING OIL GRADE 87 DYED BY CPC

EPA Designation: Heating Oil

Cancels Previous Issues of Grade 87

PRODUCT PROPERTY	ASTM Test Method	Test Results		Note
		Minimum	Maximum	
Gravity API	D4052	30		
Flash Point, °F				
Pensky-Martin	D93	130		
Physical Distillation, °C(°F)	D86			6
50%			Report	
90%		282(540)	338(640)	
End Point			366(690)	
or Simulated Distillation, °C(°F)	D2887			6
50% recovered			Report	
90% recovered		300(572)	356(673)	
End Point			421(790)	
Color ASTM	D6045		2.5	4
Color			Undyed	3
Viscosity, cSt @ 40°C (104°F)	D445	1.9	4.1	
Pour Point	D97			2
Cloud Point	D2500			2
Corrosion, 3 hrs. @ 50°C (122°F)	D130		1	
Total Sulfur, ppmwt	D5453		11	Origin
			14	Delivery
Cetane Number	D613	40		
Aromatics (Volume %)	D1319		31.7	
or Aromatics by Cetane Index	D976	40		
Ash, wt. %	D482		0.01	
Carbon Residue: Ramsbottom				
on 10% Bottom	D524		0.35	
BS&W, vol. %	D2709			
	or equivalent		< 0.05	
Thermal stability, 90 minutes				
150°C Pad rating,				
DuPont scale			7	
OR				
Thermal stability	D6468			
Y/Green		73%		
W Unit		65%		
OR				
Oxidation stability, mg/100 ml	D2274		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	

Colonial Pipeline Company

3.40.2

PRODUCT SPECIFICATIONS

SPECIFICATIONS FOR FUNGIBLE 15 ppm SULFUR HEATING OIL GRADE 87 DYED BY CPC

Cancels Previous Issues of Grade 87

NOTES:

1. Additive requirements/restrictions - refer to section 3.2.
2. This schedule denotes the fluidity of the distillate at the time and place of origin.

Pour Point –August 1st through March 14th	Maximum: -18°C (0°F).
Pour Point – March 15th through July 31st	Maximum: -12°C (+10°F)
Cloud Point – August 1st through March 14th	Maximum: -9°C (+15°F)
Cloud Point – March 15th through July 31st	Maximum: -7°C (+20°F)

3. Dye Requirement:

- Delivery: This product will be dyed by CPC to meet a minimum dye concentration, or spectral equivalence, of 3.9 pounds of Solid Red #26 per 1,000 barrels.
4. ASTM color measurement before addition of dye
 5. Origin laboratory certifying sulfur content can qualify the test method used per EPA Performance Based Testing Criteria (see CFR 80.584).
 6. Either physical or simulated distillation can be used.
 7. Colonial will accept test methods results that are listed in ASTM D975 for all tests. Test method listed in the table above are considered referee methods by Colonial Pipeline. Referee methods apply for any dispute.
 8. Deliveries of 87 grade that are serviced through Colonial's breakout tank farms south of Greensboro which include Pelham, Atlanta, Athens, Belton, Spartanburg, and Charlotte may contain up to 5% Renewable Diesel.
 9. Deliveries of 87 grade on lines #17, 22, 24, and Greensboro local deliveries may contain up to 5% Bio-Diesel and 5% Renewable Diesel.

Delivery test results may vary by the smaller of ASTM reproducibility for a given test or any test tolerance as allowed by state or EPA regulations at the point of delivery.

Colonial Pipeline Company

PRODUCT SPECIFICATIONS

3.41.1

SPECIFICATIONS FOR FUNGIBLE 2000 ppm SULFUR HEATING OIL GRADE 88 DYED BY CPC

EPA Designation: Heating Oil

Cancels Previous Issues of Grade 88

PRODUCT PROPERTY	ASTM Test Method	Test Results		Note
		Minimum	Maximum	
Gravity API	D4052	30		
Flash Point, °F Pensky-Martin	D93	130		
Physical Distillation, °C(°F)	D86			6
50%			Report	
90%		282(540)	338(640)	
End Point			366(690)	
or Simulated Distillation, °C(°F)	D2887			6
50% recovered			Report	
90% recovered		300(572)	356(673)	
End Point			421(790)	
Color ASTM	D6045		2.5	4
Color			Undyed	3
Viscosity, cSt @ 40°C (104°F)	D445	1.9	4.1	
Pour Point	D97			2
Cloud Point	D2500			2
Corrosion, 3 hrs. @ 50°C (122°F)	D130		1	
Total Sulfur, ppmwt	D4294		2000	5
Ash, wt.%	D482		0.01	
Carbon Residue: Ramsbottom				
on 10% Bottom	D524		0.35	
BS&W, vol.%	D2709			
	or equivalent		< 0.05	
Thermal stability, 90 minutes				
150°C Pad rating,				
DuPont scale			7	
OR				
Thermal stability	D6468			
Y/Green		73%		
W Unit		65%		
OR				
Oxidation stability, mg/100 ml	D2274		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	

Colonial Pipeline Company

PRODUCT SPECIFICATIONS

3.41.2 SPECIFICATIONS FOR FUNGIBLE 2000 ppm SULFUR HEATING OIL GRADE 88 DYED BY CPC

Cancels Previous Issues of Grade 88

NOTES:

1. Additive requirements/restrictions - refer to section 3.2.
2. This schedule denotes the fluidity of the distillate at the time and place of origin.

