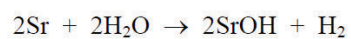


1. The Group 2 elements react with water, forming a solution and a gas.

Which statement is correct?

- A The reactivity of the elements decreases down Group 2.
B The pH of the solution formed increases down Group 2.
C The reaction is a neutralisation.
D The equation for the reaction of strontium with water is:



Your answer

[1]

(d) Two changes are described below.

For each change,

- write an equation, including state symbols,
- state and explain how the entropy changes.

(i) The reaction of aqueous barium nitrate with aqueous sodium sulfate.

Full equation with state symbols

.....

Explanation of entropy change

.....

.....

..... [2]

(ii) The change that accompanies the standard enthalpy change of atomisation of iodine.

Equation with state symbols

.....

Explanation of entropy change

.....

.....

..... [2]

3. 3.528 g of a Group 2 metal, **M**, is reacted with an excess of chlorine. The reaction forms 9.775 g of a chloride.

What is metal **M**?

- A magnesium
- B calcium
- C strontium
- D barium

Your answer

[1]

4. Which statement is **not** correct for Group 2 hydroxides?

- A $\text{Mg}(\text{OH})_2$ can be used to treat indigestion.
- B $\text{Ca}(\text{OH})_2$ is used in agriculture to neutralise alkaline soils.
- C The anion in $\text{Sr}(\text{OH})_2$ contains 10 electrons.
- D $\text{Ba}(\text{OH})_2$ is a product from the reaction of barium and water.

Your answer

[1]

5. Which statement(s) for Group 2 elements is/are correct?

- 1 The 2nd ionisation energy of magnesium is greater than the 2nd ionisation energy of calcium.
- 2 A strontium ion, Sr^{2+} , contains a total of 6 electrons in s orbitals.
- 3 The equation for the reaction of barium with water is:
$$2\text{Ba} + 2\text{H}_2\text{O} \rightarrow 2\text{BaOH} + \text{H}_2.$$

- A** 1, 2 and 3
B Only 1 and 2
C Only 2 and 3
D Only 1

Your answer

[1]