

Technical Information_



Common Laboratory Conversion Factors

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Units of measure conversion factors

Percent	Parts per Million	Parts per Billion	Parts per Trillion	Prefix	Factor	Fraction
.001%=	10 ppm	-	-	centi	10 ⁻²	1/100 (part per hundred)
.0001%=	1 ppm=	1,000 ppb=	1,000,000 ppt	milli	10 ⁻³	1/1,000 (part per hundred)
.00001%=	.1 ppm=	100 ppb=	100,000 ppt	micro	10 ⁻⁶	1/1,000,000 (part per hundred)
.000001%=	.01 ppm=	10 ppb=	10,000 ppt	nano	10 ⁻⁹	1/1,000,000,000 (ppb, part per billion)
-	.001 ppm=	1 ppb=	1,000 ppt	pico	10 ⁻¹²	1/1,000,000,000 (ppt, part per trillion)
-	.0001 ppm=	.1 ppb=	100 ppt	femto	10 ⁻¹⁵	1/1,000,000,000,000,000 (ppq, part per quadrillion)
-	-	.01 ppb=	10 ppt	atto	10 ⁻¹⁸	1/1,000,000,000,000,000,000 (part per quintillion)
-	-	.001 ppb=	1 ppt			

Particle size

Sieve "Mesh"	Sieve Opening			Sieve "Mesh"	Sieve Opening			Sieve "Mesh"	Sieve Opening		
	in	mm	μm		in	mm	μm		in	mm	μm
1	1.00	25.4	25400	7	0.111	2.82	2819.4	70	0.0083	0.211	210.82
7/8	0.875	22.6	22225	8	0.0937	2.38	2379.98	80	0.0070	0.178	177.8
3/4	0.750	19.0	19050	10	0.0787	2.00	1998.98	100	0.0059	0.150	149.86
5/8	0.625	15.9	15875	12	0.0661	1.68	1678.94	120	0.0049	0.125	124.46
.530	0.530	13.5	13462	14	0.0555	1.41	1409.7	140	0.0041	0.104	104.14
1/2	0.500	12.7	12700	16	0.0469	1.19	1191.26	170	0.0035	0.089	88.9
7/16	0.438	11.1	11125.2	18	0.0394	1.00	1000.76	200	0.0029	0.074	73.66
3/8	0.375	9.53	9525	20	0.0331	0.841	840.74	230	0.0025	0.064	63.5
5/16	0.312	7.92	7924.8	25	0.0278	0.706	706.12	270	0.0021	0.053	53.34
.265	0.265	6.73	6731	30	0.0234	0.594	594.36	325	0.0017	0.043	43.18
1/4	0.250	6.35	6350	35	0.0197	0.500	500.38	400	0.0015	0.038	38.1
3 1/2	0.223	5.66	5664.2	40	0.0165	0.420	419.1	625	0.0008	0.020	20.32
4	0.187	4.75	4749.8	45	0.0139	0.353	353.06	1250	0.0004	0.010	10.16
5	0.157	3.99	3987.8	50	0.0117	0.297	297.18	2500	0.0002	0.005	5.08
6	0.132	3.35	3352.8	60	0.0098	0.249	248.92				

Temperature conversion formulas (용도)

°C to °F	°F to °C
$(^{\circ}\text{C} \times 9/5) + 32 = ^{\circ}\text{F}$	$(^{\circ}\text{F} - 32) \times 5/9 = ^{\circ}\text{C}$



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Weight conversion table (중량)

From/To	g	kg	ton	grain	oz(온스)	lb	돈	근	관
g	1	0.001	0.000001	15.432	0.03527	0.0022	0.26666	0.00166	0.000266
kg	1000	1	0.001	15432	33.273	2.20459	266.666	1.6666	0.26666
ton	1000000	1000	1	-	35273	2204.59	266666	1666.6	266.666
grain	0.06479	0.00006	-	1	0.00228	0.00014	0.01728	0.00108	0.000017
oz	28.3495	0.02835	0.000028	437.4	1	0.06525	7.56	0.0473	0.00756
lb	453.592	0.45359	0.00045	7000	16	1	120.96	0.756	0.12096
돈	3.75	0.00375	0.000004	57.872	0.1323	0.00827	1	0.00625	0.001
근	600	0.6	0.0006	9259.556	21.1647	1.32279	160	1	0.16
관	3750	3.75	0.00375	57872	132.28	8.2672	1000	6.25	1

