Arabian Light

Origin: Saudi Arabia
Synonyms: Berri

Data from OGJ 99 were originally published in 1991 as part of a series entitled "Export Crudes for the '90s".

			Reference ID
API Gravity			
		33.4	OGJ 99
		31.8	ESD 92
Equation(s) for Predicting Evaporation			
%Ev = (2.52 + 0.037T)ln(t)			
Where %Ev = weight percent evaporated; T = surface temperature (°C); t = time (minutes)			
			ESD 96
Sulphur (weight %)			
Evaporation			
(volume %)			
0		1.77	OGJ 99
		1.84	ESD 93
12		1.85	
24		2.06	
Water Content (weight %)			
Evaporation			
(volume %)			
0		0.1	ESD 98
12		<0.1	
24		<0.1	
Flash Point (°C)			
Evaporation			
(volume %)			
0		-20	ESD 92
12		44	
24		89	
Density (g/mL)			
Evaporation	Temperature		
(volume %)	(°C)		
0	0	0.8781	ESD 92
	15	0.8658	
		0.8581	OGJ 99
12	0	0.9039	ESD 92
	15	0.8921	
24	0	0.9225	
	15	0.9111	
Pour Point (°C)			
Evaporation			
(volume %)			
0		-53	OGJ 99
		-28	ESD 92
12		-13	
24		-12	
Dynamic Viscosity (mPa·s or cP)			
Evaporation	Temperature		
(volume %)	(°C)		
0	0	31	ESD 92
	15	14	

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Dynamic Viscosity (mPa·s or cP)			
Evaporation (volume %)	Temperature (°C)		
12	0	116	ESD 92
	15	33	
24	0	406	
	15	94	
Kinematic Viscosity (mm²/s or cSt)			
	Temperature (°C)		
	16	12	OGJ 99
Emulsion Formation			
Evaporation (volume %)			
0	Visual stability	stable	ESD 98
	Viscosity (mPa·s)	23000	
	Complex modulus (Pa)	470	
	Water content (wt %)	87	
12	Visual stability	stable	
	Viscosity (mPa·s)	46000	
	Complex modulus (Pa)	400	
	Water content (wt %)	89	
24	Visual stability	stable	
	Viscosity (mPa·s)	48000	
	Complex modulus (Pa)	510	
	Water content (wt %)	85	
Chemical Dispersibility (volume %)			
Evaporation (volume %)			
0	Corexit 9500	21	ESD 98
	Corexit 9527	25	EETD 89
	Dasic LTS	25	
	Enersperse 700	10	
12	Corexit 9500	17	ESD 98
24		14	
Hydrocarbon Groups (weight %)			
Evaporation (volume %)			
0	Saturates	51	ESD 95
	Aromatics	39	
	Resins	6	
	Asphaltenes	3	
	Waxes	5	ESD 98
12	Saturates	49	ESD 96
	Aromatics	37	
	Resins	8	
	Asphaltenes	5	
	Waxes	5	ESD 97
24	Saturates	46	ESD 96
	Aromatics	39	
	Resins	10	
	Asphaltenes	6	
	Waxes	5	ESD 98

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Adhesion (g/m²)				
Evaporation (volume %)				
0		14	SD = 2	ESD 96
12		18	SD = 2	
24		21	SD = 2	
Volatile Organic Compounds (ppm)				
Evaporation (volume %)				
0	Benzene	680		ESD 94
	Toluene	1980		
	Ethylbenzene	1560		
	Xylenes	3750		
	C3-benzenes	7450		
	Total BTEX	7970		
	Total VOCs	15420		
12	Benzene	140		
	Toluene	1550		
	Ethylbenzene	1270		
	Xylenes	3050		
	C3-benzenes	6710		
	Total BTEX	6010		
	Total VOCs	12720		
24	Benzene	0		
	Toluene	50		
	Ethylbenzene	0		
	Xylenes	90		
	C3-benzenes	2430		
	Total BTEX	140		
	Total VOCs	2570		
Surface Tension (mN/m or dynes/cm)				
Evaporation (volume %)	Temperature (°C)			
0	0	27.1		ESD 92
	15	26.6		
12	0	28.9		
	15	28.0		
24	0	30.2		
	15	28.5		
Oil/Salt Water Interfacial Tension (mN/m or dynes/cm)				
Evaporation (volume %)	Temperature (°C)			
0	0	16.8		ESD 92
	15	20.4		
12	0	14.8		
	15	17.3		
24	0	19.3		
	15	20.2		
Oil/Fresh Water Interfacial Tension (mN/m or				
Evaporation (volume %)	Temperature (°C)			
0	0	19.8		ESD 92
	15	22.6		
12	0	15.1		

