

22777 Springwoods Village Parkway,
Spring, TX 77389

KAOMB16B

	Whole crude	Butane and Lighter IBP - 60F	Lt. Naphtha C5 - 165F	Hvy Naphtha 165 - 330F	Kerosene 330 - 480F	Diesel 480 - 650F	Vacuum Gas Oil 650 - 1000F	Vacuum Residue 1000F+
Cut volume, %	100.0	1.9	4.9	14.6	14.5	17.6	28.1	18.4
API Gravity,	32.3	125.9	84.4	56.6	42.9	34.0	24.0	8.9
Specific Gravity (60/60F),	0.864	0.550	0.655	0.752	0.811	0.855	0.910	1.008
Carbon, wt %	86.0	82.4	83.9	85.6	86.0	86.3	86.4	85.9
Hydrogen, wt %	13.3	17.6	16.1	14.4	13.9	13.3	12.7	12.2
Pour point, F	25.0			(140.6)	(79.6)	(1.2)	84.1	91.0
Neutralization number (TAN), MG/GM	0.552	0.499	0.427	0.460	0.579	0.820	0.632	0.286
Sulfur, wt%	0.564	0.000	0.001	0.008	0.058	0.302	0.710	1.352
Viscosity at 20C/68F, cSt	15.2	0.4	0.6	0.9	1.9	6.5	168.0	33,472,014.4
Viscosity at 40C/104F, cSt	7.8	0.4	0.5	0.7	1.4	3.9	52.1	840,048.6
Viscosity at 50C/122F, cSt	6.0	0.4	0.4	0.7	1.2	3.1	32.7	193,450.2
Mercaptan sulfur, ppm	19.8	0.7	1.7	2.0	4.9	3.8	1.1	0.0
Nitrogen, ppm	1,964.9	-	-	0.1	3.8	117.8	1,300.7	7,226.2
CCR, wt%	3.9						0.3	17.5
N-Heptane Insolubles (C7 Asphaltenes), wt%	1.2						-	5.4
Nickel, ppm	13.7							63.5
Vanadium, ppm	19.1							88.6
Calcium, ppm	NotAvailable							
Reid Vapor Pressure (RVP) Whole Crude, psi	5.0							
Hydrogen Sulfide (dissolved), ppm	0.4							
Salt content, ptb	22.8							
Paraffins, vol %	32.1	100.0	83.6	45.0	44.2	35.2	20.9	2.8
Naphthenes, vol %	34.0	-	16.4	45.4	37.3	42.4	38.9	17.0
Aromatics (FIA), vol %	34.0	-	-	9.6	18.5	22.4	40.1	80.2
Distillation type, TBP								
IBP, F	(40.5)		60.8	166.1	330.8	480.9	651.4	1,001.4
5 vol%, F	135.0		68.1	175.5	337.6	488.7	664.0	1,014.1
10 vol%, F	206.6		73.8	185.4	345.2	497.3	678.2	1,028.8
20 vol%, F	314.5		85.1	204.0	360.4	514.3	707.7	1,060.4
30 vol%, F	419.5		100.6	221.3	375.6	531.1	740.0	1,094.3
40 vol%, F	519.6		108.8	237.9	390.8	547.9	774.1	1,130.9
50 vol%, F	615.6		123.4	253.8	405.9	564.7	809.2	1,170.9
60 vol%, F	717.6		132.8	269.3	421.0	581.5	845.2	1,215.5
70 vol%, F	840.9		141.5	284.5	436.0	598.4	882.1	1,266.2
80 vol%, F	976.9		149.8	299.6	450.9	615.4	919.9	1,325.5
90 vol%, F	1,153.4		157.6	314.7	465.6	632.6	959.0	1,397.3
95 vol%, F	1,282.2		161.3	322.3	472.8	641.3	979.2	1,440.9
EP, F	1,465.5		164.6	329.2	479.3	649.1	997.9	1,507.1
Freeze point, F				(128.2)	(66.9)	12.7		
Smoke point, mm				30.7	23.5	15.2		
Naphthalenes (D1840), vol%					1.8	8.1		
Viscosity at 100C/212F, cSt	2.3	0.3	0.3	0.4	0.7	1.4	6.7	1,376.7
Viscosity at 150C/302F, cSt	1.2	0.2	0.2	0.3	0.5	0.9	2.7	97.1
Cetane Index 1990 (D4737),				32.7	42.5	53.2		
Cloud point, F				(135.7)	(74.4)	3.6		
Aniline pt, F					137.7	159.0	186.8	