ppm to Molarity Conversion Example

You can perform the unit conversion the other way, too. Remember, for dilute solutions, you can use the approximation that 1 ppm is 1 mg/L. Use the atomic masses from the periodic table to find the molar mass of the solute.

For example, let's find the ppm concentration of chloride ions in a 0.1 M NaCl solution.

A 1 M solution of sodium chloride (NaCl) has a molar mass 35.45 for chloride, which you find from looking up the atomic mass of chlorine on the periodic table and noting there is only 1 Cl ion per NaCl molecule. The mass of sodium doesn't come into play since we're only looking at chloride ions for this problem. So, you now have the relation:

35.45 gram/mole or 35.5 g/mol

You either move the decimal point over one space to the left or multiply this value times 0.1 to get the number of grams in a 0.1 M solution, to give you 3.55 grams per liter for a 0.1 M NaCl solution.

3.55 g/L is the same as 3550 mg/L

Since 1 mg/L is about 1 ppm:

A 0.1 M solution of NaCl has a concentration of about 3550 ppm Cl ions.

iodine mw = 256.8
convert 100 mM to ppm
1 M = 256.8 gm/L; 1 mM = 256.8 mg/L = 256.8 ppm
1000 ppm = 3.89 mM = 1000/MW
H2O2 MW = 34.01;' 1000 ppm = 29.4 mM
1.5 mM = 51.0 ppm