

Experiment 22

Hydrolysis

Procedure

Test each of the following substances with both red and blue litmus papers, universal indicator and a pH probe and record the results in the space provided.

Substance	Formula	Litmus test		Universal Indicator (colour/pH)	pH Probe
		Red	Blue		
Hydrochloric acid	0.1M HCl				
Sodium hydroxide	0.1M NaOH				
Vinegar (acetic acid)	0.1M CH ₃ COOH				
Lemon juice	C ₃ H ₅ O(COOH) ₃				
Fizzy drink	H ₂ CO ₃				
Sugar solution	C ₁₂ H ₂₂ O ₁₁				
Sodium sulfate	0.1M Na ₂ SO ₄				
Sodium carbonate	0.1M Na ₂ CO ₃				
Soap	R-COONa				
Sodium sulfite	0.1M Na ₂ SO ₃				
Ammonium sulfate	0.1M (NH ₄) ₂ SO ₄				
Potassium nitrate	0.1M KNO ₃				
Ammonia solution	0.1M NH ₃				
Bleach	NaOCl				
Methylated spirits	C ₂ H ₅ OH				

Questions

1. Explain the different in pH levels of the hydrochloric and acetic acid solutions.
2. Identify the liquids tested as acidic, basic or neutral.
3. Write dissociation equations for all ionic solutions.
4. Explain why some solutions are neutral.