

Fundamentals of Winemaking

Approximate Weight of Chemicals Used In Winemaking

<u>Chemical</u> <u>(powder form)</u>	<u>Grams/</u> <u>¼ tsp.</u>	<u>Grams/</u> <u>½ tsp.</u>	<u>Grams/</u> <u>1 tsp.</u>	<u>Oz/</u> <u>1 tsp.</u>	<u>Tsp./</u> <u>Oz.</u>
Acid blend	1.0	2.0	4.1	.15	6.9
Activated carbon	0.4	0.7	1.4	.05	20
Bentonite	1.2	2.5	5.2	.19	5.25
Calcium carbonate	1.0	2.0	4.0	.14	7
Citric acid	1.1	2.3	4.6	.16	6.25
Gelatin	0.8	1.6	3.3	.12	8.5
Malic acid	0.9	1.7	3.4	.12	8.25
Nutrient	0.7	1.4	2.8	.10	10
Pectic enzyme	1.0	2.0	4.0	.14	7
Potassium metabisulfite	1.3	2.7	5.5	.20	5
Sodium bisulfite	1.3	2.7	5.5	.20	5
Sparkolloid	0.3	0.6	1.3	.046	21.75
Tannic acid	0.3	0.6	1.3	.046	21.75
Tartaric acid	1.3	2.7	5.5	.20	5

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Equivalency Table - U.S., BRITISH, METRIC

Weight Note: US and British weights are the same for all units (dram, grain, ounce, pound)

5 pounds	=	2.267	kilograms (kg)	5 kg	=	11 pounds
4 lb.	=	1.814	kg.	4 kg.	=	8 lb. 12 oz.
3 lb.	=	1.360	kg.	3 kg.	=	6 lb. 9 oz.
2 lb.	=	0.907	grams (gr.)	2 kg.	=	4 lb. 6 oz.
1 lb.	=	0.453	gr.	1 kg.	=	2 lb. 3 oz.
1/2 lb.	=	0.227	gr.	500 g.	=	1 lb. 1.5 oz.
1/4 lb.	=	0.113	gr.	250 g.	=	8 3/4 oz.
1 oz.	=	0.28	gr.	125 g.	=	4 3/8 oz.
1 grain*	=	0.0648	gr.	100 g.	=	3.5 oz.
1 dram*	=	1.77	gr.	10 g.	=	1/3 oz.
				1 g.	=	1/28 oz. approx.
				1 g.	=	15 grains* approx.

* Avoirdupois weight 1 g. = approx. 0.56 dram

<u>To convert</u>	<u>into</u>	<u>multiply by</u>
Pounds	kilograms	0.45359
Ounces	grams	28.3496
Grains	grams	0.0648
Grains	drams	0.0366
Drams	grams	1.7719
Drams	grains	27.3438
Kilograms	pounds	2.2046
Grams	ounces	0.0353
Grams	grains	15.432
Grams	drams	0.5644

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Equivalency Table - U.S., British, Metric (Continued)

Liquid Note: US and British (Imperial) liquid capacities are not the same for units of the same name (fluid ounces, pints, quarts, gallons)

<u>U.S.</u>	to	<u>Metric</u>	<u>Metric</u>	to	<u>U.S.</u>
1 gallon	=	3.7853 liters	1 l	=	1.06 qt.
1 quart	=	946 ml. or cc	500 ml.	=	1.06 pt.
1 fifth	=	757 ml./cc	250 ml.	=	1.06 cup
1 pint	=	473 ml./cc	125 ml.	=	0.53 cup
1 cup	=	237 ml./cc	100 ml.	=	0.42 (7/16) cup
1 fluid oz.	=	29.6 ml./cc	50 ml.	=	1.7 fl oz.
1 tablespoon	=	14.8 ml./cc	25 ml.	=	5.1 teaspoon
1 teaspoon	=	4.9 ml./cc	10 ml.	=	2.0 teaspoon

<u>British</u>	to	<u>U.S.</u>		<u>Misc. US</u>
1 gallon	=	1.2 gallon	1/2 pint	= 8 fl oz.
1 fluid oz.	=	.96 fl oz.	1 tbs.	= 0.5 fl oz cup
1 tbs.	=	.96 tbs.	1 tbs.	= 1/16
1 tbs.	=	2.9 tsp.	1 tbs.	= 3 tsp.
1 dessert spoon.	=	1.5 tsp.	1 fifth	= 25.6 fl oz.
1 tsp.	=	.7 tsp.	1 quart	= 32.0 fl oz.

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Important Formulas

1 part / million = 0.0001 grams / 100ml

1 pound / 1000 gallons = 0.9 grams / gallon = 0.12 grams / liter

0.1 gram / ml = 7.785 grams/ gallon

Acid and reduction

To increase TA by 0.1%, add:

10 grams tartaric acid / liter of wine

3.8 grams tartaric acid / gallon of wine

To decrease TA by 0.1%, add:

2.5 grams / gallon calcium carbonate or

3.8 grams / gallon potassium carbonate

Sulfur dioxide (SO₂) reduction with hydrogen peroxide (H₂O₂)

To reduce SO₂ by 10 parts / million, add 1.0 ml 3% H₂O₂ / gallon of must or wine.

SO₂ additions

For calculating additions of potassium metabisulfite in grams:

$$\frac{\text{ppm desired in grams} \times \text{Liters of wine (3.785 L} \times \text{gallons of wine)}}{0.576} = \text{grams of KMB}$$