



Calculating Solubility

The solubility of a substance can be measured precisely, and you can calculate it if you know the mass of the solvent (such as water), and the mass of the maximum amount of solute (such as salt) that will dissolve in it.

How to calculate solubility

Weigh the solution. Then, evaporate the solvent from the solution and weigh the solute left behind. Subtract that from the mass of the solution to get the mass of the solvent.



Solution



Solute after solvent has evaporated



Key Facts

- ✓ Solubility is measured in grams of solute per 100 grams of solvent, written as g/100g.
- ✓ To calculate solubility, you need the mass of the solvent and the mass of the solute dissolved in it when no more will dissolve.

$$\text{solubility (g per 100 g of solvent)} = \frac{\text{mass of solid (g)}}{\text{mass of water removed (g)}} \times 100$$

Solubility curves

The solubility of a substance at different temperatures can be marked on a graph, known as a solubility curve. Different substances will have unique solubility curves.

