Electrolytes Online Lab Submission

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Class: Chem 1212

Section: Mondays, 10:30 AM - 1:25 PM

Report Sheet

NaCl - Strong electrolyte -- light bulb turns on immediately and is birght

$CaCl_2$ - Strong electrolyte -- light bulb turns on immediately and is bright

NH_4Cl - Strong electrolyte -- light bulb turns on immediately and is bright

1.0 M HCl - Strong electrolyte -- light bulb glows brightly

1.0 M NaOH - Strong electrolyte -- light bulb glows brightly

3.0 M NH_3 - Weak Electrolyte -- light bulb glows dimly

3.0 M CH_3COOH - Weak electrolyte -- light bulb glows dimly

Mixing - Strong electrolyte -- light bulb glows brightly

Sugar - No electroconductivity -- light bulb doesn't turn on

Alcohol - No Electroconductivity -- light bulb doesn't turn on

Dilution Effects

NaCl (before dilution): Strong Electrolyte

After 100 mL: Strong Electrolyte

After 200 mL: Weak Electrolyte

After 300 mL: Weak Electrolyte

After 400 mL: Weak Electrolyte

After 500 mL: Weak Electrolyte

Pre-Lab Questions

1.

Substance	Electroconductivity
Nitric Acid	Weak
Sulfuric Acid	Strong

Substance	Electroconductivity
Calcium Hydroxide	Strong
Potassium Hydroxide	Strong
Methylamine	Weak
Benzoic Acid	Weak
Salicylic Acid	Weak
Glucose	Non-electrolyte
Oxygen Gas	Non-electrolyte

2. Weak Electrolyte is a substance that does not ionize very well in water, but still enough to conduct some electrical current.
3. The proper disposal of salt solutions is into the WASTE SALT SOLUTIONS bottle.

Post-Lab Questions

1. The mixture of ammonia and acetic acid ionized each other, as both don't ionize very well in water directly, but the mixture of the two formed enough ions for the electrical current to conduct.
2. $\mathrm{NH_3} + \mathrm{CH_3COOH} \leftrightarrow \mathrm{NH_4^+} + \mathrm{CH_3COO^-}$
3. The light gets dimmer and dimmer because while NaCl is a strong electrolyte, the more dilute the solution became, the further apart the ions would be, making it more difficult for the electrical current to go through. The number of ions stayed the same, but the body of water increased, increasing distance between ions.
4. Testing for electro-conductivity: Pentane will not conduct at all, Calcium Chloride will conduct strongly, and ammonium hydroxide will conduct weakly.