



## **Chemical Equations: Test for Anions**

**Chemistry – Leaving Cert**

**Quick Notes**

## Chemical Equations: Test for Anions

A chemical reaction involves substances called reactants combining together chemically to form new substances called products. Law of Conservation of Mass states that the total mass of the products of a chemical reaction is the same as the total mass of the reactants. Law of Conservation of Matter states that in any chemical reaction, matter is neither created nor destroyed, but merely changes from one form to another. When testing for chloride ions, silver nitrate solution is added to a solution containing chloride ions, forming a white precipitate which disappears on the addition of ammonia solution. When testing for sulfite ions, barium chloride solution is added to a solution of sulfite ions, a white precipitate forms which disappears at the addition of dilute hydrochloric solution. When testing for sulfate ions, barium chloride solution is added to a solution of sulfate ions, a white precipitate forms which does not disappear at the addition of dilute hydrochloric solution. When dilute hydrochloric solution is added to a carbonate or hydrogencarbonate salt, bubbles of carbon dioxide are produced which turn limewater milky. When magnesium sulfate solution is added to a solution of carbonate ions a white precipitate is formed. But when magnesium sulfate solution is added to a solution of hydrogencarbonate ions and the solution is boiled, a white precipitate is formed. When iron sulfate solution is added to a solution containing nitrate ions, and concentrated sulfuric acid is also added, a brown layer forms at the junction of the two layers. In testing for phosphate ions, ammonium molybdate solution is added to a solution containing phosphate ions and a yellow precipitate forms on the addition of concentrated nitric acid.