SNC 2D1

**ACIDS & BASES INFORMATION**

Acids and bases are types of compounds that have characteristic formulas and similar chemical behaviours, especially when they are dissolved in water. Acids and bases are important reactants and catalysts used in the chemical industry to make such products as pharmaceutical drugs and plastics.

**Acids** – Acids are sour tasting, water soluble molecular compounds. In solution acids react with metals to produce hydrogen gas, conduct electricity and change the colour of acid-base indicators. When dissolved in water **Acids RELEASE hydrogen ions (H+).**

Acids are found in many common products such as lemon juice, Vitamin C and vinegar. Acids must be treated with care! Sulphuric acid (H2SO4) and hydrochloric acid (HCl) are both **highly corrosive**!

i.e. Zinc + Hydrochloric acid 🡪 Hydrogen + Zinc chloride

Zn + HCl 🡪 H2 + ZnCl

**Bases** - Bases are ionic compounds. Many are hydroxides. In aqueous solutions, they conduct electricity and change the colours of acid-base indicators. When dissolved in water Bases **RELEASE (OH-) Hydroxide ions** or **ACCEPT hydrogen ions (H+).**

Basic substances are described as **alkaline**. Bases react with proteins to break them down into smaller molecules. Draino will break down hair proteins and unclog the drain.

Common bases include antacids, ammonia and baking soda.

i.e. Sodium hydroxide 🡪 Sodium + Hydroxide

NaOH 🡪 Na + OH-

**Acid Base Indicator** – a substance that changes its colour depending on the acidity or basicity of the solution.

**Naming Acids and Bases**

Acids are easily recognized because their formulas begin with hydrogen (H). Bases are easily recognized because their formulas end with OH.

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| **Binary Acids** |  | **Polyatomic (oxy acids)** |
| HCl 🡪 Hydrochloric acid |  | H2SO4(aq) 🡪 Sulphuric acid |
| HBr 🡪 Hydrobromic acid |  | H2CO3(aq) 🡪 Carbonic acid |
| HF 🡪 Hydrofluoric acid |  | (aq) aqueous – in solution |
| HI 🡪 Hydroiodic acid |  |  |

\*hydro\_\_\_\_\_\_\_\_ic acid

\*Most bases end in (OH), hydroxide. For example NaOH is sodium hydroxide.

**NOTE:** Acids and bases neutralize each other, acids give up hydrogen ions and bases accept hydrogen ions.