



**EQUIVALENT WEIGHTS AND MEASURES**

**Avoirdupois Weights**

- 1 pound (lb) . . . . . 16 ounces (oz)
- 1 hundredweight (cwt) 100 pounds (lb)
- 1 ton (short) . . . . . 2000 lb
- 1 ton (long) . . . . . 2200 lb

**Approximate Weight And Volume Equivalents**

- 1 cupful . . . . . 16 tablespoonfuls
- 1 pint . . . . . 473 cc
- 1 quart . . . . . 946 cc
- 1 gallon . . . . . 3785 cc
- 1 fluid ounce . . . . . 30 cc
- 1 teaspoonful . . . . . 5 cc
- 1 tablespoonful . . . . . 15 cc
- 3 teaspoonfuls . . . . . 1 tablespoonful = 15 cc
- 6 teaspoonfuls . . . . . 2 tablespoonfuls = 1 fl oz
- 1 pound (lb) . . . . . 454 gm
- 1 ounce (oz) . . . . . 30 gm
- 1 kilogram (kg) . . . . . 2.2 lb
- 2 gm/ton . . . . . 1 mg/lb
- 1 part per million (ppm). 1 gm/ton or ½ mg/lb  
or 1 mg/kg or 0.0001%
- 1 gram (gm) . . . . . 15 grains
- 1 grain (gr) . . . . . 65 mg

**Metric System Weight And Volume**

- 1 milligram (mg) . . . . . 1000 micrograms (mcg)
- 1 gram (gm) . . . . . 1000 milligrams (mg)
- 1 kilogram (kg) . . . . . 1000 grams (gm)
- 1 metric ton . . . . . 1000 kilograms (kg)
- 1 cubic centimeter (cc). 1 milliliter (ml)
- 1 liter (L) . . . . . 1000 cc or 1000 ml

**Liquid**

- 1 teaspoonful . . . . . ½ fluid ounce (fl oz)
- 1 tablespoonful . . . . . ½ fl oz
- 1 cupful . . . . . 8 fl oz
- 1 pint (pt) . . . . . 16 fl oz
- 2 pints . . . . . 1 quart (qt)
- 4 quarts . . . . . 1 gallon (gal) = 128 fl oz
- 1 barrel (bbl) . . . . . 31½ gal

**Weight Equivalents**

- 1 lb = 453.6 gm = .4536 kg = 16 oz
- 1 oz = 28.35 gm
- 1 kg = 1000 gm = 2.2046 lb
- 1 gm = 1000 mg
- 1 mg = 1000 mcg = .001 gm
- 1 mcg = .001 mg = .000001 gm
- 1 mcg per gm or 1 mg per kg is the same as ppm

**Conversion Formulas**

From	To	Formula
%	gm/oz	(% ÷ 100) x 28.375
%	gm/lb	(% ÷ 100) x 454
%	mg/oz	((% x 10,000) ÷ 2.2) ÷ 16
%	mg/lb	(% x 10,000) ÷ 2.2
%	ppm	move decimal 4 places to right
ppm	mg/lb	ppm x 0.45359
ppm	mg/oz	ppm x 0.02835

**Bushel Weights (lb)**

Barley	48
Corn	56
Milo	56
Oats	32
Soybeans	60
Wheat	60

(continued)

**Conversion Equations**

Have	Action	Constant	=	Want
lb	x	453.59	=	gm
lb	÷	2.2046	=	kg
oz	x	28.349	=	gm
kg	x	2.2046	=	lb
kg	x	1000	=	gm
kg	x	1,000,000	=	mg
gm	x	1000	=	mg
ppm	x	0.45359	=	mg/lb
ppm	÷	2.2046	=	mg/lb
ppm	÷	35.274	=	mg/oz
ppm	÷	1.1023	=	gm/ton
ppm	÷	1.0	=	mg/kg
mg/gm	x	453.59	=	mg/lb
mg/kg	÷	2.2046	=	mg/lb
mg/lb	x	2.2046	=	ppm
mg/lb	÷	4535.9	=	%
kcal/kg	÷	2.2046	=	kcal/lb
kcal/lb	x	2.2046	=	kcal/kg
mg/kg	x	1.0	=	ppm
mg/kg	÷	10,000	=	%
mg/gm	÷	10	=	%
gm/kg	÷	10	=	%
gm/ton	÷	2.0	=	mg/lb

**Miscellaneous Conversions**

Have	Action	Constant	=	Want
lb water	÷	8.343	=	gallons
gallons	x	8.343	=	lb water
gallons	x	0.1337	=	cubic feet
gallons	x	231	=	cubic inches
gallons	x	3.7854	=	liters
liters	÷	3.7854	=	gallons
sq inches	÷	144	=	sq feet
sq feet	÷	9	=	sq yards
sq inches	÷	1296	=	sq yards
1 acre	÷	43,560	=	sq feet
1 acre	=	4840	=	sq yards
640 acres	=		=	1 sq mile

**ppm Mineral Element**

In Premix	mg/lb	mg/oz
10	4.54	0.28
20	9.07	0.57
30	13.61	0.85
40	18.14	1.13
50	22.68	1.42
60	27.21	1.70
70	31.75	1.98
80	36.29	2.27
90	40.82	2.55
100	45.36	2.83
200	90.72	5.67
300	136.1	8.50
400	181.4	11.34
500	226.8	14.17
600	272.1	17.01
700	317.5	19.84
800	369.9	22.68
900	408.2	25.51
1,000	453.6	28.35
2,000	907.2	56.70
3,000	1,361	85.05
4,000	1,814	113.4
5,000	2,268	141.7
6,000	2,721	170.1
7,000	3,175	198.4
8,000	3,629	226.8
9,000	4,082	255.1
10,000	4,536	283.5

**% Mineral Element**

In Premix	gm/lb	gm/oz
1	4.5	0.28
2	9.1	0.57
3	13.6	0.85
4	18.2	1.14
5	22.7	1.42
6	27.2	1.70
7	31.8	1.99
8	36.3	2.27
9	40.9	2.55
10	45.4	2.84
11	49.9	3.12
12	54.5	3.41
13	59.0	3.69
14	63.6	3.97
15	68.1	4.26
16	72.6	4.54
17	77.2	4.82
18	81.7	5.11
19	86.3	5.39
20	90.8	5.68
21	95.3	5.96
22	99.9	6.24
23	104.4	6.53
24	109.0	6.81
25	113.5	7.09
26	118.0	7.38
27	122.6	7.66
28	127.1	7.95
29	131.7	8.23
30	136.2	8.51
31	140.7	8.80
32	145.3	9.08
33	149.8	9.36
34	154.4	9.65
35	158.9	9.93