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| **Keyword** | **Definition** |
| **Nitrogen fixation** | The conversion of nitrogen gas into compound, either industrially or by natural means |
| **Haber process** | The reaction between nitrogen and hydrogen to make ammonia in industry |
| **Le Chatelier’s principle** | The principle that a position in equilibrium will respond to oppose a change |
| **Limiting factor** | The factor that prevents the rate of growth of living things |
| **Triple bond** | A covalent bond between 2 atoms involving the sharing of three pairs of electrons, for example in nitrogen gas. It makes the molecule very stable and unreactive. |
| **Nitrogen cycle** | The continuous cycling of nitrogen, which is one of the essential elements of life. Nitrogen cycles between the atmosphere, lithosphere, hydrosphere and biosphere. |
| **Nitrogenase** | The enzyme system that catalyses the reduction of nitrogen gas to ammonia |
| **Qualitative** | Qualitative analysis is any method for identifying the chemicals in a sample. Thin layer chromatography is an example of a qualitative method of analysis |
| **Quantitative** | Quantitative analysis is any method for determining the amount of a chemical in a sample. An acid-base titration is an example of quantitative analysis |
| **Sample** | A small portion collected from a larger bulk of material for analysis. |
| **Replicate sample** | Two or more samples taken from the same material. Replicate samples should be as similar as possible and analysed by the same procedure to help judge the precision of the analysis. |
| **Representative sample** | A sample of a material that is nearly identical as possible in its chemical composition to that of the larger bulk of material sampled |
| **Chromatography** | An analytical technique in which the components of a mixture are separated by the movement of a mobile phase through a stationary phase |
| **Mobile phase** | The solvent that carries chemicals from a sample through a chromatographic column |
| **Stationary phase** | The medium through which the mobile phase passes in chromatography |
| **Aqueous** | An aqueous solution is a solution in which water is the solvent |
| **Non aqueous** | A solution in which a liquid other than water is the solvent |
| **Reference materials** | Known chemicals used in analysis for comparison |
| **Chromatogram** | The resulting record showing the separated chemicals at the end of a chromatography experiment. |
| **Solvent front** | The furthest position reached by the solvent during paper or thin layer chromatography |
| **Locating agent** | A chemical used to show up colourless spots on a chromatogram |
| **Retardation factor (Rf)** | A ration used in paper or thin-layer chromatography. If the conditions are kept the same, each chemical in a mixture will move a fixed fraction of the distance moved by the solvent front. The **Rf** value is a measure of this fraction. |
| **Retention time** | In chromatography, the time taken for a component in a mixture to pass through the stationary phase. |
| **Titration** | An analytical technique used to find the exact volumes of solutions that react with each other. |
| **Pipette** | Used to measure small volumes of liquids or solutions accurately. A pipette can be used to deliver the same fixed volume if solution again and again during a series of titrations. |
| **End point** | The point during a titration at which the reaction is just complete. For example in an acid-alkali titration, the end point is reached when the indicator changes colour. This happens when exactly the right amount of acid has been added to react with all the alkali present at the start. |
| **Burette** | A graduated tube with taps or valves used to measure the volume of liquids or solutions during quantitative investigations such as titrations. |
| **Standard solution** | A solution whose concentration is accurately known. They are used in titrations. |