GLOSSARY (Section 2)

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| **Word** | **Meaning** |
| Reactants | The particles (elements and compounds) present at the start of the reaction. |
| Products | The particles (elements and compounds) produced as a result of the chemical reaction. |
| Composition | The different elements that are bonded together to form a particular substance. |
| State symbols | Symbols which indicate the physical state in which that particular substance exists at room temperature. |
| Chemical equation | A statement (in words or symbols) showing the starting materials and the end products formed when a chemical change takes place. |
| Subscripts (of chemical formulae) | Numbers greater than 1 following the symbol of an element showing how many atoms of that element are present within a particular substance. |
| Stoichiometric coefficients | Numbers greater than 1 put in front of the symbol of a chemical substance to indicate the proportions in which different substances react and the proportions in which products form. |
| Quantitative | Concerned with describing a [chemical reaction](http://www.gcsescience.com/a-what-is-the-difference-between-an-atom-and-an-ion.htm) in terms of the amounts (quantities) of substances. |
| Qualitative | Concerned with describing a chemical reaction in terms of what it does. |
| Mole | The name for the number 6.02 X 1023 |
| Formula | The combining ratioof the elements that make up a compound. |
| Formula weight | The sum of the atomic weights of the atoms in a molecule's empirical formula. |
| Molecular weight | The sum of the atomic weights of atoms in a molecule's molecular formula. |
| Molecular formula | A formula giving the number of atoms of each of the elements present in one molecule of a specific compound. |
| Empirical formula | A formula giving the proportions of the elements present in a compound but not the actual numbers or arrangement of atoms. |
| Percentage composition | Thepercent by mass of each element present in a compound. |
| Molar volume | The volume occupied by 1 mole of gas at a particular temperature and pressure |
| STP (Standard temperature and pressure) | A temperature of 0oC and a pressure of 1 atmosphere. |
| Aqueous solutions | Solutions made when solutes dissolve in water as solvent. |
| Solute | The substance that dissolves. |
| Solvent | The substance that causes the solute to dissolve. |
| Limiting reagent | A reagent that is present in too small an amount to convert the other reagents completely to product. |
| Reagent in excess | A reagent that is present in too high a quantity to be completely converted into product. Some of this reagent would be left over after the reaction stopped taking place. |
| Theoretical yield | The amount of product that can be synthesized in ideal conditions. |
| Actual yield | The amount of product that is actually synthesized in the experiment. |
| Percentage yield | The ratio between the actual yield and the theoretical yield multiplied by 100%. |
| Endothermic reactions | Reactions in which energy is required (absorbed). |
| Exothermic reactions | Reactions in which energy is released |
| Enthalpy change (∆H) | The amount of heat released or absorbed in a reaction carried out at constant pressure. |
| Activation energy (Ea) | The minimum energy which must be available reactants for them to be able to be converted into products. |
| Catalyst | A substance that increases the rate of a chemical reaction without itself undergoing any permanent chemical change |
| Enzyme | A catalyst produced by a living organism that enables a specific biochemical reaction. |
| Substrate | The substance(s) on which an enzyme acts. |
| Reversible reactions | As the reactants react with other reactants to form products, the products are reacting with other products to form reactants. |
| Irreversible reactions | The reactants react to form the products, which cannot revert back into reactants. |
| Dynamic equilibrium | A state of balance between forward and reverse reactions that continue to take place. |
| Closed system | A transfer of energy (e.g. heat), but not matter, can take place with its surroundings. |
| Open system | A transfer of energy (e.g. heat), and matter (e.g. a gas product), can take place with its surroundings. |
| Arrhenius acids | Compounds that break up in water to give off hydronium (H+) ions. |
| Arrhenius bases | Compounds that cause the formation of the hydroxide ion (-OH-) when placed in water. |
| Alkali | Bases which are soluble in water |
| Neutralisation reactions | Reactions between an acid and a base producing a salt and water |
| Salt | An ionic compound that results from the neutralization reaction of an acid and a base. |
| Dyspepsia | Clinical term for heartburn or stomach acidity |
| Brønsted-Lowry acid | An acid is a proton (hydrogen ion) donor. |
| Brønsted-Lowry base | A base is a proton (hydrogen ion) acceptor. |
| Conjugate acid-base pair | A conjugate acid is formed after donating a proton (H+) to its conjugate base (which now has a hydrogen ion added to it). These two form an acid-base pair. |
| Strong acid | An acid which dissociates completely in water (aqueous solution). |
| Weak acid | An acid that is partially dissociated in water ([aqueous solution](http://chemistry.about.com/od/chemistryglossary/a/aqueoussoldef.htm)). |
| Strong base | A [base](http://chemistry.about.com/od/chemistryglossary/a/basedefinition.htm) that is completely dissociated in water ([aqueous solution](http://chemistry.about.com/od/chemistryglossary/a/aqueoussoldef.htm)). |
| Weak base | A [base](http://chemistry.about.com/od/chemistryglossary/a/basedefinition.htm) that is partially dissociated in water ([aqueous solution](http://chemistry.about.com/od/chemistryglossary/a/aqueoussoldef.htm)). |
| Chemical indicator | A substance that undergoes a distinct observable change when conditions in its [solution](http://chemistry.about.com/od/chemistryglossary/a/solutiondef.htm) change. |
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