



# Acids & Bases

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# CHEMICAL REACTION OF ACIDS AND BASES

-  REACTION WITH METALS
-  REACTION WITH METAL CARBONATE
-  REACTION WITH METAL HYDROGEN CARBONATE
-  REACTION WITH METALLIC OXIDES
-  REACTION WITH NON-METALLIC OXIDES
-  REACTION WITH EACH OTHER.

# Acids and Metal Hydrogencarbonates

When a metal hydrogencarbonate reacts with an acid, the products are a salt, carbon dioxide and water.

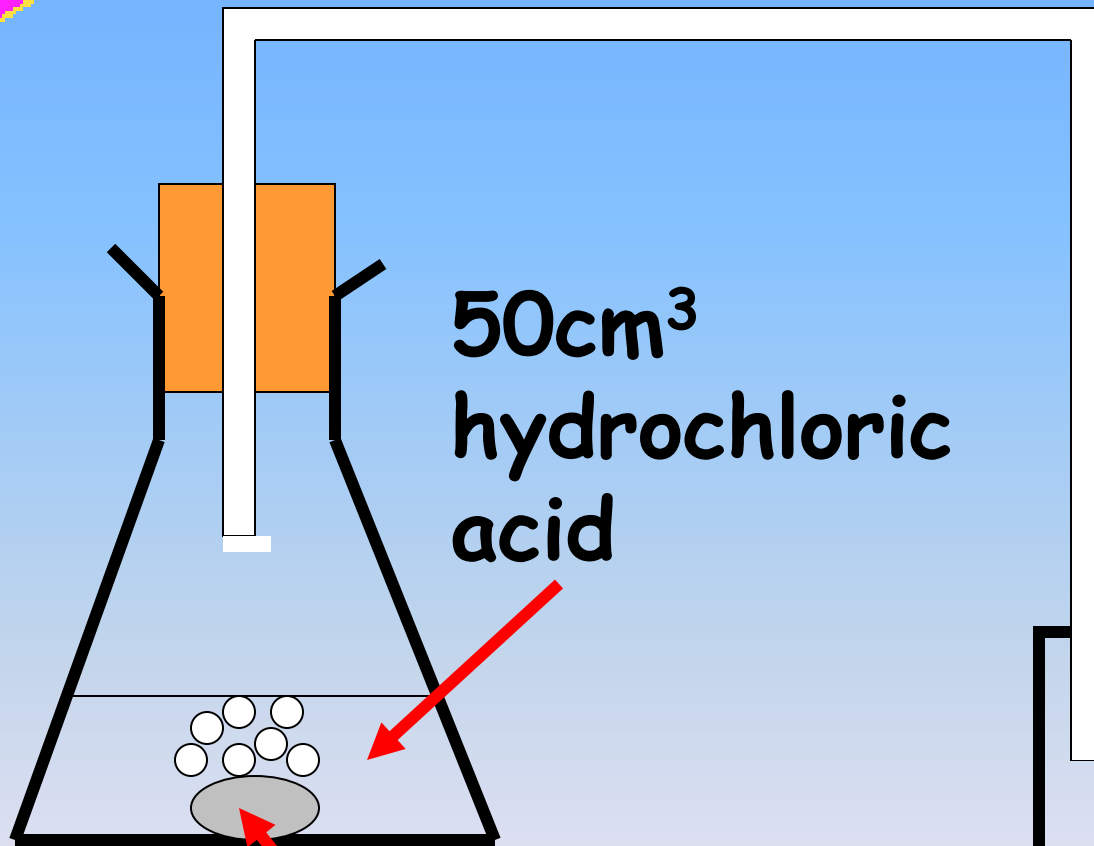


The salt produced depends on the metal hydrogencarbonate and type of acid involved in the reaction:

- When a metal hydrogencarbonate reacts with **hydrochloric acid**, the salt produced is a **metal chloride**.
- When a metal hydrogencarbonate reacts with **sulfuric acid**, the salt produced is a **metal sulfate**.
- When a metal hydrogencarbonate reacts with **nitric acid**, the salt produced is a **metal nitrate**.

# Complete the following equations

- Metal hydrogencarbonate + Acid →
- Sodium bicarbonate + Nitric acid →
- Sodium bicarbonate + Hydrochloric acid →
- Sodium bicarbonate + Sulphuric acid →



50cm<sup>3</sup>  
hydrochloric  
acid

Metal Carbonate

Lime water

# Practical Activity

## EXPERIMENT-

Add metal hydrogencarbonate to acid and collect the gas that comes off. Test the gas. Write what you observe

We will conduct a test for carbon dioxide gas (lime water test )



ON PASSING THE CARBON DIOXIDE GAS THROUGH LIME WATER , IT TURNS CLOUDY.

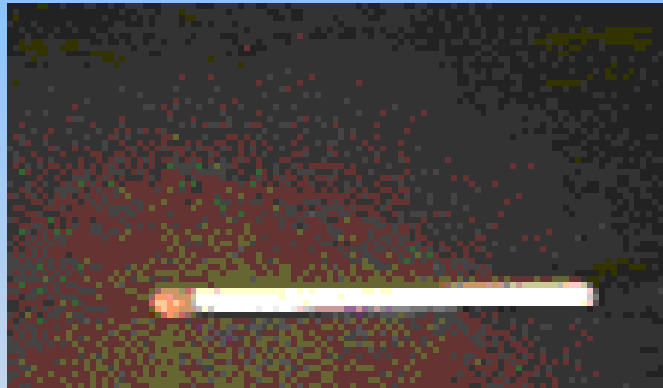
**ON PASSING EXCESS CARBON DIOXIDE ,  
FOLLOWING REACTION TAKES PLACE:**



**LIMESTONE , CHALK AND MARBLE ARE  
DIFFERENT FORMS OF CALCIUM CARBONATE.**

# Testing Carbon Dioxide

It puts out a lit spill.



It turns limewater cloudy.