

1. Nov/2022/Paper_11/No.20

Which row is correct?

	the temperature needed to decompose Group 2 metal nitrates	the solubility of Group 2 sulfates
A	decreases down the group	decreases down the group
B	decreases down the group	increases down the group
C	increases down the group	increases down the group
D	increases down the group	decreases down the group

2. Nov/2022/Paper_12/No.19

The nitrates of beryllium, calcium, magnesium and strontium all decompose in the same way when heated. When 2.00 g of one of these anhydrous nitrates is decomposed, 1.32 g of gas is produced.

What is the nitrate?

- A** beryllium nitrate
- B** calcium nitrate
- C** magnesium nitrate
- D** strontium nitrate

3. Nov/2022/Paper_21/No.2

Magnesium shows reactions typical of a Group 2 metal.

(a) Draw a labelled diagram to show the bonding in magnesium metal.

[2]

(b) Fig. 2.1 shows some reactions of magnesium and its compounds.

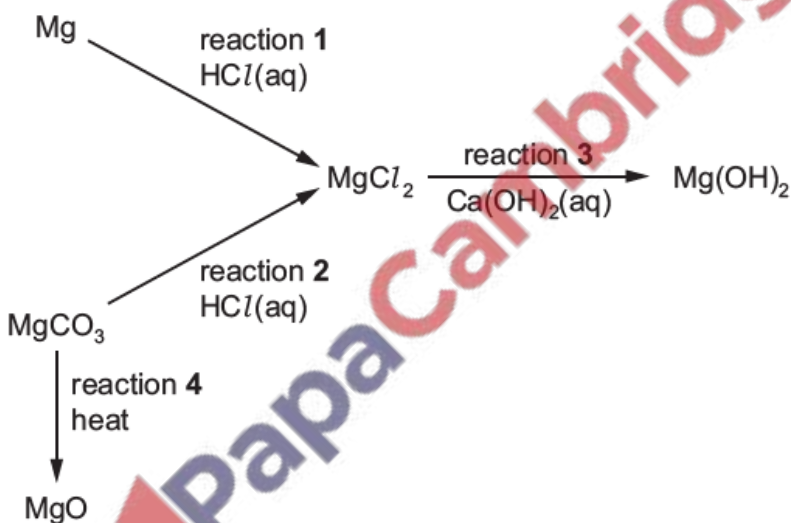


Fig. 2.1

(i) Identify the other products of reactions 1 and 2.

reaction 1

reaction 2

[2]

(ii) Reaction 3 is used to form a precipitate of Mg(OH)₂ from MgCl₂(aq).

State why Ca(OH)₂(aq) would **not** form a precipitate of Ba(OH)₂ from BaCl₂(aq).

.....

..... [1]

(iii) State the type of reaction that occurs in reaction 4.

..... [1]

(c) 1 cm³ of MgCl₂(aq) is placed in a test-tube. A few drops of AgNO₃(aq) are added, followed by 1 cm³ of dilute NH₃(aq).

State in full what is observed in this experiment.

.....
..... [2]

(d) When 1 cm³ of MgCl₂(aq) is added to 1 cm³ of Br₂(aq) in a test-tube, the solution remains orange.

Explain this observation.

.....
.....
..... [1]

[Total: 9]

