

Study of Compounds - Hydrogen Chloride

Chapter 8: Study of Compounds - Hydrogen Chloride · Topic 1

Key Concept

HCl gas is prepared in the lab by heating sodium chloride with concentrated sulphuric acid (salt-acid method).

HCl gas is colourless, has a pungent smell, is denser than air, and is highly soluble in water, forming hydrochloric acid.

HCl shows an extremely high solubility fountain experiment demonstrating its solubility, and it does not support combustion.

Hydrochloric acid reacts with metals, bases, and carbonates, showing typical acidic properties like producing hydrogen gas with reactive metals.

Quick Revision Notes

- HCl prepared by heating NaCl with conc. H_2SO_4 .
- This is the salt-acid method.
- HCl gas: colourless, pungent smell.
- It's denser than air, highly soluble in water.
- Dissolving in water forms hydrochloric acid.
- The fountain experiment shows high solubility.
- HCl does not support combustion.
- HCl reacts with metals, bases, carbonates (acidic properties).

Practice Questions

- 1 Describe the lab preparation of HCl gas.
- 2 List the physical properties of HCl gas.
- 3 Explain the fountain experiment for HCl.
- 4 Write the reaction of HCl with zinc metal.
- 5 Discuss why HCl is denser than air.
- 6 Explain HCl's properties in your own words.