



- D. Measuring concentrations of solutes in aqueous solutions
1. concentration - measurement of the quantity of solute in a given quantity of solvent (or solution)
    - a. Mass Percent = (mass solute / total mass solution) \* 100%

**E.g. if 5 g of NaCl is dissolved in 95 g of water, what is the mass percent of sodium chloride in the solution?**

**conversion factors for mass: 1 gram = 1000 mg, 1 kg = 1000 g, 1 gram = 1,000,000 micrograms**

(1) percent = "parts per hundred" (%)

b. Parts per Thousand (o/oo) = grams of solute / liter of water

**Determine the concentration in ppt for a solution of 200 gram dissolved in 2 liters of water?**

**Determine the concentration in ppt for a solution of 2000 mg dissolved in 1 liter of water?**

c. Parts per Million = milligrams of solute / liter of water

**Determine the concentration in ppm for a solution 20 mg of salt per liter of water?**

**What about 20 kg of salt per liter of water?**