Pour Point –August 1st through March 14th	Maximum: -18°C (0°F).
Pour Point – March 15th through July 31st	Maximum: -12°C (+10°F)
Cloud Point – August 1st through March 14th	Maximum: -9°C (+15°F)
Cloud Point – March 15th through July 31st	Maximum: -7°C (+20°F)

3. Dye Requirement:

Delivery: This product will be dyed by CPC to meet a minimum dye concentration, or spectral equivalence, of 3.9 pounds of Solid Red #26 per 1,000 barrels.

4. ASTM color measurement before addition of dye.
5. Origin laboratory certifying sulfur content can qualify the test method used per EPA Performance Based Testing Criteria (see CFR 80.584).
6. Either physical or simulated distillation can be used.
7. Colonial will accept test methods results that are listed in ASTM D396 for all tests. Test methods listed in the table above are considered referee methods by Colonial Pipeline. Referee methods apply for any dispute.
8. Interface may result in trace amounts of renewable and/or biodiesel in the product depending on delivery location.

Delivery test results may vary by the smaller of ASTM reproducibility for a given test or any test tolerance as allowed by state or EPA regulations at the point of delivery.

Colonial Pipeline Company

PRODUCT SPECIFICATIONS

3.42 SPECIFICATIONS FOR SEGREGATED DISTILLATE BLENDSTOCKS GRADE 89 DYED BY CPC

EPA Designation: None Required (Product is an unfinished blendstock)

Cancels Previous Issues of Grade 89

Product property	ASTM Test Method	Test Results		
		Minimum	Maximum	Note
Gravity API	D4052	25	42	
Flash Point, °F				
Pensky-Martin	D93	100		
Nace Corrosion	TM0172	B+ (origin)		
Total Sulfur, ppmwt	D4294		10,000	2
Electrical				
Conductivity, pS/m @ 21°C(70°F)	D2624		250	

Dye Requirement

Delivery: This product will be dyed by CPC to meet a minimum dye concentration, or spectral equivalence, of 3.9 pounds of Solid Red #26 per 1,000 barrels.

In order to allow for the proper placement of the batch in our sequence, when nominating the batch, the shipper must supply to the best of his knowledge the following information:

Gravity

Flash

Sulfur

Any other product property that does not meet our fungible specifications for 77 grade.

The pre-shipment documentation with the actual results must be received before shipment.

NOTES:

1. This schedule denotes the fluidity of the distillate at the time and place of origin.

Pour Point –August 1st through March 14th

Maximum: -18°C (0°F).

Pour Point – March 15th through July 31st

Maximum: -12°C (+10°F)

Cloud Point – August 1st through March 14th

Maximum: -9°C (+15°F)

Cloud Point – March 15th through July 31st

Maximum: -7°C (+20°F)

The pre-shipment documentation with the actual results must be received before shipment.

2. Origin laboratory certifying sulfur content can qualify the test method used per EPA performance based testing criteria (see CFR 80.584).

3. Additive requirements/restrictions - refer to section 3.2.

4. Colonial will accept test methods results that are listed in ASTM D396 for all tests. Test methods listed in the table above are considered referee methods by Colonial Pipeline. Referee methods apply for any dispute.

5. Interface may result in trace amounts of renewable and/or biodiesel in the product depending on delivery location.

Delivery test results may vary by the smaller of ASTM reproducibility for a given test or any test tolerance as allowed by state or EPA regulations at the point of delivery.

Colonial Pipeline Company

PRODUCT SPECIFICATIONS SPECIFICATIONS FOR FUNGIBLE TRANSMIX

3.43

Cancels Previous Issues of Grade 90-94

Each grade can consist of varying concentrations of the following distillate and gasoline:

Grade	Distillate	Gasoline
90	Distillate	Conventional
91	Distillate	RFG - VOC Controlled
92	Distillate	RFG - Non-VOC Controlled
93	Distillate	RBOB - VOC Controlled
94	Distillate	RBOB - Non-VOC Controlled
96	Distillate High Sulfur Kerosine	Distillate Ultra Low Sulfur Diesel (ULSD)

Explanation of Reference Marks

[N].....New
[W].....Change in Wording
[C].....Cancels