

## Information on Conversion of TDS values from grain, grams, ounces, etc.

When working with TDS (Total Dissolved Solids) measurements, there is sometimes a need to convert units. Below are a few common measures and conversions to other units.

1 Grain = 0.0648g (grams) = 64.8mg (milligrams) = 0.00228 oz (ounces)

Convert grains to grams: multiply grains by 0.0648 gram/grains = grams

Convert ounces to grams: multiply ounces by 28.35 grams/ounce = grams

Convert grams to mg (milligrams): multiply grams by 1000 mg/g = mg

Convert mg to ppm in a liquid: divide mg into liters = ppm

Convert ppm to ppt: divide ppm by 1000 ppm/ppt = ppt

Or vice-verse:-

Convert ppt to ppm: multiply ppt by 1000 ppm/ppt = ppm

Convert ppm to mg: multiply ppm by liters = mg

Convert mg to grams: divide by 1000 mg/g = grams

Convert grams to ounces: divide grams by 28.35 grams/ ounce = ounces

Convert grams to grains: divide grams by 0.0648 grams/grain = grains

From the top, an example of converting grains to ppm and ppt:

5 grains x 0.0648 gram/grains = 0.324 grams

0.324 grams x 1000 mg/g = 324 mg

324 mg ÷ 1 liter = 324 ppm

(if in 2 liters . . . 324 mg ÷ 2 liters = 162 ppm)

(if in 0.5 liters . . . 324 mg ÷ 0.5 liters = 648 ppm)

324 ppm ÷ 1000 ppm/ppt = 0.324 ppt

You may already see the short cut

0.324 grams in 1 liter = 0.324 ppt (because 1 gram in 1 liter = 1 ppt)

For ounces, here is how to convert to ppm and ppt:

5 ounces x 28.35 grams/ounce = 141.75 grams

141.75 grams x 1000 mg/g = 141,750 mg

$$141,750 \text{ mg} \div 1 \text{ liters} = 141,750 \text{ ppm}$$

$$\text{(if in 2 liters . . . } 141,750 \div 2 \text{ liters} = 70,875 \text{ ppm)}$$

$$\text{(if in 0.5 liters . . . } 141,750 \div 0.5 \text{ liters} = 283,500 \text{ ppm)}$$

$$141,750 \text{ ppm} \div 1000 \text{ ppm/ppt} = 141.75 \text{ ppt}$$