



Conversion Factors

Multiply	By	To Obtain
DENSITY		
g/cm ³	62.43	lb/ft ³
	0.03613	lb/in ³
	8.345	lb/gal
lb/ft ³	16.02	kg/m ³
lb/in ³	1728	lb/ft ³
	27.68	g/cm ³
PRESSURE		
atm	101.3	kPa
	760	mm of Hg
	29.92	in of Hg
	33.90	ft of H ₂ O
	10330	kg/m ²
	14.70	lb/in ²
	2116	lb/ft ²
	1.013	bar
	1.033	kg/cm ²
bar	100	kPa
cm of Hg	5.353	in of H ₂ O
	0.4460	ft of H ₂ O
	1.333	kPa
	0.1934	lb/in ²
	27.84	lb/ft ²
	136.0	kg/m ²
ft of H ₂ O	0.02950	atm
	0.4335	lb/in ²
	62.43	lb/ft ²
	2.989	kPa
in of Hg	0.03342	atm
	13.60	in of H ₂ O
	1.133	ft of H ₂ O
	3.386	kPa
	0.4912	lb/in ²
	70.73	lb/ft ²
	345.3	kg/m ²
in of H ₂ O	0.2491	kPa
	0.03612	lb/in ²
	5.202	lb/ft ²
	25.40	kg/m ²
kg/cm ²	0.9678	atm
	98.07	kPa
	14.22	lb/in ²
lb/in ²	70.31	g/cm ²
	6.895	kPa
	2.036	in of Hg
	2.307	ft of H ₂ O
FLOW		
ft ³ /min	471.9	cm ³ /sec
	28.32	ltr/min
ft ³ /hr	7.866	cm ³ /sec
	.4719	ltr/min
ft ³ /sec	28.32	ltr/sec
	1699	ltr/min
	28320	cm ³ /sec
gal/hr	6.309 x 10 ⁵	m ³ /min
	3.785	ltr/hr
ltr/min	0.03531	ft ³ /min
	2.119	ft ³ /hr
HEATING VALUE		
Btu/ft ³	0.03725	J/cm ³
Btu/lb	2.326	J/g

Multiply	By	To Obtain
VOLUME		
cm ³	0.001	ltr
	0.0610	in ³
ltr	0.2642	gal
	0.03531	ft ³
	1.057	qt
	61.02	in ³
ft ³	28320	cm ³
	1728	in ³
	0.03704	yd ³
	7.481	gal
	28.32	ltr
	0.02832	m ³
in ³	16.39	cm ³
	0.01639	ltr
	4.329 x 10 ³	gal
	0.01732	qt
	1.639 x 10 ⁵	m ³
g-mol of		
Ideal Gas @ 0°C		
& 760 mm Hg	22.41	ltr
lb-mol of		
Ideal Gas @ 0°C		
& 760 mm Hg	359.0	ft ³
MASS		
lb	0.4536	kg
	453.6	g
lb of H ₂ O	0.01602	ft ³
	27.68	in ³
	0.1198	gal
oz	28.35	g
ton (long)	1016	kg
	2240	lb
ton (short)	907.2	kg
	2000	lb
VISCOSITY (Absolute)		
P	1	g/(cm)(sec)
	1	(dyn)(sec)/cm ²
	100	cP
cP	6.720 x 10 ⁴	lb/(ft)(sec)
	2.089 x 10 ⁵	(lb)(sec)/ft ²
	2.419	lb/(ft)(hr)
VISCOSITY (Kinematic)		
St	1	cm ² /sec
	0.1549	in ² /sec
	1.076 x 10 ³	ft ² /sec
	density (g/cm ³)	P
TEMPERATURE		
°F = 1.8 (°C) + 32	K = °C + 273.2	°R = °F + 459.7
MISCELLANEOUS PHYSICAL CONSTANTS		
NUMERICAL		
CONSTANT	VALUE	UNITS
Avogadro's Number	6.022 x 10 ²³	molecules/g-mol
Gas-Law Constant R	1.987	cal/(g-mol)(K)
	1.987	Btu/(lb-mol)(°R)
	82.06	(cm ³)(atm)/(g-mol)(K)
	0.08206	(ltr)(atm)/(g-mol)(K)
	1545	(ft)(lb-force)/(lb-mol)(°R)
	0.7302	(ft ³)(atm)/(lb-mol)(°R)
	8314	J/(k-mol)(K)

Key

atm	..... atmosphere	dyn	..... dyne	Hg	..... mercury	k-mol	..... kilo mole	m ³	..... cubic meter
bar	..... bar	°F	..... degree Fahrenheit	H ₂ O	..... water	ltr	..... liter	oz	..... ounce
Btu	..... British thermal unit	ft	..... foot	in	..... inch	lb	..... pound	P	..... poise
°C	..... degree Celsius	ft ²	..... square foot	in ²	..... square inch	lb-force	..... pound force	qt	..... quart
cal	..... calorie, thermochemical	ft ³	..... cubic foot	in ³	..... cubic inch	lb-mol	..... pound mole	°R	..... degree Rankine
cP	..... centipoise	g	..... gram	J	..... joule	m	..... meter	sec	..... second
cm	..... centimeter	gal	..... gallon	K	..... kelvin	min	..... minute	St	..... stokes
cm ²	..... square centimeter	g-mol	..... gram mole	kg	..... kilogram	mm	..... millimeter	yd ³	..... cubic yard
cm ³	..... cubic centimeter	hr	..... hour	kPa	..... kilopascal	m ²	..... square meter		