

Reference: GRSOL22Y
Crude: Girassol



Crude Summary Report

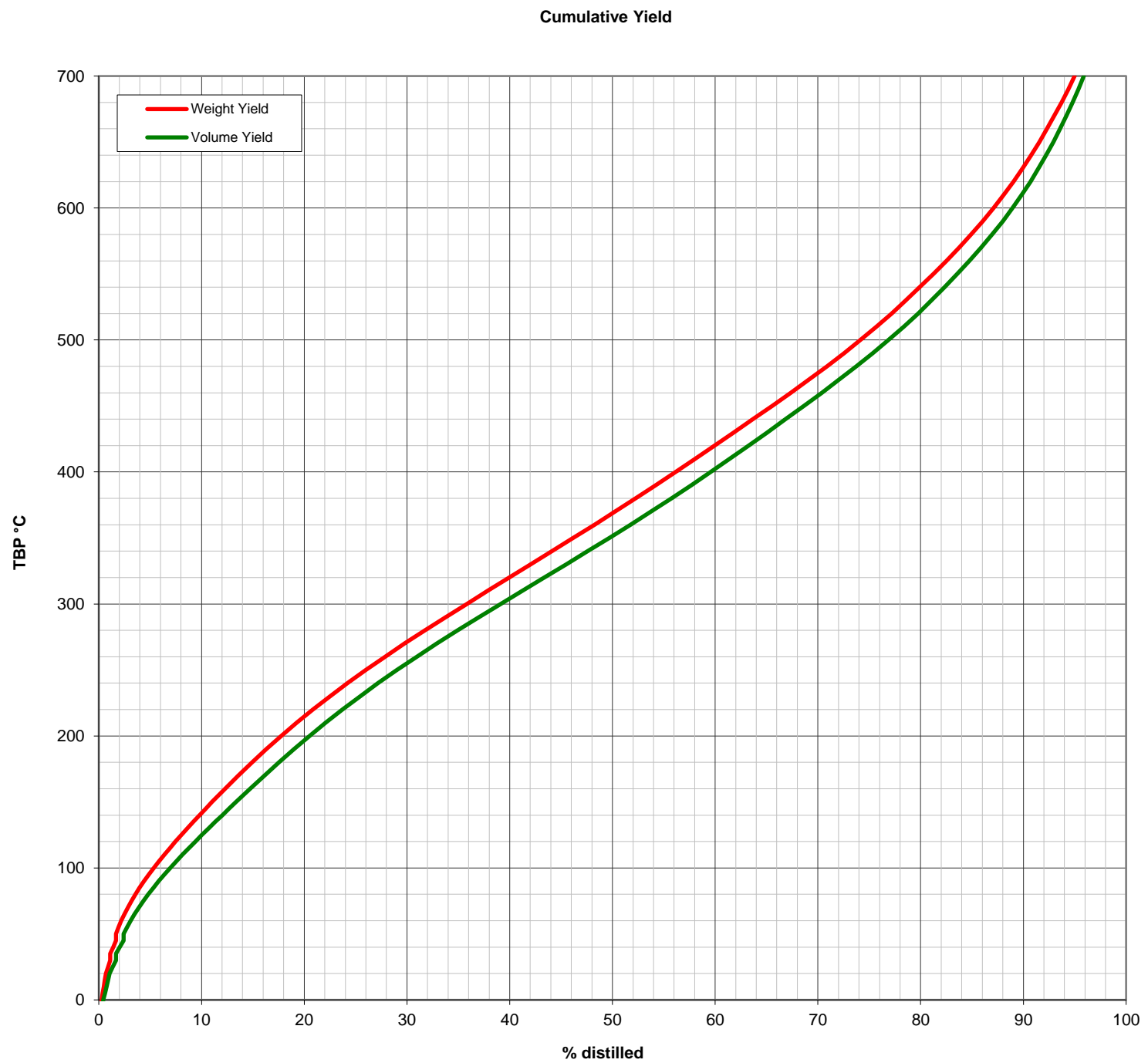
General Information		Molecules (%wt on crude)			Whole Crude Properties		
Reference:	GRSOL22Y	methane + ethane	0.02	Density @ 15°C (g/cc)	0.8763		
Name:	Girassol	propane	0.15	API Gravity	29.9		
Origin:	Angola	isobutane	0.13	Total Sulfur (% wt)	0.33		
Assay Date:	12/22/2022	n-butane	0.37	Pour Point (°C)	-42		
Comments:		isopentane	0.35	Viscosity @ 20°C (cSt)	25.5		
		n-pentane	0.44	Viscosity @ 40°C (cSt)	10.8		
		cyclopentane	0.10	Nickel (ppm)	9.8		
		C6 paraffins	0.85	Vanadium (ppm)	4.2		
		C6 naphthenes	0.89	Total Nitrogen (ppm)	1681		
		benzene	0.03	Total Acid Number (mgKOH/g)	0.45		
		C7 paraffins	0.76	Mercaptan Sulfur (ppm)	22.0		
		C7 naphthenes	1.64	Hydrogen Sulfide (ppm)	0.0		
		toluene	0.14	Reid Vapor Pressure (kPa)	25.6		

