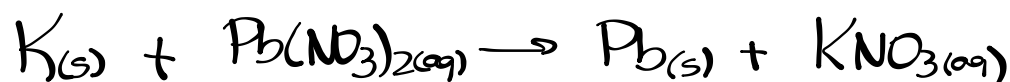


Check Homework - Worksheet

K^+ Pb^{2+} NO_3^-
 potassium and lead(II) nitrate



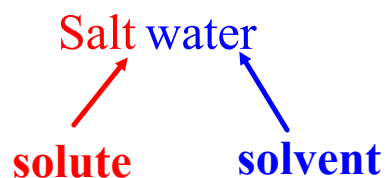
Solutions

Solution - homogeneous (uniform) mixture of a solute and a solvent.

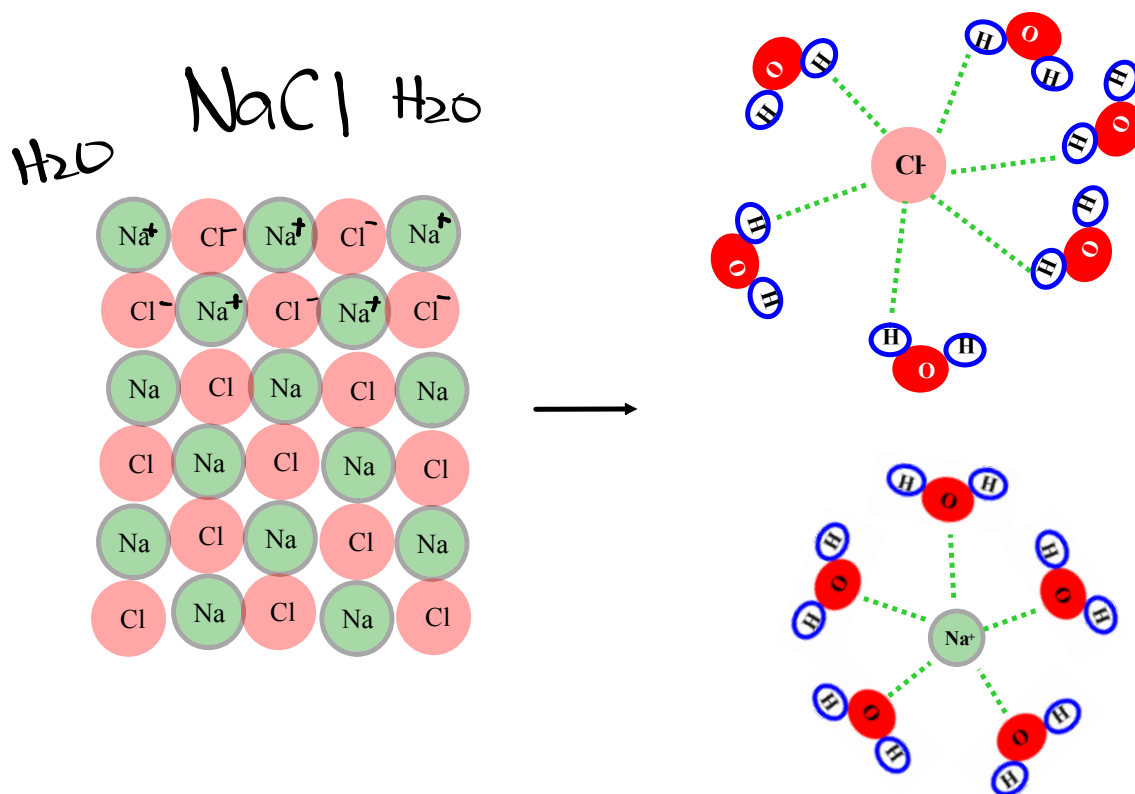
⇒ solute - substance dissolved

⇒ solvent - substance doing dissolving (liquid)

Ex.



What happens when an ionic compound ⁺/₋ dissolves??



This process is called solvation.

Solution Formation

There are three factors that affect how fast a substance will dissolve:

- 1) temperature
- 2) agitation (stirring)
- 3) surface area of dissolving particles

Concentration of a Solution

concentration - a numerical ratio comparing the quantity of solute to the quantity of solution.

molar concentration (molarity) - the amount of moles of solute dissolved in one litre of solvent

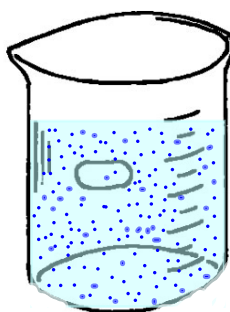
⇒ units: mol/L

dilute - a solution that has a small amount of solute as compared to the amount of solvent



dilution - process of adding more solvent to cause a solution to become more dilute

concentrated - a solution that has a large amount of solute as compared to the amount of solvent



Ex. An intravenous solution contains 0.90 g NaCl in 100.mL of solution. What is the molarity of this solution?

$$m = 0.90\text{g} \quad 0.90\text{g NaCl} \times \frac{1 \text{ mol NaCl}}{58.44 \text{ g NaCl}} = 0.0154\text{mol}$$

$$V = 100.\text{mL}$$

$$C = ? \quad \text{NaCl} \rightarrow (1 \times 22.99) + (1 \times 35.45) = 58.44\text{g/mol}$$

$$C = \frac{n}{V}$$

$$C = \frac{0.0154\text{mol}}{0.100\text{L}}$$

$$C = 0.15\text{ mol/L}$$

$$C = \frac{n}{V}$$

molar concentration (mol/L)

mol

of moles (solute)

volume (solvent) L

Practice Problems

Worksheet