

Rainbow Light and Medium

	Data	Notes	Reference ID
Origin: Alberta, Canada			
Data from OGJ 99 were originally published in 1983 as part of a series entitled "Guide to Export Crudes for the '80s".			
API Gravity	40.7		OGJ 99
Sulphur (weight %)	0.50		OGJ 99
Reid Vapour Pressure (kPa)	34		OGJ 99
Hydrogen Sulphide (ppm)	10		OGJ 99
Pour Point (°C)	3		OGJ 99
Kinematic Viscosity (mm²/s or cSt)			
Temperature (°C)			
40	4		OGJ 99
Hydrocarbon Groups (weight %)			
Waxes	20		OGJ 99
Yield on Crude (volume %)			
Boiling Range (°C)			
< C5	3		OGJ 99
Naphtha (C5-190)	39		OGJ 99
Kerosene (190-277)	13		OGJ 99
Distillate (277-343)	12		OGJ 99
Gas oil (343-565)	32		OGJ 99
Residue (>565)	5		OGJ 99
Metals (ppm)			
Nickel	0.9		OGJ 99
Vanadium	0.5		OGJ 99

Rangeland-South Light and Medium

		Data	Notes	Reference ID
Origin: Alberta, Canada				
Data from OGJ 99 were originally published in 1983 as part of a series entitled "Guide to Export Crudes for the '80s".				
API Gravity		39.5		OGJ 99
Sulphur (weight %)		0.75		OGJ 99
Reid Vapour Pressure (kPa)		39		OGJ 99
Hydrogen Sulphide (ppm)		20		OGJ 99
Pour Point (°C)		-40		OGJ 99
Kinematic Viscosity (mm²/s or cSt)				
	<u>Temperature (°C)</u>			
	40	3		OGJ 99
Hydrocarbon Groups (weight %)				
	Waxes	12		OGJ 99
Yield on Crude				
	<u>Boiling Range (°C)</u>			
Weight %	< C5	3		OGJ 99
Volume %	Naphtha (C5-190)	39		OGJ 99
	Kerosene (190-277)	16		OGJ 99
	Distillate (277-343)	9		OGJ 99
	Gas oil (343-565)	33		OGJ 99
	Residue (>565)	4		OGJ 99
Metals (ppm)				
	Nickel	1		OGJ 99
	Vanadium	1		OGJ 99

		Data	Notes	Reference ID
Origin: Colorado, USA				
API Gravity		33.7		ESD 93
Equation(s) for Predicting Evaporation				
%Ev = (1.89 + 0.045T)ln(t)				ESD 96
Where %Ev = weight percent evaporated; T = surface temperature (°C); t = time (minutes)				
Sulphur (weight %)				
<u>Evaporation (weight %)</u>				
0		0.35		ESD 93
11		0.64		ESD 94
21		0.69		ESD 94
30		0.77		ESD 94
Flash Point (°C)				
<u>Evaporation (weight %)</u>				
0		-2		ESD 93
11		49		ESD 94
21		94		ESD 94
30		> 95		ESD 94
Density (g/mL)				
<u>Evaporation (weight %)</u>	<u>Temperature (°C)</u>			
0	0	0.8699		ESD 93
	15	0.8567		ESD 93
11	0	0.8898		ESD 94
	15	0.8765		ESD 94
21	0	0.9041		ESD 94
	15	0.8920		ESD 94
30	0	0.9184		ESD 94
	15	0.9059		ESD 94
Pour Point (°C)				
<u>Evaporation (weight %)</u>				
0		17		ESD 94
11		18		ESD 94
21		21		ESD 94
30		29		ESD 94