Cut Data	IBP	Atmospheric Cuts									Vacuum Cuts					
		C5	65	100	150	200	250	300	350	370	370	450	500	550		
Start (°C)																
End (°C)	FBP	65	100	150	200	250	300	350	370	FBP	450	500	550	FBP		
Yield (% wt)		1.9	2.9	5.7	6.7	8.2	9.8	10.4	4.1	49.7	15.3	8.6	7.1	18.8		
Yield (% vol)		2.6	3.5	6.4	7.2	8.5	10.1	10.6	4.1	46.2	14.8	8.3	6.7	16.5		
Cumulative Yield (% wt)		0.6	2.5	5.4	11.0	17.8	26.0	35.8	46.2	50.3	50.3	65.5	74.2	81.2		
Volume Average B.P. (°C)	362	42.5	84	126	176	226	276	325	360	522	409	474	524	648		
Density @ 15°C (g/cc)	0.8763	0.6475	0.7206	0.7769	0.8229	0.8469	0.8521	0.8588	0.8742	0.9422	0.9004	0.9151	0.9275	0.9994		
API Gravity	29.9	87.0	64.8	50.6	40.4	35.5	34.5	33.2	30.3	18.6	25.6	23.0	21.0	10.0		
UOPK	11.93			11.52	11.31	11.39	11.68	11.93	11.94	11.96	11.89	12.06	12.15	11.84		
Molecular Weight (g/mol)				109	135	167	208	256	292	524	345	448	566	993		
Total Sulfur (% wt)	0.33	0.002	0.004	0.008	0.017	0.047	0.119	0.234	0.309	0.55	0.369	0.443	0.52	0.77		
Mercaptan Sulfur (ppm)	22.0						8	31	101	225	3332	687	1470	2080	6808	
Total Nitrogen (ppm)	1681						8	31	93	163	889	266	447	675	1679	
Basic Nitrogen (ppm)	462						8	31	93	163	889	266	447	675	1679	
Total Acid Number (mgKOH/g)	0.45	0.03	0.07	0.15	0.27	0.44	0.68	0.79	0.71	0.41	0.62	0.53	0.46	0.16		
Viscosity @ 20°C (cSt)	25.5				1.50											
Viscosity @ 40°C (cSt)	10.8				1.13	1.74	3.05	6.14	10.9							
Viscosity @ 50°C (cSt)	7.71					1.49	2.51	4.76	8.06	263	18.1	62.3	205			
Viscosity @ 60°C (cSt)										145	12.9	39.5	116			
Viscosity @ 100°C (cSt)										25.7	4.70	10.5	22.1	663		
Viscosity @ 130°C (cSt)														139		
Viscosity @ 150°C (cSt)														63.1		
RON (Clear)		77.3	60.6	71.7	67.0											
MON (Clear)		76.3	69.6	66.7	59.5											
Paraffins (% wt)	19.1	92.7	42.2	23.1	24.2											
Naphthenes (%wt)	43.7	7.3	56.7	59.6	51.7											
Aromatics (% wt)	37.1	0.0	1.2	17.3	24.1											
Pour Point (°C)	-42						-61	-38	-13	0	30	22	46	52	42	
Cloud Point (°C)							-59	-36	-12							
Freeze Point (°C)							-75	-55	-32							
Smoke Point (mm)							22	20	18							
Cetane Index (D4737A)							25	34	48	61	65					
Naphthalenes (% vol)							1.0	5.4	8.5	10.1						
Aniline Point (°C)							38.3	43.4	54.8	67.1	78.9	85.7	91.4	97.7	103.5	
Hydrogen (% wt)	13.2	16.4	15.1	13.8	13.4	13.0	13.4	13.5	13.3		12.8	12.9	12.8			
Total Wax (% wt)	7.4									9.0	11.3	12.6	12.5	4.2		
C7 Asphaltenes (% wt)	0.3									0.5	0.0	0.0	1.4			
Micro Carbon Residue (% wt)	2.8									5.5	0.1	1.0	14.3			
Vanadium (ppm)	4.2									8.4	0.0	0.0	22.4			
Nickel (ppm)	9.8									19.8	0.0	0.0	52.3			
Iron (ppm)	2.2									4.5	0.0	0.0	11.8			
Sodium (ppm)	2.1															
Mercury (ppb)	1.0															
Arsenic (ppb)	58															

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Reference: **GRSOL22Y**
Crude: **Girassol**

Yield Distribution



Cumulative Volume % Distilled at 10 Degree C (TBP) Intervals

	0	10	20	30	40	50	60	70	80	90
0				1.7	2.0	2.4	3.1	3.9	4.8	5.8
100	7.0	8.2	9.4	10.7	12.0	13.4	14.7	16.1	17.5	19.0
200	20.5	22.1	23.7	25.4	27.2	29.0	30.9	32.9	34.9	37.0
300	39.1	41.2	43.4	45.5	47.6	49.7	51.8	53.8	55.8	57.7
400	59.6	61.4	63.3	65.1	66.9	68.6	70.4	72.1	73.7	75.3
500	76.9	78.3	79.7	81.1	82.3	83.5	84.7	85.9	87.0	88.0