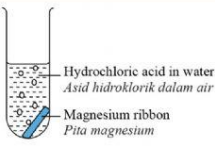
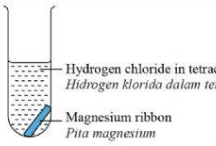


Chemical properties Sifat-sifat kimia	Write the balanced chemical equation for the reaction Tuliskan persamaan kimia seimbang bagi tindak balas
1 Alkali + Acid → Salt + Water Alkali + Asid → Garam + Air * Alkali neutralises acid / Alkali meneutralkan asid. * Application of the reaction: Aplikasi tindak balas: – Preparation of soluble salt (Topic Salt) Penyediaan garam terlarut (Tajuk Garam)	(a) Potassium hydroxide and sulphuric acid: Kalium hidroksida dan asid sulfurik: (b) Barium hydroxide and hydrochloric acid: Barium hidroksida dan asid hidroklorik:
2 Alkali + Ammonium salt → Salt + Water + Ammonia gas Alkali + Garam ammonium → Garam + Air + Gas ammonia * Ammonia gas is released when alkali is heated with ammonium salt. Ammonia gas has pungent smell and turns moist red litmus paper to blue. * Gas ammonia dibebaskan apabila alkali dipanaskan dengan garam ammonium. Gas ammonia mempunyai bau yang sengit dan menukar kertas litmus merah lembap kepada biru. * Application of the reaction: Aplikasi tindak balas: – Confirmatory test for cations ammonium in qualitative analysis of salt (Topic Salt) Ujian pengesahan kation ammonium dalam analisis kualitatif garam (Tajuk Garam)	(a) Ammonium chloride and potassium hydroxide: Ammonium klorida dan kalium hidroksida: (b) Ammonium sulphate and sodium hydroxide: Ammonium sulfat dan natrium hidroksida:
3 Alkali + Metal ion → Insoluble metal hydroxide Alkali + Ion logam → Logam hidroksida tak larut * Most of the metal hydroxides are insoluble. * Kebanyakan logam hidroksida tak larut. * Hydroxides of transition element metals are coloured. * Hidroksida bagi logam peralihan adalah berwarna. * Application of the reaction: Aplikasi tindak balas: – Confirmatory test for cations in qualitative analysis of salt (Topic Salt) Ujian pengesahan bagi kation dalam analisis kualitatif garam (Tajuk Garam)	(a) $2\text{OH}^-(\text{aq/ak}) + \text{Mg}^{2+}(\text{aq/ak}) \rightarrow$ Magnesium hydroxide (white precipitate) Magnesium hidroksida (mendakan putih) (b) $2\text{OH}^-(\text{aq/ak}) + \text{Cu}^{2+}(\text{aq/ak}) \rightarrow$ Copper(II) hydroxide (blue precipitate) Kuprum(II) hidroksida (mendakan biru)

- 1 The diagram below shows the apparatus set-up to investigate the role of water and other solvent in showing the properties of acid and the observations made from the investigation.

Rajah di bawah menunjukkan susunan radas untuk mengkaji peranan air atau pelarut lain dalam menunjukkan sifat asid serta pemerhatian yang dibuat.

Experiment Eksperimen	I	II
Set-up of apparatus Susunan radas	 Hydrochloric acid in water Asid hidroklorik dalam air Magnesium ribbon Pita magnesium	 Hydrogen chloride in tetrachloromethane Hidrogen klorida dalam tetraoklorometana Magnesium ribbon Pita magnesium
Observation Pemerhatian	- Bubbles of colourless gas are released Gelembung gas tak berwarna dibebaskan - Magnesium ribbon dissolves Pita magnesium larut	No bubble of gas Tiada gelembung gas

- (a) What is meant by acid?
Apakah yang dimaksudkan dengan asid?

.....

- (b) (i) Name the gas released in Experiment I.
Namakan gas yang terbebas dalam Eksperimen I.

.....

- (ii) Write the chemical equation for the formation of the bubbles in Experiment I.
Tulis persamaan kimia untuk pembentukan gelembung gas dalam Eksperimen I.

.....

- (iii) Write the ionic equation for the chemical equation in (b)(ii).
Tulis persamaan ion untuk persamaan kimia dalam (b)(ii).

.....

- (c) Compare observation in Experiment I and Experiment II. Explain your answer.
Bandingkan pemerhatian dalam Eksperimen I dan Eksperimen II. Terangkan jawapan anda.

- Hydrochloric acid in water in Experiment I with magnesium.
Asid hidroklorik dalam air dalam Eksperimen I dengan magnesium.
- Hydrogen chloride in tetrachloromethane in Experiment II with magnesium.
Hidrogen klorida dalam tetraoklorometana dalam Eksperimen II dengan magnesium.
- Hydrochloric acid in water to H^+ :
Asid hidroklorik dalam air kepada ion H^+ :
 $\text{HCl} \rightarrow \text{H}^+ + \text{Cl}^-$
- H^+ ions react with to produce hydrogen molecule:
Ion H^+ bertindak balas dengan atom magnesium untuk menghasilkan molekul hidrogen:
 $\text{Mg} + 2\text{H}^+ \rightarrow \text{Mg}^{2+} + \text{H}_2$
- Hydrogen chloride in tetrachloromethane remains in the form of No ion present.
Hidrogen klorida dalam tetraoklorometana kekal dalam bentuk Tiada ion hadir.