

Solutions - Concentrations/SS**Name:**

For complete credit show all the work for the calculations and give the answers in the correct significant figures. You should know the units of ALL the concentrations you are working with.

- 1) What mass of a 5% KI solution contains 258 mg KI? (ans: 5.61g)
(*Strategy*: don't forget to convert the mg to g)

- 2) How will you make a 72.5 g aqueous solution that is 5.00 % by mass of KI?

- 3) Calculate the mass percent and mol fraction of 3.78 g of NaBr in 60.1 g of solution. (ans: 6.29%; 0.012)

- 4) 17.6 g lauryl alcohol ($C_{12}H_{25}OH$ MW = 186 g/mol) is dissolved in 185 g ethanol. What is its molality? (ans: 0.511 m)

5) What is the molarity of a 0.58 molal solution of oxalic acid? Density of the solution is 1.022 g/ml, (MW oxalic acid = 110 g/mol) (ans: 0.577M)
(**Strategy:** a) find mass of oxalic acid and add to mass of solvent (1 kg); b) use density to find vol of solution and c) calculate molarity)

6) Sodium fluoride has a solubility of 3.84 g in 85 g of water. Express that concentration in terms of a) mass percent; b) mole fraction; and c) molality. (ans 4.3%; 0.019; 1.08m)