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*Electrolysis of Salt Water Solutions*

About 90% of hydrogen production is completed by fossil fuels; however, the electrolysis of water is a more environmentally-friendly process of its creation (“Hydrogen Production”). When a substance is dissolved in water, it is broken down into atoms (“6.3.2: Solubility of Ionic Compounds: Salts”). Different concentrations of sodium bicarbonate in distilled water were electrolyzed for two minutes with a 9 Volt battery to find the effects of the volume of oxygen and hydrogen gas collected in test tubes, which were collected in test tubes. The volume of oxygen and hydrogen gas changed at a constant rate. On average, the oxygen increased by 0.0584 mL/1% of sodium bicarbonate in distilled water; the volume of hydrogen increased by 0.104mL per 1% of sodium bicarbonate. The increase of the concentration of sodium bicarbonate in distilled water caused more ions in the water, increasing the conductivity of the water. Because of this, there was a constant increase in the volume of hydrogen and oxygen produced after the sodium bicarbonate solution had been electrolyzed.