

Chemistry Knowledge Organiser

Chemical analysis

1	Pure substances	A single element or compound, not mixed with any other substance.
2	Formulation	A formulation is a mixture that has been designed as a useful product.
4	Examples of formulations	Formulations include fuels, cleaning agents, paints, medicines, alloys, fertilisers and foods.
5	Chromatography	Chromatography can be used to separate mixtures and can give information to help identify substances.
6	R _f value	The ratio of the distance moved by a compound to the distance moved by the solvent
7	R _f value formula	$R_f = \frac{\textit{distance moved by substance}}{\textit{distance moved by solvent}}$
8	Test for hydrogen	Burning splint causes a squeaky-pop sound.
9	Test of oxygen	A glowing splint relights in oxygen.
10	Test for carbon dioxide	Limewater turns cloudy when carbon dioxide is bubbled through.

Chemistry Knowledge Organiser

Chemical analysis

11	Test for chlorine	When damp litmus paper is bleached and turns white.
12	Carbonates	Carbonates react with dilute acids to form carbon dioxide gas. Carbon dioxide can be identified with limewater.
13	Halides	Halide ions in solution produce precipitates with silver nitrate solution in the presence of dilute nitric acid.
14	Sulphates	Sulfate ions in solution produce a white precipitate with barium chloride solution in the presence of dilute hydrochloric acid.
15	Instrumental methods	Elements and compounds can be detected and identified using instrumental methods. Instrumental methods are accurate, sensitive and rapid.
16	Flame emission spectroscopy	Flame emission spectroscopy is an example of an instrumental method used to analyse metal ions in solutions.