Friday Worksheet   Name: ………………..

Concentration

1) A 34.5g sample of pure NaCl was placed in a 250mL volumetric flask. What is the percentage concentration (w/v) of the salt solution?

2) A solution has a salt concentration of 1.25g/L.
   What is its salt concentration in ppm?

3) A 1.00 Kg sample of baby food contains 0.044 grams of magnesium.
   What is the magnesium concentration in ppm?

4) A sample of creek water has a lead concentration of 2250µg/kg.
   What is its concentration in ppm?

5) A sample of fish caught from the bay has a lead concentration of 0.431% w/w.
   What is its concentration in ppm?

6) A student is provided with 500.0 mL of a 950 ppm solution of KNO_3.
   What volume of this solution in millilitres contains 0.45g of KNO_3?

7) What mass in milligrams of potassium nitrate is present in 0.35kg of a 450ppm $KNO_{3(aq)}$?

8) What is the concentration in mol L$^-$ of NaCl in an 3.21% w/v NaCl solution?

9) What is the mol of ethanol in a 750.0 mL bottle of wine with a concentration of 13.1% v/v ethanol if the density of ethanol (46.1 g mol$^-$) is given at 0.789g/mL

10) Dichromate reacts with ethanol according to the equation below.
    $3CH_3CH_2OH + Cr_2O_7^{2-} + 8H^+ \rightarrow 3CH_3COOH + 2Cr^{3+} + 7H_2O$
    A 20.0 mL sample of wine was titrated against a 0.100M $K_2Cr_2O_7$ and an average titre of 12.44mL was obtained. Find the percentage concentration in v/v if the density of ethanol is 0.789g/mL.