Homework - Worksheet

Cu^{2+} $Ag^+ NO_3^-$

④ KNOWN UNKNOWN

$Cu_{(s)} + 2AgNO_{3(aq)} \rightarrow 2Ag_{(s)} + Cu(NO_3)_{2(aq)}$

$m = 50.g$ $m = ?$

$$50.g\ Cu \times \frac{1\ mol\ Cu}{63.54g\ Cu} = 0.787\ mol\ Cu$$

$$0.787\ mol\ Cu \times \frac{2\ mol\ Ag}{1\ mol\ Cu} = 1.574\ mol\ Ag$$

$$1.574\ mol\ Ag \times \frac{107.87g\ Ag}{1\ mol\ Ag} = \boxed{170g\ Ag}$$

Solutions Test

- Net Ionic Equations
- Properties of Solutions
  Solute/solvent, factors affecting rate of dissolving
- Solubility
- Concentration → $C = \frac{n}{V}$
- Dilutions $v_i C_i = v_f C_f$
- Stoichiometry

Ca^{2+} NO_3^- Na^+ SO_4^{2-}

Calcium nitrate and sodium sulfate

$Ca(NO_3)_{2(aq)} + Na_2SO_{4(aq)} \longrightarrow CaSO_{4(s)} + NaNO_{3(aq)}$

Complete Ionic:

$Ca^{2+}_{(aq)} + NO^-_{3(aq)} + Na^+_{(aq)} + SO^{2-}_{4(aq)} \rightarrow CaSO_{4(s)} + Na^+_{(aq)} + NO^-_{3(aq)}$

Spectator Ions: $NO^-_{3(aq)}$, $Na^+_{(aq)}$

Net Ionic:

$Ca^{2+}_{(aq)} + SO^{2-}_{4(aq)} \longrightarrow CaSO_{4(s)}$

What mass of calcium fluoride is found in 2.45 L of a 0.847M solution?

$m = ?$

CaF_2

$V = 2.45\,L$

$C = 0.847\,mol/L$

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

$$0.847\,mol/L = \frac{n}{2.45\,L}$$

$$n = (0.847\,mol/L)(2.45\,L)$$

$$n = 2.075\,mol$$

$$2.075\,mol\,CaF_2 \times \frac{78.08\,g\,CaF_2}{1\,mol\,CaF_2} = 162\,g\,CaF_2$$

Test Review

Worksheet