Volume conversion table (부피)

From/To	홉	되	말	cm³	m³	l	in³	ft³	yd³	gal(美)
홉	1	0.1	0.01	180.39	0.00018	0.18039	11.0041	0.0066	0.00023	0.04765
되	10	1	0.1	1803.9	0.0018	1.8039	110.041	0.0637	0.00234	0.47656
말	100	10	1	18039	0.01803	18.039	1100.41	0.63707	0.02359	4.76567
cm³	0.00554	0.00055	0.00005	1	0.000001	0.001	0.06102	0.00003	0.00001	0.00026
m³	5543.52	554.325	55.4352	1000000	1	1000	61027	35.3165	1.3082	264.186
l	5.54352	0.55435	0.05543	1000	0.001	1	61.027	0.03531	0.0013	0.26418
in³	0.09083	0.00908	0.0091	16.387	0.000016	0.01638	1	0.00057	0.00002	0.00432
ft³	156.966	15.6666	1.56966	28316.8	0.02831	28.3169	1728	1	0.03703	7.48051
yd³	4238.09	423.809	42.3809	764511	0.76451	764.511	46656	27	1	201.974
Gal(美)	20.9833	2.0983	0.20983	3785.43	0.00378	3.78543	231	0.16368	0.00495	1

Length conversion table (길이)

From/To	cm	m	in	ft	yd	mile	척(尺)	간(間)	정(町)	리(里)
cm	1	0.01	0.3937	0.0328	0.0109	-	0.033	0.0055	0.00009	-
m	100	1	39.37	3.2808	1.0936	0.0006	3.3	0.55	0.00917	0.0025
in	2.54	0.0254	1	0.0833	0.0278	-	0.0838	0.014	0.0002	-
ft	30.48	0.3048	12	1	0.3333	0.00019	1.0058	0.1676	0.0028	-
yd	91.438	0.9144	36	3	1	0.0006	3.0175	0.5029	0.0083	0.0002
mile	160930	1609.3	63360	5280	1760	1	5310.8	885.12	14.752	0.4098
척	30.303	0.303	11.93	0.9942	0.3314	0.0002	1	0.1667	0.0028	0.00008
간	181.818	1.818	71.582	5.965	1.9884	0.0011	6	1	0.0167	0.0005
정	10909	109.091	4294.9	357.91	119.304	0.0678	360	60	1	0.0278
리	392727	3927.27	154619	12885	4295	2.4403	12960	2160	36	1



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Flow rate conversion table (유량)

From/To	ltrs/sec	ltrs/hr	m³/sec	m³/hr	ft³/m	ft³/hr	UK gall/m	UK gall/hr	UK gall/m	UK gall/hr
Ltrs/sec	1	3600	0.001	3.6	2.118882	127.133	13.19814	791.8884	15.85032	951.019
Ltrs/hr	0.000278	1	-	0.001	0.00588	0.035315	0.003666	0.219969	0.004403	0.264172
m³/sec	1000	3600000	1	3600	2118.88	127133	13198.1	791889	1585	0.3951019
m³/hr	0.277778	1000	0.000278	1	0.588578	35.3147	3.66615	219.969	4.402863	264.1718
ft³/m	0.471947	1699.017	0.000472	1.699017	1	60	6.228833	373.73	7.480517	448.831
ft³/m	0.007866	28.3168	-	0.028317	0.016667	1	0.103814	6.228833	0.124675	7.480517
UK gall/m	0.075768	272.766	0.0000758	0.0272766	0.160544	9.63262	1	60	1.20095	72.057
UK gall/hr	0.001263	4.54609	-	0.004546	0.002676	0.160544	0.016667	1	0.020016	1.20095
US gall/m	0.06309	277.125	0.0000758	0.227125	0.133681	8.02892	0.832674	49.96045	1	60
US gall/hr	0.001052	3.785411	-	0.003785	0.002228	0.133681	0.013878	0.832674	0.016667	1

Area conversion table (면적)

