

Definitions and Concepts for WJEC (Wales) Chemistry GCSE

Topic 2.6 - Reversible Reactions, Industrial Processes and Important Chemicals

Definitions in **bold** are for higher tier only

Definitions have been taken, or modified from the [WJEC \(Wales\) Specification for GCSE Chemistry, 3410, Version 2 March 2019](#)

Contact process: The process used to make sulfuric acid from sulfur and water. The sulfur is burned in oxygen to produce sulfur dioxide. The sulfur dioxide then reacts with oxygen, in a reversible reaction, to produce sulfur trioxide. Water is reacted with the sulfur trioxide to finally produce sulfuric acid. The process requires vanadium(V) oxide as a catalyst and is carried out at 450°C temperature and 2 atm pressure.

Effect of concentration on equilibrium: If the concentration of a reactant is increased, more products will be formed until equilibrium is reached again. If the concentration of a product is decreased, more reactants will react until equilibrium is reached again.

Effect of pressure on equilibrium: An increase in pressure causes the equilibrium position to shift towards the side with the smaller number of moles of gas. A decrease in pressure causes the equilibrium position to shift towards the side with the larger number of moles of gas.

Effect of temperature on equilibrium: An increase in temperature will shift the equilibrium position in the direction of the endothermic reaction. A decrease in temperature will shift the equilibrium position in the direction of the exothermic reaction.

Fertiliser: A chemical added to soil to increase the fertility, allowing crops to grow more effectively. They generally contain compounds of nitrogen, potassium and phosphorus.

Haber process: An industrial process which produces ammonia from the reaction between nitrogen and hydrogen. The reaction conditions are 450°C, 200 atm and an iron catalyst. Hydrogen and nitrogen react together in the following reaction: $3\text{H}_2 + \text{N}_2 \rightleftharpoons 2\text{NH}_3$

Reversible reaction: A reaction in which the products can react together to reform the reactants. Reversible reactions are denoted by the symbol \rightleftharpoons .

This work by [PMT Education](#) is licensed under [CC BY-NC-ND 4.0](#)

