

22777 Springwoods Village Parkway,  
Spring, TX 77389

**GRANE16S**

	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+
Whole crude	100.0	1.6	3.8	12.3	12.4	19.2	31.8
Cut volume, %	100.0	1.6	3.8	12.3	12.4	19.2	31.8
API Gravity,	28.4	124.7	85.3	52.7	40.6	30.8	21.6
Specific Gravity (60/60F),	0.885	0.552	0.653	0.768	0.822	0.872	0.924
Carbon, wt %	86.3	82.4	83.9	85.6	86.4	86.8	86.6
Hydrogen, wt %	12.9	17.6	16.1	14.4	13.5	12.9	12.4
Pour point, F	34.3			(126.9)	(69.6)	2.3	92.0
Neutralization number (TAN), MG/GM	0.886	0.000	0.002	0.010	0.029	0.317	1.501
Sulfur, wt%	0.617	0.000	0.000	0.003	0.034	0.272	0.736
Viscosity at 20C/68F, cSt	23.1	0.4	0.5	0.8	1.9	7.1	260.0
Viscosity at 40C/104F, cSt	10.7	0.3	0.4	0.6	1.4	4.2	71.7
Viscosity at 50C/122F, cSt	7.8	0.3	0.4	0.6	1.2	3.3	43.1
Mercaptan sulfur, ppm	9.3	0.0	0.4	1.9	2.3	0.7	0.1
Nitrogen, ppm	1,873.8	-	-	0.8	20.2	110.4	1,235.9
CCR, wt%	3.7						0.2
N-Heptane Insolubles (C7 Asphaltenes), wt%	0.9						-
Nickel, ppm	3.1						
Vanadium, ppm	9.6						
Calcium, ppm	NotAvailable						
Reid Vapor Pressure (RVP) Whole Crude, psi	5.7						
Hydrogen Sulfide (dissolved), ppm	-						
Salt content, ptb	3.0						
Paraffins, vol %	24.6	100.0	82.8	42.1	35.4	25.9	14.3
Naphthenes, vol %	37.3	-	17.2	47.7	38.3	47.4	43.3
Aromatics (FIA), vol %	38.1	-	-	10.3	26.3	26.6	42.4
Distillation type, TBP							
IBP, F	(10.4)		60.8	166.1	330.8	480.9	651.5
5 vol%, F	158.7		68.3	175.6	338.4	489.1	664.7
10 vol%, F	228.8		75.9	185.2	346.7	498.0	679.6
20 vol%, F	362.2		89.8	202.3	363.3	515.1	710.2
30 vol%, F	480.4		102.4	217.4	379.7	531.8	741.9
40 vol%, F	568.7		113.7	231.7	395.9	548.4	774.9
50 vol%, F	657.7		124.0	246.1	411.7	564.9	809.4
60 vol%, F	755.3		133.5	261.8	426.9	581.5	845.1
70 vol%, F	865.0		142.3	278.8	441.3	598.3	880.5
80 vol%, F	987.1		150.4	296.1	455.0	615.3	917.4
90 vol%, F	1,156.7		158.0	313.2	467.8	632.5	956.9
95 vol%, F	1,284.1		161.5	321.6	474.0	641.2	977.9
EP, F	1,465.8		164.7	329.2	479.4	649.1	997.7
Freeze point, F				(115.2)	(58.4)	15.1	
Smoke point, mm				25.3	19.3	13.6	
Naphthalenes (D1840), vol%					2.6	10.8	
Viscosity at 100C/212F, cSt	2.6	0.2	0.3	0.4	0.7	1.5	7.8
Viscosity at 150C/302F, cSt	1.4	0.2	0.2	0.3	0.5	0.9	3.0
Cetane Index 1990 (D4737),				23.6	39.0	46.1	
Cloud point, F				(122.7)	(65.4)	6.2	
Aniline pt, F					126.6	145.3	174.7