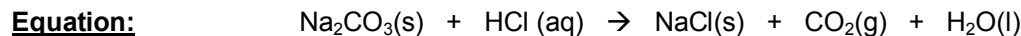


Stoichiometry Lab

Introduction: In this lab you will perform a chemical reaction between sodium carbonate and hydrochloric acid. You will weigh the amount of sodium carbonate used in the reaction. You will predict the amount of product that can be produced during the reaction using stoichiometry. You will then weigh the actual amount of product produced. You will compare the actual and theoretical yields by calculating percent yield.



Materials:	safety glasses	Sodium carbonate Na_2CO_3	Hydrochloric acid HCl
	evaporating dish	ring stand with ring	bunsen burner
	watch glass	wire gauze	tongs

Procedure:

1. Find the mass of the evaporating dish and watch glass. Record this mass in the Data Table.
2. Add $\frac{1}{3}$ of a teaspoon of sodium carbonate to the evaporating dish, and record the total mass in the Data Table.
3. Cover the evaporating dish with the watch glass so that only the spout of the evaporating dish is exposed.
4. Use the dropper to drip HCl down the spout and into the dish. Add HCl until the fizzing ceases.
5. Leaving the watch glass in place, boil off the liquid until only sodium chloride remains in the dish.
6. Let the dish cool for five minutes, then weigh it again and record the mass in the Data Table.
7. Clean up by rinsing your equipment with water and wiping dry with a paper towel.

Data Table: (please include units)

<i>Quantity Measured</i>	<i>Mass</i>
evaporating dish, watch glass	
evaporating dish, watch glass, Na_2CO_3 (reactant)	
evaporating dish, watch glass, NaCl (product)	

Calculations: (Show all of your work)

1. Balance the equation.
2. Calculate the theoretical mass of NaCl that should be produced based on stoichiometry.
3. Calculate the actual mass of NaCl that was produced in your experiment.
4. Calculate the percent yield for your experiment. Explain some possible reasons your percent yield is not exactly 100%.