



## How to Calculate Dilution Ratios:

Dilution ratios are expressed in two ways, either 1 to a given number (such as 1:64) or in terms of ounces per gallon (2 ounces per gallon).

If you need to calculate the ounces per gallon remember that there are 128 ounces in a gallon, so a 1 ounce per gallon product dilutes at a ratio of 1:128 and ½ and ¼ ounce products dilute at 1:256 and 1:512 respectively. A common method to determine ounces per gallon is to take 128 and divide it by the ratio number. For instance, a product that has a dilution ratio of 1:256 would be calculated like this:  $128 \div 256 = .5$  ounces per gallon

Some of the more common ratios are provided in the table below:

Ounce per gallon	Dilution Ratios
¼ ounce per gallon	1:512
½ ounce per gallon	1:256
1 ounce per gallon	1:128
2 ounces per gallon	1:64
4 ounces per gallon	1:32
5 ounces per gallon	1:26 (1:25.6 rounded)
6 ounces per gallon	1:21 (commonly considered 1:20)
8 ounces per gallon	1:16
12 ounces per gallon	1:10

If a product has a ratio of 1:128 you would mix one part of the product to 128 parts of water. That means that the gallon of product will make 129 total gallons of solution because to mix it properly you would take the gallon of product and add 128 gallons of water which equals 129 total gallons. A 1:256 product makes 257 gallons of end use solution and a 1:64 makes 65 gallons of solution. The total amount of solution that a given container of product makes is commonly referred to as the yield.

Metric calculations such as liters can be calculate, you just need to convert the metric figures to gallons or ounces prior to starting. Common metric volume measurements and there English equivalents are listed below:

- 1 quart = 0.946 mL
- 1 gallon = 3.785 liters
- 1 liter = 0.264 gallons
- 4 liters = 1.056 gallons

### Take a few minutes to complete the following exercises.

1. How many ounces per gallon are equivalent to Deep Blue Glass cleaner at 1:30? **4.27**
2. How much ready to use (RTU) gallon yield can be made from a gallon of Deep Blue glass cleaner at a dilution ratio of 1:30? **31 RTU gallons**
3. How many ounces per gallon are equivalent to pH7 All Purpose Neutral Cleaner at 1:64? **2**
4. How much RTU gallon yield would you get from a five gallon pail of pH7Q Ultra at 1:256? **1285 RTU gallons**