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Dynamic Viscosity (mPa·s or cP)				
<u>Evaporation (weight %)</u>	<u>Temperature (°C)</u>			
0	0	7,505	(a)	ESD 93
		22,120	(b)	ESD 93
	15	33		ESD 93
11	0	2,820	(a)	ESD 94
		40,500	(b)	ESD 94
	15	61		ESD 94
21	0	11,800	(a)	ESD 94
		94,000	(b)	ESD 94
	15	173		ESD 94
30	0	5,110,000	(c)	ESD 94
		6,320	(a)	ESD 94
	15	30,400	(b)	ESD 94
<i>Shear rate = (a) 10/s; (b) 1/s; (c) 0.1/s</i>				
Chemical Dispersibility (volume %)				
	Corexit 9527	5		ESD 93
	Dasic LTS	15		ESD 93
	Enersperse 700	10		ESD 93
Hydrocarbon Groups (weight %)				
<u>Evaporation (weight %)</u>				
0	Saturates	71		ESD 95
	Aromatics	21		ESD 95
	Resins	5		ESD 95
	Asphaltenes	4		ESD 95
	Waxes	10		ESD 98
11	Saturates	68		ESD 95
	Aromatics	24		ESD 95
	Resins	5		ESD 95
	Asphaltenes	3		ESD 95
	Waxes	9		ESD 98
21	Saturates	65		ESD 95
	Aromatics	24		ESD 95
	Resins	6		ESD 95
	Asphaltenes	4		ESD 95
	Waxes	10		ESD 98
30	Saturates	61		ESD 95
	Aromatics	27		ESD 94
	Resins	6		ESD 95
	Asphaltenes	6		ESD 95
	Waxes	10		ESD 98

		Data	Notes	Reference ID
Adhesion (g/m²)				
<u>Evaporation (weight %)</u>				
0		26	<i>SD = 2</i>	ESD 95
11		32	<i>SD = 6</i>	ESD 95
21		71	<i>SD = 11</i>	ESD 95
30		214	<i>SD = 29</i>	ESD 95
Volatile Organic Compounds (ppm)				
<u>Evaporation (weight %)</u>				
0	Benzene	930		ESD 94
	Toluene	1,820		ESD 94
	Ethylbenzene	510		ESD 94
	Xylenes	3,130		ESD 94
	C3-benzenes	4,250		ESD 94
	Total BTEX	640		ESD 94
	Total VOCs	10,650		ESD 94
11	Benzene	80		ESD 94
	Toluene	510		ESD 94
	Ethylbenzene	340		ESD 94
	Xylenes	2,280		ESD 94
	C3-benzenes	3,760		ESD 94
	Total BTEX	3,210		ESD 94
	Total VOCs	6,960		ESD 94
21	Benzene	0		ESD 94
	Toluene	0		ESD 94
	Ethylbenzene	0		ESD 94
	Xylenes	90		ESD 94
	C3-benzenes	980		ESD 94
	Total BTEX	90		ESD 94
	Total VOCs	1,070		ESD 94
30	Benzene	0		ESD 94
	Toluene	0		ESD 94
	Ethylbenzene	0		ESD 94
	Xylenes	0		ESD 94
	C3-benzenes	0		ESD 94
	Total BTEX	0		ESD 94
	Total VOCs	0		ESD 94

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		Data	Notes	Reference ID
Surface Tension (mN/m or dynes/cm)				
<u>Evaporation (weight %)</u>	<u>Temperature (°C)</u>			
0	0	DNF		ESD 94
	15	27.1		ESD 94
11	0	DNF		ESD 94
	15	28.4		ESD 94
21	0	DNF		ESD 94
	15	29.8		ESD 94
30	0	DNF		ESD 94
	15	DNF		ESD 94
Oil/Salt Water Interfacial Tension (mN/m or dynes/cm)				
<u>Evaporation (weight %)</u>	<u>Temperature (°C)</u>			
0	0	DNF		ESD 94
	15	21.7		ESD 94
11	0	DNF		ESD 94
	15	22.4		ESD 94
21	0	DNF		ESD 94
	15	23.0		ESD 94
30	0	DNF		ESD 94
	15	DNF		ESD 94
Oil/Fresh Water Interfacial Tension (mN/m or dynes/cm)				
<u>Evaporation (weight %)</u>	<u>Temperature (°C)</u>			
0	0	DNF		ESD 94
	15	22.1		ESD 94
11	0	DNF		ESD 94
	15	23.4		ESD 94
21	0	DNF		ESD 94
	15	25.6		ESD 94
30	0	DNF		ESD 94
	15	DNF		ESD 94

