Unit 11: Group 17

Subunit 11.3: Some reactions of the halide ions

Topical Question No: 1

17 The table shows some reactions of a white compound, G.

test	observation
silver nitrate is added to a solution of G followed by aqueous ammonia	a precipitate is formed which does not dissolve when the ammonia is added
solid G is warmed with concentrated sulfuric acid	a mixture of gases is formed including hydrogen sulfide

What could be the identity of G?

- A caesium chloride
- **B** lithium bromide
- C potassium sulfate
- **D** sodium iodide

Topical Question No: 2

- 18 Under standard conditions, which statement is correct?
 - **A** $Cl_2(aq)$ can oxidise $Br^-(aq)$.
 - **B** $Cl_2(aq)$ can reduce $Br^-(aq)$.
 - **C** $Cl^{-}(aq)$ can oxidise $Br_2(aq)$.
 - **D** $Cl^{-}(aq)$ can reduce $Br_2(aq)$.

Topical Question No: 3

15 Element 85, astatine, is in Group VII. Concentrated sulfuric acid is added to sodium astatide. The mixture of products includes astatine, hydrogen astatide, hydrogen sulfide, and sodium sulfate.

Which product is formed by the oxidation of one of the constituents of sodium astatide?

- A astatine
- B hydrogen astatide
- C hydrogen sulfide
- **D** sodium sulfate

Topical Question No: 4

17 Y is a salt of one of the halogens chlorine, bromine, iodine, or astatine (element 85).

The reaction scheme shows a series of reactions using a solution of Y as the starting reagent.

$$Y(aq) \xrightarrow{\begin{subarray}{c} HNO_3(aq) \\ \hline AgNO_3(aq) \end{subarray}} \mbox{ a precipitate } \xrightarrow{\begin{subarray}{c} an excess of \\ \hline dilute \ NH_3(aq) \end{subarray}} \mbox{ a colourless solution } \\ \mbox{ an excess of } \\ \mbox{ HNO}_3(aq) \end{subarray}$$

What could Y be?

- A sodium chloride
- B sodium bromide
- C potassium iodide
- **D** potassium astatide

Answer Key

- 1. Error
- 2. Error
- 3. Error
- 4. Error