

LIQUEFIED GAS CONVERSION CHART

Product Name	Cubic Feet / Pound	Pounds / Gallon	Cubic Feet / Gallon
<u>Acetylene</u> UN/NA: 1001 CAS: 514-86-2	14.70	4.90	72.03
<u>Air</u> UN/NA: 1002 CAS: n/a	13.30	7.29	96.96
<u>Ammonia</u> <u>Anhydrous</u> UN/NA: 1005 CAS: 7664-41-7	20.78	5.147	106.95
<u>Argon</u> UN/NA: 1006 CAS: 7440-37-1	9.71	11.63	112.92
<u>Butane</u> UN/NA: 1075 CAS: 106-97-8	6.34	4.86	30.81
<u>Carbon</u> <u>Dioxide</u> UN/NA: 2187 CAS: 124-38-9	8.74	8.46	73.94
<u>Chlorine</u> UN/NA: 1017 CAS: 7782-50-5	5.38	11.73	63.10
<u>Ethane</u> UN/NA: 1045 CAS: 74-84-0	12.51	2.74	34.27
<u>Ethylene</u> <u>Oxide</u> UN/NA: 1040 CAS: 75-21-8	8.78	7.25	63.66
<u>Fluorine</u> UN/NA: 1045 CAS: 7782-41-4	10.17	12.60	128.14
<u>Helium</u> UN/NA: 1046 CAS: 7440-59-7	97.09	1.043	101.26
<u>Hydrogen</u> UN/NA: 1049 CAS: 1333-74-0	192.00	0.592	113.66

Product Name	Cubic Feet / Pound	Pounds / Gallon	Cubic Feet / Gallon
<u>Hydrogen Chloride</u> UN/NA: 1050 CAS: 7647-01-0	10.60	8.35	88.51
<u>Krypton</u> UN-NA: 1056 CAS: 7439-90-9	4.60	20.15	92.69
<u>Methane</u> UN/NA: 1971 CAS: 74-82-8	23.61	3.55	83.81
<u>Methyl Bromide</u> UN/NA: 1062 CAS: 74-83-9	4.03	5.37	21.64
<u>Neon</u> UN/NA: 1065 CAS: 7440-01-9	19.18	10.07	193.14
<u>Mapp Gas</u> UN/NA: 1060 CAS: n/a	9.20	4.80	44.16
<u>Nitrogen</u> UN/NA: 1066 CAS: 7727-37-9	13.89	6.75	93.75
<u>Nitrous Oxide</u> UN/NA: 1070 CAS: 10024-97-2	8.73	6.45	56.31
<u>Oxygen</u> UN/NA: 1072 CAS: 7782-44-7	12.05	9.52	114.72
<u>Propane</u> UN/NA: 1075 CAS: 74-98-6	8.45	4.22	35.65
<u>Sulfur Dioxide</u> UN/NA: 1079 CAS: 7446-09-5	5.94	12.0	71.28
<u>Xenon</u> UN-NA: 2036 CAS: 7440-63-3	2.93	25.51	74.74

REFRIGERANTS

Product Name	Conversions	Gallons / 30 lbs	ft ³ / 30 lbs
<u>R-12</u> Dichlorodifluoromethane	11.10 lbs / gal 34.60 ft ³ / gal	2.70	93.42
<u>R-13</u> Chlorotrifluoromethane	7.55 lbs / gal 27.25 ft ³ / gal	3.97	108.18
<u>R-13B1</u> Bromotrifluoromethane	13.10 lbs / gal 34.00 ft ³ / gal	2.29	77.86
<u>R-22</u> Chlorodifluoromethane	10.10 lbs / gal 43.56 ft ³ / gal	2.97	129.37
<u>R-115</u> Chloropentafluoroethane	10.90 lbs / gal 30.50 ft ³ / gal	2.75	83.88
<u>R-123</u> 2,2-Dichloro-1,1,1-Trifluoroethane	12.20 lbs / gal 46.90 ft ³ / gal	2.46	115.37
<u>R-134</u> 1,1,1,2-Tetrafluoroethane	8.20 lbs / gal 25.30 ft ³ / gal	3.66	92.60
<u>R-142b</u> Chlorodifluoroethane	9.35 lbs / gal 34.40 ft ³ / gal	3.21	110.42
<u>R-152a</u> Difluoroethane	7.59 lbs / gal 44.40 ft ³ / gal	3.95	175.38
<u>R-401a (MP-39)</u> Chlorodifluoromethane 53% 1,1-Difluoroethane 13% 2-Chloro-1,1,1,2-Tetrafluoroethane 34%	10.00 lbs / gal 23.90 ft ³ / gal	3.00	71.70
<u>R-401b (MP-66)</u> Chlorodifluoromethane 61% 1,1-Difluoroethane 11% 2-Chloro-1,1,1,2-Tetrafluoroethane 28%	10.00 lbs / gal 23.20 ft ³ / gal	3.00	69.60
<u>R-402a (HP-80)</u> Pentafluoroethane 60% Chlorodifluoromethane 38% Propane 2%	9.60 lbs / gal 23.30 ft ³ / gal	3.13	72.93
<u>R-402b (HP-81)</u> Pentafluoroethane 38% Chlorodifluoromethane 60% Propane 2%	9.50 lbs / gal 23.10 ft ³ / gal	3.16	73.00
<u>R-404a (HP-62, FX-70)</u> Pentafluoroethane 44% 1,1,1-Trifluoroethane 52% 1,1,1,2-Tetrafluoroethane 4%	8.80 lbs / gal 21.30 ft ³ / gal	3.41	72.63

