TotalEnergies

Crude **ATAPU**

Country Brazil

TBP DISTILLATION

Density at 15°C, kg/m3	885.1
°API	28.3
Bbl/mt	7.119
Acidity, mg KOH/g	0.24
Sulphur, wt%	0.37
Hydrogen Sulphide, mg/kg	0
Mercaptan Sulphur, mg/kg	35
Viscosity, cSt at 10 °C	81.6
50 °C	14.3
Pour Point, °C	-18
Total Nitrogen, wt%	0.26
Basic Nitrogen, wt%	0.13
Wax, wt%	-
Wax Appearance Temperature, °C	-
RVP at 37.8 °C, kPa	-
Water, vol%	-
NaCl, mg/kg	3.0
Nickel, mg/kg	10.9
Vanadium, mg/kg	12.8
Iron, mg/kg	6.2
Mercury, µg/kg	-
Calcium, mg/kg	<1
Silicium, mg/kg	<3
Zinc, mg/kg	6.5

Assay Date 27-Apr-21

	wt%	vol%
Ethane	0.0	0.0
Propane	0.3	0.5
Iso-Butane	0.2	0.3
n-Butane	0.6	0.9

°C	wt%	vol%	°C	wt%	vol%
080	4.3	6.0	520	66.0	69.7
090	5.0	6.9	540	68.9	72.4
100	5.9	8.0	560	71.8	75.1
120	8.1	10.6	580	74.6	77.6
140	10.6	13.6			
160	13.2	16.5			
180	15.5	19.1			
200	17.8	21.6			
220	20.2	24.2			
240	22.7	27.0			
260	25.5	29.9			
280	28.5	33.0			
300	31.5	36.1			
320	34.6	39.3			
340	37.8	42.5			
360	40.9	45.6			
380	44.1	48.8			
400	47.3	51.9			
420	50.4	54.9			
440	53.6	58.0			
460	56.7	61.0			
480	59.8	63.9			
500	62.9	66.8			

PROPERTIES OF TBP CUTS

LIGHT NAPHTHA	Cuts °C	Yield wt%	Yield vol %	Den 15°C kg/m3	S wt%	RSH mg/kg	RON clear	MON clear			Napht. vol%	Aro. vol%	RVP kPa			
	15-65	2.3	3.1	648	0.02	7	70.4	69.2			7.5	0.5	-			
	15-80	3.2	4.2	662	0.02	16	67.4	65.8			14.2	1.4	-			
HEAVY NAPHTHA	Cuts °C	Yield wt%	Yield vol %	Den 15°C kg/m3	S wt%	RSH mg/kg					Napht. vol%	Aro. vol%				
	80-150	7.6	9.0	745	0.03	57					49.4	7.1				
	80-175	10.6	12.5	755	0.03	57					50.0	8.4				
	100-150	6.0	7.0	753	0.03	58					51.3	7.6				
KEROSENE	Cuts °C	Yield wt%	Yield vol %	Den 15°C kg/m3	S wt%	RSH mg/kg	Smoke Pt mm	Acidity mgKOH/g	Cetane Index	Freez. Pt °C		Aro. vol%	Visc cSt 50°C			Flash Point
	150-230	9.5	10.5	801	0.08	45	24	0.08	40.1	-53		15.1	1.0			55.9
	175-230	6.5	7.1	810	0.09	40	24	0.09	41.2	-48		16.6	1.2			69.4
	150-250	12.2	13.4	807	0.09	41	24	0.09	41.9	-48		16.2	1.1			59.2
GASOIL	Cuts °C	Yield wt%	Yield vol %	Den 15°C kg/m3	S wt%		Anilin Point °C		Cetane Index	Cloud Pt C	CFPP C	Pour Pt C	Visc cSt 50°C	Visc cSt 100°C	UOPK	Flash Point
	175-400	32.3	33.4	855	0.20		67		48.7	-2	-5	-9	3.2	1.4	11.8	84.4
	230-400	25.8	26.3	868	0.23		69		51.0	1	0	-1	4.5	1.8	11.8	107.7
	230-375	21.9	22.4	861	0.21		68		51.3	-4	-5	-6	3.7	1.6	11.8	105.7
VACUUM DISTILLATE	Cuts °C	Yield wt%	Yield vol %	Den 15°C kg/m3	S wt%	Conrad. wt%	Anilin Point °C	Ni mg/kg	Va mg/kg	Total N wt%	Bas N mg/kg	Pour Pt C	Visc cSt 100°C	Visc cSt 150°C	UOPK	Asp C7 wt %
	375-550	27.1	25.8	929	0.40	0.2	83	0	0	0.25	953	38	12.0	4.0	11.8	0.0
	375-565	29.2	27.7	931	0.41	0.4	83	0	0	0.26	1020	39	13.2	4.3	11.8	0.0
	375-580	31.3	29.6	933	0.42	0.5	83	1	1	0.27	1090	40	14.5	4.6	11.8	0.1
	400-580	27.3	25.7	938	0.43	0.6	85	1	1	0.29	1200	42	18.0	5.4	11.8	0.1
RESIDUE	Cuts °C	Yield wt%	Yield vol %	Den 15°C kg/m3	S wt%	Conrad. wt%	Acidity mgKOH/g	Ni mg/kg	Va mg/kg	Total N wt%		Pour Pt C	Visc cSt 100°C	Visc cSt 150°C	Pene mm/10	Asp C7 wt%
	> 375	56.7	52.0	964	0.56	7.6	0.2	19	23	0.44		30	93	17	-	1.4
	> 550	29.6	26.2	998	0.70	14.2	0.2	37	43	0.61		62	2210	149	64	2.6
	> 565	27.5	24.3	1001	0.72	15.2	0.2	39	46	0.63		64	3270	194	53	2.8
	> 580	25.4	22.4	1004	0.73	16.2	0.2	42	49	0.64		65	5010	258	46	3.0

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