

**CLKB319Y**

	Whole crude	Butane and Lighter IBP - 60F	Lt. Naphtha C5 - 165F	Hvy Naphtha 165 - 330F	Kerosen e 330 - 480F	Diesel 480 - 650F	Vacuum Gas Oil 650 - 1000F	Vacuum Residue 1000F+
Cut volume, %	100.0	0.8	7.5	7.4	7.4	14.1	31.3	31.5
API Gravity,	20.1	117.0	84.1	57.3	39.9	27.9	16.6	1.0
Specific Gravity (60/60F),	0.934	0.569	0.656	0.750	0.826	0.887	0.955	1.068
Carbon, wt %	84.5	82.6	83.6	85.7	85.7	85.6	84.7	83.6
Hydrogen, wt %	12.1	17.4	16.4	14.3	13.6	12.6	11.7	11.0
Pour point, F	(27.4)			(151.0)	(84.8)	(18.5)	43.4	157.9
Neutralization number (TAN), MG/GM	1.320	0.000	0.019	0.091	0.120	0.663	2.064	1.530
Sulfur, wt%	3.750	0.001	0.009	0.107	0.629	1.844	3.344	6.582
Viscosity at 20C/68F, cSt	307.6	0.5	0.6	0.9	2.1	9.4	889.2	884,160,587,116.3
Viscosity at 40C/104F, cSt	88.8	0.4	0.5	0.7	1.5	5.1	188.0	4,104,636,435.6
Viscosity at 50C/122F, cSt	54.0	0.4	0.4	0.6	1.3	4.0	101.9	465,682,321.1
Mercaptan sulfur, ppm	84.1	2.8	19.7	63.9	10.6	18.6	6.1	0.3
Nitrogen, ppm	3,171.5	-	-	0.7	15.7	90.5	1,501.0	7,398.6
CCR, wt%	10.3						0.5	28.0
N-Heptane Insolubles (C7 Asphaltenes), wt%	7.8						-	21.5
Nickel, ppm	55.9							154.7
Vanadium, ppm	148.3							410.0
Calcium, ppm	1.2							
Reid Vapor Pressure (RVP) Whole Crude, psi	4.6							
Hydrogen Sulfide (dissolved), ppm	-							
Salt content, ptb	8.8							
Paraffins, vol %	21.2	99.9	93.1	49.3	33.4	15.1	11.9	2.0
Naphthenes, vol %	23.7	-	6.8	38.2	44.7	49.2	27.3	6.1
Aromatics (FIA), vol %	54.7	-	-	12.5	21.9	34.4	59.8	91.9
Distillation type, TBP								
IBP, F	45.1		61.6	165.5	331.0	481.1	651.7	1,002.0
5 vol%, F	112.7		70.1	170.5	339.6	490.8	666.9	1,019.8
10 vol%, F	193.3		74.3	176.2	349.0	501.1	683.8	1,040.0
20 vol%, F	426.4		82.2	189.0	366.9	520.4	717.7	1,081.3
30 vol%, F	571.2		98.0	203.0	383.5	538.7	751.6	1,124.0
40 vol%, F	680.7		103.9	218.5	399.3	556.0	785.1	1,168.4
50 vol%, F	788.6		109.4	235.3	414.2	572.6	818.8	1,214.7
60 vol%, F	898.5		125.5	253.2	428.5	588.6	852.9	1,263.4
70 vol%, F	1,019.2		135.2	272.0	442.2	604.2	888.0	1,314.7
80 vol%, F	1,152.9		144.8	291.2	455.5	619.6	924.1	1,369.0
90 vol%, F	1,305.7		154.6	310.6	468.0	634.8	961.5	1,427.5
95 vol%, F	1,392.6		159.7	320.3	474.1	642.4	980.6	1,460.8
EP, F	1,494.0		164.5	329.0	479.4	649.2	998.0	1,517.9
Freeze point, F				(139.9)	(72.3)	(4.0)		
Smoke point, mm				30.7	22.6	14.9		
Naphthalenes (D1840), vol%					0.5	6.9		
Viscosity at 100C/212F, cSt	9.8	0.3	0.3	0.4	0.7	1.7	13.2	249,886.3
Viscosity at 150C/302F, cSt	3.7	0.2	0.2	0.3	0.5	0.9	4.3	3,696.4
Cetane Index 1990 (D4737),				29.1	38.0	40.9		
Cloud point, F				(147.2)	(79.7)	(16.4)		
Aniline pt, F					137.7	135.9	147.6	