

OCR (A) Chemistry A-level

Topic 3.1.2 - Group 2

Flashcards

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What is a common name given to group 2 metals?



What is a common name given to group 2 metals?

Alkaline earth metals



What is the most reactive
metal of group 2?



What is the most reactive metal of group 2?

Barium



List 3 physical properties of group 2 metals



List 3 physical properties of group 2 metals

- High melting and boiling points
- Low density metals
- Form colourless (white) compounds



The highest energy electrons of group 2 metals are in which subshell?



The highest energy electrons of group 2 metals are in which subshell?

S subshell



Does reactivity increase or decrease down group 2?
Why?



Does reactivity increase or decrease down group 2? Why?

- Increases
- Electrons are lost more easily because larger atomic radius and more shielding.



What happens to the first ionisation energy as you go down group 2? Why?



What happens to the first ionisation energy as you go down group 2? Why?

Decreases because:

- Number of filled electron shells increases down the group → increased shielding
- Increased atomic radius → weaker force between outer - -
- Electron and nucleus → less energy needed to remove electron



What type of reaction is the reaction between group 2 elements and oxygen?



What type of reaction is the reaction between group 2 elements and oxygen?

Redox reaction



Write an equation for the
reaction of calcium and
oxygen



Write an equation for the reaction of calcium and oxygen



What are the products when
group 2 elements react with
water?



What is the product when group 2 elements react with water?

Hydroxide and hydrogen gas



Which group 2 element
doesn't react with water?



Which group 2 element doesn't react with water?

Beryllium



Which group 2 element reacts
very slowly with water?



Which group 2 element reacts very slowly with water?

Magnesium



What type of reaction is the reaction between group 2 metal and water?



What type of reaction is the reaction between group 2 metal and water?

Redox reaction



Write an equation for the
reaction of barium and
water



Write an equation for the reaction of Barium and water



What is oxidised and what is reduced in a reaction between group 2 metal and water?



What is oxidised and what is reduced in a reaction between group 2 metal and water?

Metal → oxidised

One hydrogen atom from each water →
reduced



What are the products when a group 2 element reacts with an dilute acid?



What are the products when group 2 element reacts with dilute acid?

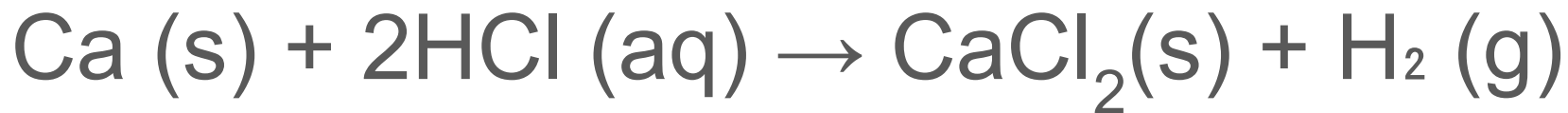
Salt and hydrogen gas



Write an equation for the
reaction of calcium and
hydrochloric acid



Write an equation for the reaction of calcium and hydrochloric acid



What is formed when group 2 oxides react with water?



What is formed when group 2 oxides react with water?

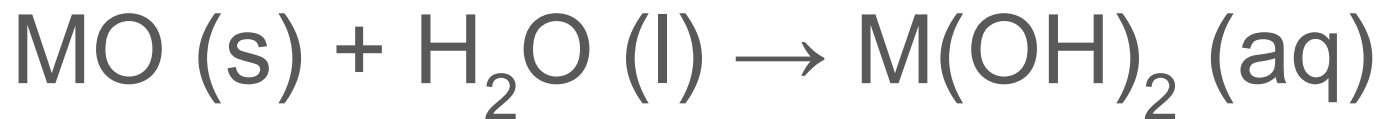
Metal hydroxide



Write an equation for the reaction between a group 2 oxide and water



Write an equation for the reaction between a group 2 oxide and water



What group 2 metal oxide is insoluble in water?



Which group 2 metal oxide is insoluble in water?

Beryllium oxide



What is the trend in hydroxide solubility down group 2?



What is the trend in hydroxide solubility down group 2?

Increases down the group

$\text{Mg}(\text{OH})_2$ is slightly soluble

$\text{Ba}(\text{OH})_2$ creates a strong alkaline solution

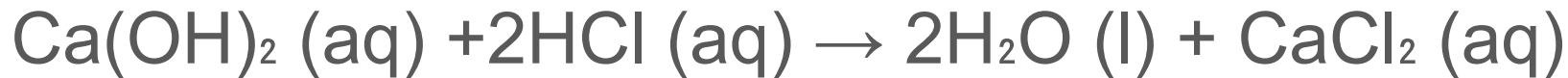


What is $\text{Ca}(\text{OH})_2$ used for?
Write an equation related to
one of its uses



What is $\text{Ca}(\text{OH})_2$ used for? Write an equation related to one of its uses

Used to neutralise soil



What is $\text{Mg}(\text{OH})_2$ used for?



What is $\text{Mg}(\text{OH})_2$ used for?

Milk of magnesia - antacid to treat indigestion, heartburn, etc.



What is calcium carbonate used for?



What is calcium carbonate used for?

Present in limestone and marble

Used in building construction



What is the drawback of using calcium carbonate in construction? Write a related equation



What is the drawback of using calcium carbonate in construction?
Write a related equation

Group 2 carbonates react with acid

