

22777 Springwoods Village Parkway,  
Spring, TX 77389

**GUDRN16X**

	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	19.0	32.7	15.4	12.8	13.3	3.4
API Gravity,	49.5	113.3	83.5	52.9	44.1	35.8	27.5	16.4
Specific Gravity (60/60F),	0.782	0.578	0.658	0.768	0.806	0.846	0.890	0.956
Carbon, wt %	86.0	82.7	83.7	86.8	86.2	86.5	86.6	86.6
Hydrogen, wt %	14.0	17.3	16.3	13.2	13.8	13.4	13.1	12.8
Pour point, F	(116.9)			(137.3)	(61.3)	12.3	96.3	106.2
Neutralization number (TAN), MG/GM	0.033	0.000	0.000	0.009	0.016	0.098	0.076	0.066
Sulfur, wt%	0.086	0.000	0.000	0.001	0.005	0.082	0.302	0.646
Viscosity at 20C/68F, cSt	1.6	0.5	0.6	0.8	1.6	5.0	73.4	37,613.9
Viscosity at 40C/104F, cSt	1.3	0.4	0.5	0.7	1.2	3.2	28.6	4,477.5
Viscosity at 50C/122F, cSt	1.1	0.4	0.4	0.6	1.1	2.7	19.6	1,900.5
Mercaptan sulfur, ppm	0.7	0.1	0.3	1.1	1.0	0.3	0.0	0.0
Nitrogen, ppm	257.3	-	-	0.0	0.9	68.8	841.6	2,833.8
CCR, wt%	0.4						0.0	8.9
N-Heptane Insolubles (C7 Asphaltenes), wt%	0.0						-	0.0
Nickel, ppm	0.0							0.9
Vanadium, ppm	0.1							1.4
Calcium, ppm	2.7							
Reid Vapor Pressure (RVP) Whole Crude, psi	10.6							
Hydrogen Sulfide (dissolved), ppm	-							
Salt content, ptb	1.5							
Paraffins, vol %	52.3	100.0	90.3	38.9	43.1	41.8	35.6	14.7
Naphthenes, vol %	27.2	-	9.7	32.8	34.4	38.6	31.5	21.0
Aromatics (FIA), vol %	20.5	-	-	28.2	22.5	19.7	33.0	64.2
Distillation type, TBP								
IBP, F	32.8		60.9	165.7	330.6	480.7	651.1	1,000.9
5 vol%, F	71.9		68.5	172.2	336.1	487.2	661.3	1,009.3
10 vol%, F	101.0		72.6	179.2	342.4	494.5	673.0	1,019.0
20 vol%, F	154.9		80.9	193.0	355.5	509.3	697.5	1,039.9
30 vol%, F	198.1		97.4	206.8	369.4	524.5	723.6	1,063.3
40 vol%, F	241.7		103.9	220.7	383.9	540.1	751.5	1,089.6
50 vol%, F	295.1		110.3	235.3	399.0	556.1	781.2	1,119.9
60 vol%, F	373.1		128.1	250.7	414.5	572.9	813.6	1,155.9
70 vol%, F	475.7		138.2	267.3	430.4	590.6	849.4	1,199.9
80 vol%, F	599.5		147.6	285.6	446.5	609.3	890.2	1,256.9
90 vol%, F	783.6		156.5	306.3	463.1	629.1	938.7	1,338.3
95 vol%, F	929.6		160.8	317.7	471.5	639.4	967.2	1,397.7
EP, F	1,296.9		164.6	328.7	479.1	648.9	996.5	1,488.3
Freeze point, F				(124.3)	(48.2)	24.5		
Smoke point, mm				24.6	18.7	14.0		
Naphthalenes (D1840), vol%					2.9	11.5		
Viscosity at 100C/212F, cSt	0.7	0.3	0.3	0.4	0.7	1.3	5.2	100.5
Viscosity at 150C/302F, cSt	0.5	0.2	0.2	0.3	0.5	0.8	2.4	19.5
Cetane Index 1990 (D4737),				21.2	43.8	56.3		
Cloud point, F				(133.0)	(56.1)	16.9		
Aniline pt, F					134.4	162.2	200.3	