

Dilutions & Equivalencies



How to Calculate Dilution Ratios		Dilution Ratio	Ounces per Gallon
<p>The dilution ratio is the ratio of solute (the material to be diluted) to solvent.</p> <p>It is necessary to first convert dilutions to ounces (oz) for one gallon, so you start by dividing ounces per gallon into 128.</p>		1:4	32
		1:5	26
		1:10	12
		1:12	10
		1:15	8
		1:20	6
		1:32	4
		1:40	3
		1:50	2.5
		1:60	2
		1:64	2
		1:100	1
		1:128	1
		1:256	0.5
<p>Example 1</p> <p>[Dilution given is 1.5 oz per gallon dilution] Step one: $128 \div 1.5 = 85$ The dilution ratio is 1:85</p>			
<p>Example 2</p> <p>[Dilution given is 10 oz per 5 gallons] Step one: $10 \div 5 = 2$; results in 2oz per gallon Step two: $128 \div 2 = 64$; the dilution ratio is 1:64</p>			



Part Per Million (PPM) of Active Disinfectant in Various Use

Multiply percentage of active disinfectant by 10,000, and divide by use-dilution rate.

$$\% \text{ active} \times 10,000 = \text{dilution rate}$$

Example 1

[Given active percentage of 4.5]

At 1:256 (0.5 oz per gallon)

$$(4.5 \times 10,000) \div 256 = 176 \text{ ppm active}$$

Example 2

[Given active percentage of 4.5]

At 1:128 (1.0 oz per gallon)

$$(4.5 \times 10,000) \div 128 = 352 \text{ ppm active}$$

Metric Volume Equivalents

3 tsp = 1 tbsp = 15 mL
8 tsp = 1/2 cup = 118 mL
16 tsp = 1 cup = 237 mL
1 fluid oz = 2 tbsp = 30 mL
8 fluid oz = 1 cup = 237 mL
16 fluid oz = 2 cup = 473 mL
32 fluid oz = 4 cup = 1 quart = 946 mL
128 fluid oz = 1 gallon = 3.78 L

tsp (teaspoon)
tbsp (tablespoon)
mL (millilitre)
L (litre)
oz (ounce)



Source: <http://www.jasonyost.me/worksheets/>