		Data	Notes	Reference ID
Boiling Point Distribution (weight %)				
<u>Evaporation (weight %)</u>	<u>Boiling Point (°C)</u>			
0	60	1		ESD 94
	80	2		ESD 94
	100	4		ESD 94
	120	6		ESD 94
	140	8		ESD 94
	160	11		ESD 94
	180	14		ESD 94
	200	17		ESD 94
	250	26		ESD 94
	300	36		ESD 94
	350	47		ESD 94
	400	57		ESD 94
	450	67		ESD 94
	500	75		ESD 94
	550	82		ESD 94
	600	87		ESD 94
	650	90		ESD 94
	700	93		ESD 94
11	100	1		ESD 95
	120	2		ESD 95
	140	4		ESD 95
	160	7		ESD 95
	180	10		ESD 95
	200	14		ESD 95
	250	24		ESD 95
	300	35		ESD 95
	350	47		ESD 95
	400	57		ESD 95
	450	68		ESD 95
	500	77		ESD 95
	550	83		ESD 95
	600	88		ESD 95
21	650	92		ESD 95
	700	95		ESD 95
	180	2		ESD 95
	200	4		ESD 95
	250	14		ESD 95
	300	27		ESD 95
	350	40		ESD 95
	400	52		ESD 95
	450	64		ESD 95

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		Data	Notes	Reference ID
Boiling Point Distribution (weight %)				
<u>Evaporation (weight %)</u>	<u>Boiling Point (°C)</u>			
21	500	74		ESD 95
	550	82		ESD 95
	600	87		ESD 95
	650	92		ESD 95
	700	95		ESD 95
30	250	4		ESD 95
	300	16		ESD 95
	350	31		ESD 95
	400	45		ESD 95
	450	58		ESD 95
	500	69		ESD 95
	550	78		ESD 95
	600	84		ESD 95
	650	89		ESD 95
	700	93		ESD 95

Rincon de Los Sauces

	Data	Notes	Reference ID
Origin: Argentina			
Data from OGJ 99 were originally published in 1995.			
API Gravity	36.1		OGJ 99
Sulphur (weight %)	0.28		OGJ 99
Hydrogen Sulphide (ppm)	< 1		OGJ 99
Density (g/mL)			
	<u>Temperature (°C)</u>		
	15	0.8442	OGJ 99
Pour Point (°C)	-4		OGJ 99
Kinematic Viscosity (mm²/s or cSt)			
	<u>Temperature (°C)</u>		
	16	16	OGJ 99
	38	5	OGJ 99
Yield on Crude (volume %)			
	<u>Boiling Range (°C)</u>		
	C5-71	4	OGJ 99
	71-193	23	OGJ 99
	193-249	12	OGJ 99
	249-349	22	OGJ 99
	349-559	27	OGJ 99
	>559	11	OGJ 99
Metals (ppm)			
	Nickel	1	OGJ 99
	Vanadium	4	OGJ 99

Road Oil

	Data	Notes	Reference ID
Synonyms: Liquid Asphalt Petroleum Asphalt Slow Curing Asphalt			
Colour	Dark brown to black		CHRIS 91
Flash Point (°C)	149 to 288		CHRIS 91
Ignition Temperature (°C)	204 to 371		CHRIS 91
Density (g/mL)			
<div>Temperature (°C)</div> 20	1.0999		CHRIS 91
Dynamic Viscosity (mPa·s or cP)			
<div>Temperature (°C)</div> 100	93		CHRIS 91

	Data	Notes	Reference ID
Origin: Iran			
Data from OGJ 99 were originally published in 1983 as part of a series entitled "Guide to Export Crudes for the '80s".			
API Gravity	35.9		OGJ 99
Sulphur (weight %)	1.55		OGJ 99
Pour Point (°C)	-23		OGJ 99
Kinematic Viscosity (mm²/s or cSt)			
Temperature (°C)			
50	3		OGJ 99
Yield on Crude (volume %)			
Boiling Range (°C)			
Gasoline (IBP-165)	24		OGJ 99
Kerosene (165-220)	11		OGJ 99
Gas oil (220-310)	17		OGJ 99
Residue	46		OGJ 99