Product Name	Conversions	Gallons / 30 lbs	ft³ / 30 lbs
<u>R-407c (AC 9000)</u> Pentafluoroethane 25% 1,1,1,2-Tetrafluoroethane 52% Difluoromethane 23%	9.50 lbs / gal 23.00 ft ³ / gal	3.16	72.68
<u>R-408a (FX-10)</u> Chlorodifluoroethane 47% 1,1,1-Trifluoroethane 46% Pentafluoroethane 7%	8.70 lbs / gal 20.50 ft ³ / gal	3.45	70.73
<u>R-409a (FX-56)</u> Chlorodifluoromethane 60% 1-Chloro-1,1,-Difluoroethane 15% 2-Chloro-1,1,1,2-Tetrafluoroethane 25%	10.10 lbs / gal 24.60 ft ³ / gal	2.97	73.06
<u>R-410a (AZ-20, PURON, SUVA 9100)</u> Pentafluoroethane 50% Difluoromethane 50%	8.90 lbs / gal 21.60 ft ³ / gal	3.37	72.79
<u>R-500</u> Dichlorodifluoromethane 73.8% Difluoroethane 26.2%	9.80 lbs / gal 37.30 ft ³ / gal	3.06	114.14
<u>R-502</u> Chlorodifluoromethane 48.4% Chloropentafluoroethane 51.2%	10.30 lbs / gal 35.50 ft ³ / gal	2.91	103.31
<u>R-503</u> Dichlorodifluoromethane 60% Chloropentafluoroethane 40 %	6.86 lbs / gal 30.20 ft ³ / gal	4.37	131.97
<u>R-504</u> Chlorodifluoromethane 50% Chloropentafluoroethane 50%	9.02 lbs / gal 43.60 ft ³ / gal	3.33	145.19
<u>R-505</u> Dichlorodifluoromethane 50% Chlorotrifluoromethane 50%	10.77 lbs / gal 39.40 ft ³ / gal	2.79	109.93
<u>R-506</u> Chlorotrifluoromethane 50% R-114 50%	10.70 lbs / gal 43.10 ft ³ / gal	2.80	120.68
<u>R-507 (AZ-50)</u> Pentafluoroethane 50% 1,1,1-Trifluoroethane 50%	9.00 lbs / gal 21.80 ft ³ / gal	3.33	72.59

COMMON GASES CONVERSION TABLE

To Use This Worksheet:

1. Find the name of the compressed gas you want to convert.
2. If you know the quantity in **pounds**, multiply by the number in Column A
3. If you know the quantity in **gallons**, multiply by the number in Column B.
4. The result is the quantity of compressed gas in **cubic feet**.

GAS NAME	CHEMICAL FORMULA	COLUMN A	COLUMN B
Acetylene (Ethyne)	C ₂ H ₂	13.7	43.7
Air	0.8N ₂ -0.2O ₂	12.2	88.9
Allene	C ₃ H ₄	8.8	—
Ammonia	NH ₃	20.9	118.8
Argon	Ar	8.9	103.5
Arsine	AsH ₃	4.6	—
Boron Trichloride	BCl ₃	3.1	—
Boron Trifluoride	BF ₃	5.2	70.7
1,3-Butadiene	C ₄ H ₆	6.3	—
Butane	C ₄ H ₁₀	6.1	29.8
1-Butene	C ₄ H ₈	6.2	—
2-Butene	C ₄ H ₈	6.2	—
Carbon Dioxide	CO ₂	8.1	68.4
Carbon Monoxide	CO	12.7	86.1
Carbon Tetrachloride	CCl ₄	4.1	—
Carbon Tetrafluoride (See Freon-14)	CF ₄	4.1	—
Carbonyl Fluoride	COF ₂	5.2	—
Carbonyl Sulfide	COS	5.9	—
Chlorine	Cl ₂	5.1	61.5
Cyanogen	(CN) ₂	6.8	—
Cyclopropane	C ₃ H ₆	8.5	—
Deuterium	D ₂	88.5	—
Dichlorosilane	SiH ₂ Cl ₂	3.5	—
Dimethylamine	C ₂ H ₇ N	7.9	—
Dimethyl Ether	C ₂ H ₆ O	7.7	—
2,2-Dimethylpropane	C ₅ H ₁₂	4.9	—
Disilane	Si ₂ H ₆	2.6	—
Ethane	C ₂ H ₆	11.8	35.4
Ethyl Chloride	C ₂ H ₅ Cl	5.5	—
Ethylene (Ethene)	C ₂ H ₄	12.7	60.1
Ethylene Oxide	C ₂ H ₄ O	8.1	60.5
Fluoroform (See also Freon 23)	CHF ₃	5.3	—
Fluorine	F ₂	9.4	117.9

