

Acids and Bases

Acids are substances that have a pH below 7 on the pH scale. They are made up of a positively charged ion and a negatively charged ion. The positively charged ion within an acid is usually the hydrogen ion (H^+). The **pH scale** measures the amount of H^+ ions in a substance. The hydrogen ion, H^+ , is a positively charged atom created through the loss of one electron.

Bases are substances that have a pH higher than 7 on the pH scale. Group 7A elements on the periodic table form negatively charged ions, such as Cl^- and have a -1 charge. They gain one electron to make them negative. When these negative ions bond to H^+ ions, they form the strong acids HCl , HF , HI and HBr . The name for HCl is Hydrogen Chloride. The names for the ions contained within the acids are the names of the elements. The -ine is dropped from the name of the negative ion and -ide is added.

The H^+ ion also combines with the OH^- ion to form $H-O-H$ or water. Water is a **neutral compound** with the pH of 7. Water, since it is a polar molecule, can act as a solvent for an acid. Water molecules can dilute acids by pulling acid molecules away from each other and also separating acid molecules into their ions.