

Year 12 Chemistry Mastery Test: Ionic Equations – Acid/base reactions

Name:							

Write balanced ionic equations for any reactions that occur when the following substances are mixed.
1. Solid aluminium oxide is added to a solution of hydrochloric acid
Equation
Observation
2. A solution of acetic acid (ethanoic acid) is added to solid sodium hydrogen carbonate
Equation
Observation
3. Carbonic acid is added to a solution of lithium hydroxide
Equation
Observation
4. Phosphoric acid is added to aqueous sodium hydroxide
Equation
Observation
5. Sulfuric acid is added to a solution of cobalt nitrate
Equation
Observation

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Year 12 Chemistry Mastery Test: Ionic Equations – Acid/base reactions

ANSWERS

Write balanced ionic equations for any reactions that occur when the following substances are mixed.

1. Solid aluminium oxide is added to a solution of hydrochloric acid

Equation
$$Al_2O_{3(s)} + 6H^+_{(aq)} \Rightarrow 3H_2O_{(e)} + 2Al^{3+}_{(aq)}$$

Observation A white solid is added to a colourless solution and a colourless solution is formed.

2. A solution of acetic acid (ethanoic acid) is added to solid sodium hydrogen carbonate

Equation
$$CH_3C00H_{(aq)} + NaHC0_{3(s)} \Rightarrow C0_{2(g)} + H_2O_{(l)} + Na^+_{(aq)} + CH_3C00^-_{(aq)}$$

Observation A white solid is added to a colourless solution and a colourless, odourless fas is formed in a colourless solution.

3. Carbonic acid is added to a solution of lithium hydroxide

Equation
$$H_2CO_3 + 2OH_{(aq)}^- + \Rightarrow 2H_2O + CO_3^2$$
 (aq)

Observation A white solid is added to a colourless solution and a colourless solution is formed.

4. Phosphoric acid is added to aqueous sodium hydroxide

Equation
$$H_3PO_{4(aq)} + 3OH_{(aq)}^- \Rightarrow 3H_2O_{(e)} + PO_4^{3-}$$

Observation Two colourless solutions are mixed and a colourless solution is formed.

5. Sulfuric acid is added to a solution of cobalt nitrate

Equation No Reaction

Observation

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