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The formula for the Mg HCl reaction is $\text{Mg} + 2\text{HCl} \rightarrow \text{H}_2 + \text{MgCl}_2$. Since the moles of Mg equal the moles of H_2 in the equation, the moles are the same. We needed to adjust for water-vapor pressure because the water will evaporate to some degree during the experiment, mixing with the hydrogen. We measured and calculated a density of 23.8 L/mol. We should have gotten a value of 22.4 L/mol, making for a 6.25% error. We measured the level of the eudiometer in a bin of water so the pressure would be equal. Some potential errors stem from the mass being so low, making the balance less accurate to the decimal place, and bad reading of the eudiometer. If I were to do the lab again, I would use a balance that can measure to more decimal places, and have a better way of calculating the value of hydrogen produced.

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