Acid and its Properties

Acids

The term acid is derived from the Latin word acidus meaning sour. Lemons, oranges and grapes taste sour because they contain citric acid. Tamarind and vinegar contain tartaric acid and acetic acid respectively.

Definition

"An acid is defined as a substance which gives H+ ions on dissolution in water." e.g. Nitric acid (HNO_3), Phosphoric acid (H_3PO_4), formic acid (HCOOH) etc. have one and sulphuric acid (H_2SO_4) has two replaceable hydrogen atom, thus they are acids.

$$\underset{\text{hydrochloric acid}}{HCl} \xrightarrow{\text{Water}} H^+ + Cl^-$$

$$\underset{\text{acetic acid}}{CH_3COOH} \xrightarrow{\text{Water}} CH_3COO^- + H^+$$

Properties of Acids

The properties of Acids are as follows:

- Acids change the color of blue litmus to red.
- They change the color of Methyl Orange/Yellow to Pink.
- Acidic substances convert Phenolphthalein from deep pink to colorless.
- Are sour or tart in taste.
- The pH level of acids range from 0-6
- Acids lose their acidity when combined with alkalines.
- They destroy the chemical property of bases.
- When reacting with metals they produce hydrogen gas.
- Acids produce carbon dioxide when reacted with carbonates.
- Most acids are corrosive in nature which means that they tend to corrode or rust metals.

Acid and its Properties

Uses of Acids

- Sulphuric acid is used in the manufacture of fertilizers, paints, chemicals, plastics, detergents, etc.
- Nitric acid is used in the manufacture of fertilizers, explosives, dyes and plastics.
- Hydrochloric acid is used to remove oxide film from steel objects as well as scale deposits from within boilers. It's also used in dyestuffs, textiles, food, and leather