From/To	평방자	평	단보	정보	m²	a(아르)	ft²	yd²	acre
평방자	1	0.02778	0.00009	0.000009	0.09182	0.00091	0.98841	0.10982	-
평	36	1	0.00333	0.00033	3.3058	0.03305	35.583	3.9537	0.00081
단보	10800	300	1	0.1	991.74	9.9174	10674.9	1186.1	0.24506
정보	108000	3000	10	1	9917.4	99.174	106794	11861	2.4506
m²	10.89	0.3025	0.001008	0.0001	1	0.01	10.764	1.1958	0.00024
a	1089	30.25	0.10083	0.01008	100	1	1076.4	119.58	0.02471
ft²	1.0117	0.0281	0.00009	0.000009	0.092903	0.000929	1	0.1111	0.000022
yd²	9.1055	0.25293	0.00084	0.00008	0.83613	0.00836	9	1	0.000207
acre	44071.2	1224.2	4.0806	0.40806	4046.8	40.468	43560	4840	1

Pressure conversion table (압력)

From/To	atm	mmHg	bar	pascal	inH₂O	inHg	psi	kg/cm²
atm	1	760	1.0132	101325	406.781	29.9213	14.6959	1.033
mmHg	0.0013158	1	0.001333	133.322	0.53524	0.03937	0.019337	0.00136
bar	0.9869	750.062	1	100000	401.463	29.53	14.504	1.01957
pascal	0.0000099	0.007501	0.00001	1	0.004015	0.000295	0.000145	0.00001
inH₂O	0.0024583	1.86832	0.002491	249.089	1	0.073556	0.036127	0.00254
inHg	0.033421	25.4	0.033864	3386.391	3.5951	1	0.491154	0.003452
psi	0.068046	51.7149	0.068948	6894.76	27.6799	2.03602	1	0.07029
kg/cm²	0.968	7835.72	0.9808	98088	393.786	28.965	14.226	1

Power conversion table (힘)

From/To	Btu/h	w	kcal/h	kw
Btu/h	1	0.293017	0.251996	0.000293
w	3.41214	1	0.859845	0.001
kcal/h	3.96832	1.163	1	0.001163
kw	3462.14	1000	589.845	1



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Energy conversion table (에너지)

From/To	Btu	Therm	J	KJ	cal
Btu	1	0.00001	1055.06	1.055	251.996
Therm	100000	1	-	105.5	25199.60
J	0.00094	-	1	0.001	0.2388
KJ	0.9478	9.478×10^{-6}	1000	1	238.85
cal	0.0039683	3.9683×10^{-8}	4.1868	-	1

Density conversion table (밀도)

From/To	g/cm	kg/m³(g/l)	lb/m³	lb/ft³	lb/gal
g/cm³	1	1000	0.036124	62.422	8.34516
kg/m³	0.001	1	0.000036	0.062422	0.008345
Lb/m³	27.6826	27682.6	1	1728	231.015
Lb/ft³	0.01602	16.02	0.000579	1	0.13369
Lb/gal	0.11983	119.83	0.004329	7.48003	1

Viscosity conversion table (점도)

From/To	cP(centipoise)	P(g/cm.s) (Poise)	Pa.S	kgf.s/m²	lbf.s/in²
cP	1	0.01	0.001	0.0001	1.45×10^{-7}
P	100	1	0.1	0.0102	1.45×10^{-5}
Pa.S	1000	10	1	0.10197	1.45×10^{-4}
kgf.s/m²	9806.65	98.0665	9.80665	1	0.00142
lbf.s/in²	6.9×10^6	6.9×10^4	6.9×10^3	7.03×10^2	1

1P=1dyn·s/cm²=1g/cm·s, 1Pa·s=1N·s/m², 1cP=1mPa·s, 1lbf·s/in²=1Reyn=6.9×10⁶cP

Numerical prefixes

Numeral	Prefix	Numeral	Prefix	Numeral	Prefix
1/2	hemi-	13	trideca-	28	octacosa-
1	mono-	14	tetradeca-	29	nonacosa-
1~1/2	sesqui-	15	pentadeca-	30	triaconta-
2	di-,bi-	16	hexadeca-	40	tetraconta-
2~1/2	hemipenta-	17	heptadeca-	50	pentaconta-
3	tri-	18	octadeca-	60	hexaconta-
4	tetra-	19	nonadeca-	70	heptaconta-
5	penta-	20	eicosa-	80	octaconta-
6	hexa-	21	heneicosa-	90	nonaconta-
7	hepta-	22	docosa-	100	hecta-
8	octa-	23	tricosa-	101	henhecta-
9	ennea-,nona-	24	tetracosa-	102	dohecta-
10	deca-	25	pentacosa-	110	decahecta-
11	hendeca-,undeca-	26	hexacosa-	120	eicosahecta-
12	dodeca-	27	heptacosa-	200	dicta-