

22777 Springwoods Village Parkway,
Spring, TX 77389

KUTUB16F

	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	3.3	17.3	38.6	17.7	12.3	9.3	1.6
API Gravity,	51.4	116.4	82.5	54.9	43.9	33.7	26.0	10.3
Specific Gravity (60/60F),	0.774	0.571	0.661	0.759	0.807	0.856	0.899	0.998
Carbon, wt %	86.0	82.6	83.8	86.2	86.1	87.0	87.1	87.3
Hydrogen, wt %	14.0	17.4	16.2	13.8	13.9	13.0	12.8	12.0
Pour point, F	(3.7)			(95.6)	(47.6)	24.1	103.2	126.8
Neutralization number (TAN), MG/GM	0.020	0.000	0.001	0.003	0.009	0.053	0.075	0.101
Sulfur, wt%	0.021	0.000	0.000	0.000	0.002	0.028	0.107	0.254
Viscosity at 20C/68F, cSt	1.2	0.4	0.5	0.8	1.6	5.3	73.2	3,879,326.2
Viscosity at 40C/104F, cSt	1.0	0.4	0.4	0.6	1.2	3.3	27.8	146,810.5
Viscosity at 50C/122F, cSt	0.9	0.3	0.4	0.6	1.1	2.7	18.9	39,976.4
Mercaptan sulfur, ppm	0.6	0.0	0.0	0.1	0.3	0.2	0.0	0.0
Nitrogen, ppm	161.7	-	-	0.0	0.3	33.0	728.6	3,865.9
CCR, wt%	0.3						0.2	13.0
N-Heptane Insolubles (C7 Asphaltenes), wt%	0.0						-	0.4
Nickel, ppm	0.2							10.9
Vanadium, ppm	0.0							0.1
Calcium, ppm	0.5							
Reid Vapor Pressure (RVP) Whole Crude, psi	7.1							
Hydrogen Sulfide (dissolved), ppm	-							
Salt content, ptb	0.5							
Paraffins, vol %	51.8	100.0	86.4	43.1	46.3	42.7	39.3	2.6
Naphthenes, vol %	29.6	-	13.6	37.8	33.8	33.5	27.0	10.9
Aromatics (FIA), vol %	18.6	-	-	19.1	19.9	23.8	33.7	86.5
Distillation type, TBP								
IBP, F	12.1		61.1	165.7	330.6	480.7	650.9	1,000.8
5 vol%, F	73.1		69.0	172.3	336.0	486.8	659.0	1,008.0
10 vol%, F	106.6		73.1	179.4	342.1	493.6	668.2	1,016.4
20 vol%, F	162.8		81.2	193.8	354.8	507.8	688.0	1,034.4
30 vol%, F	200.3		98.6	208.3	368.1	522.6	709.6	1,054.3
40 vol%, F	238.4		107.5	223.0	382.0	537.9	733.5	1,076.8
50 vol%, F	279.8		125.8	237.8	396.5	553.9	760.4	1,102.5
60 vol%, F	335.7		135.2	253.1	411.6	570.7	791.0	1,132.9
70 vol%, F	413.8		143.6	269.1	427.3	588.4	826.6	1,170.2
80 vol%, F	516.5		151.3	286.5	443.9	607.3	869.6	1,219.2
90 vol%, F	667.2		158.4	306.4	461.4	627.8	924.1	1,293.8
95 vol%, F	801.6		161.7	317.7	470.6	638.6	958.3	1,355.6
EP, F	1,162.5		164.7	328.7	479.0	648.8	995.4	1,469.3
Freeze point, F				(85.6)	(35.1)	37.3		
Smoke point, mm				27.8	21.0	14.4		
Naphthalenes (D1840), vol%					3.1	11.8		
Viscosity at 100C/212F, cSt	0.6	0.3	0.3	0.4	0.6	1.3	4.9	510.7
Viscosity at 150C/302F, cSt	0.4	0.2	0.2	0.3	0.4	0.8	2.2	49.9
Cetane Index 1990 (D4737),				25.3	43.0	51.4		
Cloud point, F				(91.2)	(43.9)	28.7		
Aniline pt, F					133.6	158.5	185.3	