Forane 134a (Freon134a)	C2H2F4	3.5	—
Freon-11 (Trichloro-fluoromethane)	CCl3F	2.6	27.9
Freon-12 (Dichloro-difluoromethane)	CCl2F2	2.9	32.5
Freon-13 (Chloro-trifluoromethane)	CClF3	3.4	25.7
Freon-14 (Tetrafluoro-methane)	CF4	4.1	—
Freon-22 (Chloro-difluoromethane)	CHClF2	4.1	41.5
Freon-23 (Trifluoromethane)	CHF3	5.1	—
Freon-41 (Methyl Fluoride)	CH3F	10.5	—
Freon-113 (Trichloro-trifluoroethane)	C2Cl3F3	1.9	21.8
Freon-114 (Dichloro-tetrafluoroethane)	C2Cl2F4	2.1	—
Freon-115 (Chloro-pentafluoroethane)	C2ClF5	2.3	—
Freon-116 (Hexa-fluoroethane)	C2F6	2.6	—
Freon-142b (Chloro-difluoroethane)	C2H3ClF2	3.3	—
Freon-218 (Perfluoro-propane)	C3F8	1.9	—
Freon-C318 (Octafluoro-cyclobutane)	C4F8	1.7	—
Freon-1113 (Chloro-trifluoroethylene)	C2ClF3	3	—
Germane	Ge	4.6	—
Halon-13B1 (Bromo-trifluoromethane)	CBrF3	2.4	—
Helium	He	88.8	92.7
Hexafluoropropylene	C3F6	2.4	—
Hydrogen	H2	176.4	104.4
Hydrogen Bromide	HBr	4.3	—
Hydrogen Chloride	HCl	9.8	96.8
Hydrogen Fluoride	HF	17.7	—
Hydrogen Iodide	HI	2.8	—
Hydrogen Selenide	H2Se	4.4	—
Hydrogen Sulfide	H2S	10.4	79.6
Isobutane	C4H10	5.9	—
Isobutylene	C4H8	6.2	—
Krypton	Kr	4.2	—
Methane	CH4	22.2	78.7
Methyl Bromide	CH3Br	3.7	—
Methyl Chloride	CH3Cl	7	—
Methyl Fluoride	CH3F	10.5	—
Methyl Mercaptan	CH3SH	7.4	—
Monomethylamine	CH5N	11.1	—
Neon	Ne	17.7	—
Nitric Oxide	NO	11.9	—
Nitrogen	N2	12.7	85.7

Nitrogen Dioxide	NO2	4.3	—
Nitrogen Trifluoride	NF3	4.9	—
Nitrous Oxide	N2O	8.1	82.7
Oxygen	O2	11.1	105.8
Perfluoropropane**** (see Freon 218)	C3F8	1.9	—
Phosgene	COCl2	3.6	41.6
Phosphine	PH3	10.4	—
Phosphorus Pentafluoride	PF5	2.9	—
Propane	C3H8	8.1	34.1
Propylene	C3H6	8.3	—
Silane	SiH4	11.1	—
Silicon Tetrachloride	SiCl4	2.1	—
Silicon Tetrafluoride	SiF4	3.4	—
Sulfur Dioxide	SO2	5.6	64.1
Sulfur Hexafluoride	SF6	2.2	—
Sulfur Tetrafluoride	SF4	3.2	—
Trichlorosilane	SiHCl3	2.6	—
Trimethylamine	C3H9N	5.5	—
Tungsten Hexafluoride	WF6	1.1	—
Vinyl Bromide	C2H3Br	3.2	—
Vinyl Methyl Ether	C3H6O	6.1	—
Xenon	Xe	2.6	—
HC-12a (replacement for Freon-12)	(by OZ tech).	6.2	—

If the compressed gas does not appear in this list:

1. Divide 359 by the molecular weight of the gas.
2. Multiply the result by the quantity in pounds to convert to cubic feet.

OTHER USEFUL CONVERSIONS:

To convert:	To:	Do This:	
Liters	Gallons	Divide By	3.8
Quarts	Gallons	Divide By	4
Gallons	Liters	Multiply By	3.8
US Fluid Ounce	Gallons	Divide By	128
Grams	Pounds	Divide By	454
Kilograms	Pounds	Multiply By	2.2