|  |
| --- |
| **Parts Per Million (ppm) Concentration** |
| For **very dilute** solutions, [mass/mass (m/m)](http://www.ausetute.com.au/weightpc.html) and [mass/volume (m/v)](http://www.ausetute.com.au/wtvol.html) concentrations are sometimes expressed in parts per million. * Parts per million is abbreviated as ppm.
* 1 ppm is one part by mass, or volume, of solute in 1 million parts by mass, or volume, of solution.
* In mass/volume (m/v) terms:1ppm = 1g/m3 = **1mg/L** = 1μg/mL
* In mass/mass (m/m) terms:1ppm = 1mg/kg = 1μg/g

**ppm = 1g/m3 = 1mg/L = 1μg/mL****1.**  A solution has a concentration of 1.25 g/L.  What is its concentration in ppm? **(1250 ppm)****2.** A solution has a concentration of 0.5 mg/mL.   What is its concentration in ppm? **(500 ppm)****3.** A solution has a concentration of 0.033 g/kg. What is its concentration in ppm? **(33 ppm)** **4.** A solution has a concentration of 2250 μg/kg. What is its concentration in ppm? **(2.25 ppm)****5.** 150 mL of an aqueous sodium chloride solution contains 0.0045 g NaCl.  Calculate the concentration of NaCl in parts per million (ppm). **(30 ppm)** **6.** What mass in milligrams of potassium nitrate is present in 0.25 kg of a 500 ppm KNO3(aq)? **(125 mg)****7.** A student is provided with 500 mL of 600 ppm solution of sucrose.   What volume of this solution in millilitres contains 0.15 g of sucrose? **(250 mL)**  |
|  |