

## Conversion Reference Table

### Volume Conversion

	Barrels (bbl)	US Gallons	UK Gallons	Cubic Feet	Liters	Cubic Meters
Standard Barrel of Oil	1	42	35	5.6146	158.99	0.1590
Standard Large Truck Tanker Size 30 to 46 MT	280	11,760	9,792	1,572	44,516	45
B-Double Truck Tanker Size 44 to 67 MT	400	16,800	13,989	2,246	63,595	64
Standard Railcar Tanker Size 75 to 120 MT	715	30,030	25,005	4,014	113,676	114
One-Thousand Standard Barrels of Oil	1,000	42,000	34,972	5,615	158,987	159
Ten-Thousand Standard Barrels of Oil	10,000	420,000	349,723	56,146	1,589,873	1,590
One-Hundred-Thousand Standard Barrels of Oil	100,000	4,200,000	3,497,232	561,458	15,898,729	15,899
General Purpose (GP) 16,500 to 24,999 MT	150,000	6,300,000	5,245,847	842,188	23,848,094	23,848
Medium Range (MR) 25,000 to 44,999 MT	275,000	11,550,000	9,617,387	1,544,010	43,721,506	43,722
Large/Long Range1 (LR1) 45,000 to 79,999 MT	500,000	21,000,000	17,486,158	2,807,292	79,493,647	79,494
Aframax Tanker 75,000 to 110,000 MT	650,000	27,300,000	22,732,005	3,649,479	103,341,742	103,342
Suezmax Tanker 110,000 to 150,000 MT	900,000	37,800,000	31,475,084	5,053,125	143,088,565	143,089
Large/Long Range2 (LR2) 80,000 to 159,999 MT	1,000,000	42,000,000	34,972,316	5,614,583	158,987,295	158,987
Very Large Crude Carrier (VLCC) 160,000 to 319,999 MT	2,000,000	84,000,000	69,944,632	11,229,167	317,974,590	317,975
Ultra Large Crude Carrier (ULCC) 320,000 to 549,000 MT	3,400,000	142,800,000	118,905,874	19,089,583	540,556,803	540,557

### Weight Conversion

Unit	Kilograms	Pounds
One Kilogram	1	2.2046
Metric Ton	1,000	2,205
Short Ton	907	2,000
Long Ton	1,016	2,240



### Density and Mass Conversion

Unit	Kilograms	Metric Tons	Pounds	Short Tons	Long Tons
One ft <sup>3</sup> Water	28.3169	0.0283	62.4280	0.0312	0.0279
One M <sup>3</sup> Water	1,000	1.0000	2,205	1.1023	0.9842
One bbl Water	159	0.1590	351	0.1753	0.1565
280 bbls Water	44,516	45	98,142	49	44
715 bbls Water	113,676	114	250,612	125	112
Thousand bbls Water	158,987	159	350,507	175	156
Ten-Thousand bbls Water	1,589,873	1,590	3,505,070	1,753	1,565
One-Hundred-Thousand bbls Water	15,898,729	15,899	35,050,699	17,525	15,648
One-Million bbls Water	158,987,295	158,987	350,506,987	175,253	156,476
1.5 Million bbls Water	238,480,942	238,481	525,760,480	262,880	234,715
2.0 Million bbls Water	317,974,590	317,975	701,013,974	350,507	312,953
3.0 Million bbls Water	476,961,885	476,962	1,051,520,961	525,760	469,429

**Enter API of Oil = 38.00**      0.8348 Brent

Standard Truck Tanker 38 API Oil	37,163	37	81,930	41	37
Standard Railcar Tanker 38 API Oil	94,898	95	209,213	105	93
Thousand bbls 38 API Oil	132,724	133	292,606	146	131
Ten-Thousand bbls 38 API Oil	1,327,239	1,327	2,926,061	1,463	1,306
One Hundred-Ten-Thousand bbls 38 API Oil	13,272,391	13,272	29,260,613	14,630	13,063
One Million bbls 38 API Oil	132,723,907	132,724	292,606,128	146,303	130,628
1.5 Million bbls 38 API Oil	199,085,860	199,086	438,909,192	219,455	195,942
2.0 Million bbls 38 API Oil	265,447,814	265,448	585,212,256	292,606	261,255
3.0 Million bbls 38 API Oil	398,171,721	398,172	877,818,383	438,909	391,883

Specific Gravity of Oil = Density of Oil / Density of Water

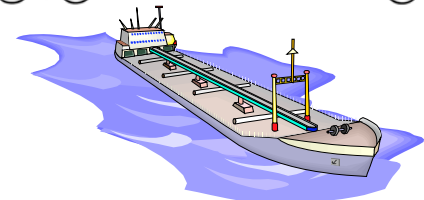
API Gravity = [141.5 / Specific Gravity of Oil] - 131.5

Crude Names	API	Spec Gravity	est. bbls/MT
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Indonesia Duri	20.00	0.9340	6.7343
	21.00	0.9279	6.7788
Mexico Maya	22.00	0.9218	6.8232
China Shengli	23.00	0.9159	6.8677
Venezuela Leona	24.00	0.9100	6.9121
Egypt Ras Gharib	25.00	0.9042	6.9566
Bonny Medium	26.00	0.8984	7.0010
Saudi Heavy	27.00	0.8927	7.0455
Khafji	28.00	0.8871	7.0899
Saudi Medium	29.00	0.8816	7.1344
Gabon Mandji	30.00	0.8762	7.1788
Iran Heavy, Kuwait	31.00	0.8708	7.2233
Dubai Fateh	32.00	0.8654	7.2677
Labuan, Urals	33.00	0.8602	7.3122
West Texas, Iran Light, Saudi Light, Iraq Basrah	34.00	0.8550	7.3566
Qatar Marine	35.00	0.8498	7.4011
Iraq Kirkuk, Libya (Sarir, Amna)	36.00	0.8448	7.4455
Libya EsSider, Bonny Light, Dubai Umm Shaif	37.00	0.8398	7.4900
Brent	38.00	0.8348	7.5344
Saudi Berri, Dubai Murban	39.00	0.8299	7.5789
Libya (Brega, Buattifel), Dubai Zakum	40.00	0.8251	7.6233
Libya (Zueitina, Sirtica)	41.00	0.8203	7.6678
Qatar Land	42.00	0.8156	7.7122
Nigeria Brass River Blend	43.00	0.8109	7.7567
Algeria Saharan Blend	44.00	0.8063	7.8011
Egypt Attaka	45.00	0.8017	7.8456
Malaysia Tapis	46.00	0.7972	7.8900
	47.00	0.7927	7.9345
Saudi Super Light	48.00	0.7883	7.9789
Australia Gippsland	49.00	0.7839	8.0234
	50.00	0.7796	8.0678
	51.00	0.7753	8.1123
	52.00	0.7711	8.1568
	53.00	0.7669	8.2012
Indonesia Arun Condensate	54.00	0.7628	8.2457



Each rail car has about 30,000 gallons of crude oil



Average Freight Rate Assessment (AFRA) Scale - Fixed

Cargo type      Vessel class, capacity (thousand deadweight metric tons)

