

Chapter 26 - Carbon Dioxide

To prepare CO₂ we use **Hydrochloric Acid** (HCl).

We drop this acid onto **Marble Chips** (CaCO₃).

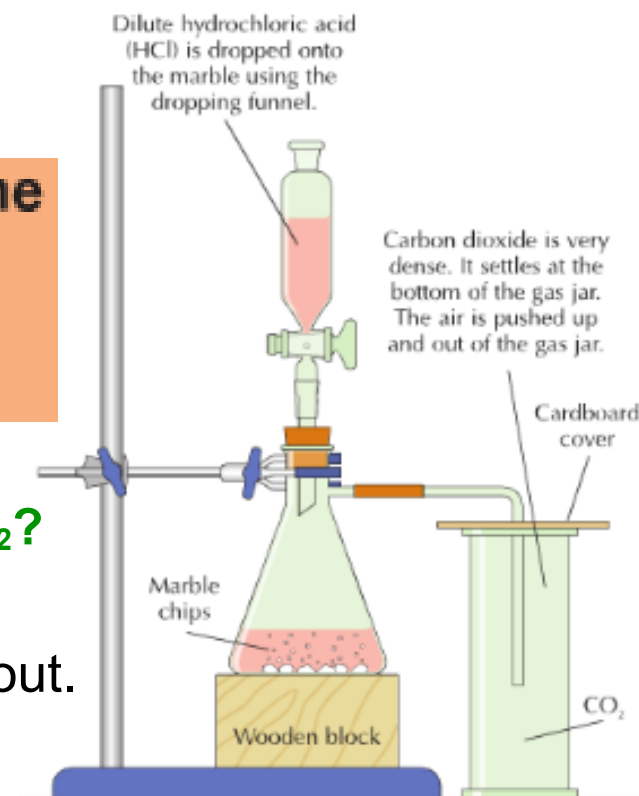
This releases **CO₂** gas.

The balanced chemical equation for the reaction is:



How can we test this gas to check for CO₂?

1. Add limewater and see if it turns Milky.
2. Put in a lighted splint and see if it goes out.
3. Add litmus to see if it is an acid.



Properties of Carbon Dioxide

- A. Carbon Dioxide is a **colourless**, **odourless** and **tasteless** gas and it's acidic - turns litmus Red.
- B. The main test for CO₂ is **Limewater**.
- C. The flame goes out so Carbon Dioxide does **not** support **combustion**.
- D. We can pour Carbon Dioxide onto a candle and it goes out. This means Carbon Dioxide is **more dense** than air.

| PHYSICAL PROPERTIES | CHEMICAL PROPERTIES |
|---|---|
| 1. Colourless, odourless, tasteless gas | 1. Does not support combustion |
| 2. Slightly soluble in water | 2. Turns limewater milky |
| 3. More dense than air | 3. Dissolves in water to form carbonic acid |



Conclusions

Carbon Dioxide can be made by adding HCl to marble chips. The acid reacts with the marble to make a salt and water and a gas (Carbon Dioxide).

We know it's carbon dioxide as it is more dense than air, it is acid and it puts out fire (does not support combustion) and turns limewater milky.



Uses of Carbon Dioxide

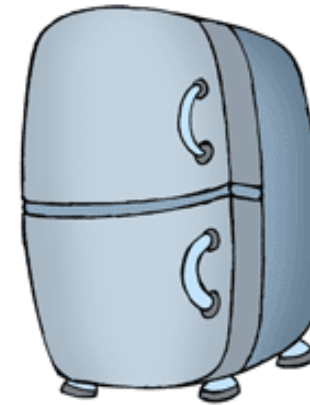
Fizzy Drinks



Fire extinguishers



Special effects fog and Fridges.



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