

22777 Springwoods Village Parkway,
Spring, TX 77389

TAPIS11F

	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	1.8	7.1	19.1	20.1	23.2	23.7	5.0
API Gravity,	42.7	120.4	82.5	54.4	44.7	38.1	32.2	9.5
Specific Gravity (60/60F),	0.812	0.562	0.661	0.761	0.803	0.834	0.864	1.004
Carbon, wt %	86.0	82.5	83.8	86.0	85.9	86.2	86.2	86.9
Hydrogen, wt %	14.0	17.5	16.2	14.0	14.0	13.7	13.7	12.7
Pour point, F	60.8			(127.4)	(44.3)	41.9	122.2	122.8
Neutralization number (TAN), MG/GM	0.215	0.013	0.013	0.016	0.033	0.109	0.510	0.805
Sulfur, wt%	0.044	0.000	0.000	0.002	0.011	0.043	0.070	0.221
Viscosity at 20C/68F, cSt	4.6	0.4	0.5	0.8	1.8	5.6	39.5	14,454,786.2
Viscosity at 40C/104F, cSt	2.7	0.3	0.4	0.7	1.4	3.5	17.7	514,047.8
Viscosity at 50C/122F, cSt	2.2	0.3	0.4	0.6	1.2	2.8	12.8	134,246.3
Mercaptan sulfur, ppm	1.7	0.1	0.6	1.6	1.5	1.7	0.6	0.0
Nitrogen, ppm	280.4	-	-	0.1	0.9	14.5	192.4	3,696.3
CCR, wt%	0.7						0.1	11.1
N-Heptane Insolubles (C7 Asphaltenes), wt%	0.1						-	0.9
Nickel, ppm	1.5							24.0
Vanadium, ppm	0.1							1.6
Calcium, ppm	2.8							
Reid Vapor Pressure (RVP) Whole Crude, psi	3.2							
Hydrogen Sulfide (dissolved), ppm	-							
Salt content, ptb	1.9							
Paraffins, vol %	49.7	100.0	83.9	40.5	50.5	50.4	49.4	4.3
Naphthenes, vol %	32.8	-	16.1	43.8	32.7	34.8	32.2	23.9
Aromatics (FIA), vol %	17.5	-	-	15.7	16.9	14.8	18.4	71.7
Distillation type, TBP								
IBP, F	1.8		60.9	166.0	330.8	480.8	651.1	1,001.0
5 vol%, F	118.8		69.2	174.6	338.3	487.6	660.9	1,010.6
10 vol%, F	175.5		77.3	183.8	346.6	495.2	672.0	1,021.7
20 vol%, F	263.4		91.3	201.4	363.0	510.3	695.2	1,045.4
30 vol%, F	346.4		103.6	218.3	379.0	525.5	719.5	1,071.4
40 vol%, F	423.8		114.3	234.6	394.4	541.0	744.7	1,100.3
50 vol%, F	492.6		124.1	250.7	409.5	557.1	771.0	1,133.1
60 vol%, F	559.3		133.2	266.7	424.2	573.9	798.6	1,171.1
70 vol%, F	638.3		141.8	282.5	438.7	591.5	828.2	1,216.6
80 vol%, F	736.2		149.9	298.3	452.9	610.0	863.6	1,273.8
90 vol%, F	859.0		157.6	314.1	466.6	629.5	916.4	1,352.7
95 vol%, F	999.9		161.3	322.1	473.4	639.6	954.5	1,408.4
EP, F	1,352.7		164.6	329.2	479.3	648.9	995.1	1,492.4
Freeze point, F				(115.4)	(32.3)	54.7		
Smoke point, mm				32.4	26.9	18.7		
Naphthalenes (D1840), vol%					2.5	7.9		
Viscosity at 100C/212F, cSt	1.0	0.3	0.3	0.4	0.7	1.4	4.0	1,355.8
Viscosity at 150C/302F, cSt	0.6	0.2	0.2	0.3	0.5	0.8	2.0	107.9
Cetane Index 1990 (D4737),				27.7	47.0	61.9		
Cloud point, F				(122.9)	(38.7)	47.9		
Aniline pt, F					151.3	180.5	217.7	