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Oil/Fresh Water Interfacial Tension (mN/m or

Evaporation (volume %)	Temperature (°C)		Reference ID
12	15	17.2	ESD 92
24	0	29.0	
	15	21.9	

Boiling Point Distribution (weight %)

Evaporation (volume %)	Boiling Point (°C)	Weight %	
0	40	2	ESD 94
	60	2	
	80	4	
	100	7	
	120	9	
	140	12	
	160	15	
	180	19	
	200	22	
	250	31	
	300	40	
	350	49	
	400	57	
	450	66	
	500	73	
	550	79	
	600	85	
	650	89	
	700	92	
12	100	1	ESD 96
	120	2	
	140	4	
	160	7	
	180	11	
	200	15	
	250	25	
	300	35	
	350	47	
	400	57	
	450	67	
	500	75	
	550	83	
	600	89	
	650	94	
	700	98	
24	180	2	
	200	5	
	250	14	
	300	26	
	350	38	
	400	49	
	450	59	
	500	68	
	550	76	
	600	83	
	650	88	
	700	92	

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			Reference ID
Boiling Point Distribution (°C)			
Evaporation (volume %)	Weight %	Boiling Point (°C)	
0	5		ESD 94
	10		
	15		
	20		
	25		
	30		
	35		
	40		
	45		
	50		
	55		
	60		
	65		
	70		
	75		
	80		
	85		
	90		
12	5		ESD 96
	10		
	15		
	20		
	25		
	30		
	35		
	40		
	45		
	50		
	55		
	60		
	65		
	70		
	75		
	80		
	85		
	90		
	95		
24	5		
	10		
	15		
	20		
	25		
	30		
	35		
	40		
	45		
	50		
	55		
	60		
	65		
	70		
	75		
	80		

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				Reference ID
Boiling Point Distribution (°C)				
Evaporation (volume %)	Weight %	Boiling Point (°C)		
24	85			ESD 96
	90			
Yield on Crude (volume %)				
	Boiling Range (°C)			
	20-175	23		OGJ 99
	175-295	23		
	295-343	8		
	343-565	30		
	565-816	15		
Metals (ppm)				
Evaporation (volume %)				
0	Barium	<0.3		Cao 92
	Chromium	<1.5		
	Copper	1.6		
	Iron	<3		
	Lead	<3		
	Magnesium	5.6		
	Molybdenum	0.9		
	Nickel	2.5		
	Titanium	<0.6		
	Vanadium	16.0		
	Zinc	<0.6		
24	Aluminum	<5		
	Barium	0.4		
	Cadmium	<0.5		
	Calcium	34.9		
	Chromium	<1.5		
	Cobalt	<1		
	Copper	2.4		
	Iron	6.3		
	Lead	3.9		
	Magnesium	2.7		
	Manganese	<0.3		
	Mercury	<15		
	Molybdenum	<0.6		
	Nickel	3.3		
	Selenium	<15		
	Strontium	<0.2		
	Tin	<15		
	Titanium	<0.6		
	Vanadium	19.6		
	Zinc	5.1		
Other Elements (weight %)				
	Nitrogen	0		OGJ 99
Aqueous Solubility (mg/L)				
	Room temperature	19	(a)	ESD 91

(a) fresh water

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Acute Toxicity of Water Soluble Fraction (mg/L)

	Test Organism			Reference ID
48h LC50	Daphnia magna	11	(a)	Harris 94

(a) results based on GC headspace analysis