Definitions and Concepts for CAIE Chemistry IGCSE

Topic 12 - Sulfur

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*Definitions in **bold** are for extended supplement only*

Definitions have been taken, or modified from the CAIE Specification for GCSE Chemistry, 0971, Version 1 September 2020

Acid rain: Rain that is acidic due to gases, such as sulfur dioxide, reacting with water vapour in the clouds. Sulfur dioxide is produced from the burning of fossil fuels which contain sulfur impurities.

Catalyst: Increases the rate of reaction by providing a different reaction pathway with a lower activation energy. They are not used up during the reaction. **A vanadium(V) oxide is used as the catalyst in the Contact process.**

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.**

Ore: A type of rock which contains metal compounds. The metals or metal compounds are present in sufficient amounts to make it worth extracting them. Sulfur can be obtained from ores like Copper pyrites ($CuFeS_2$) and Blende (ZnS).

Strong acid: **A strong acid is completely ionised in an aqueous solution so that nearly all the H+ ions are released. Sulfuric acid is an example of a strong acid.**