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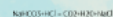
The Full Yield

Write a data table to record your data from the procedure. Be sure that the data table is neat and organized and that all measurements have the correct significant figures and units.

Evaporating dish: 24.35g
Evaporating dish and NaHCO₃: 37.06g
Evaporating dish and NaHCO₃ and HCl: 40.06g
Evaporating dish and salt: 31.52g

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Write the complete balanced equation for the reaction that occurred in this lab. Hint: HCl is a final product of the double-replacement reaction; it breaks down (decomposes) immediately into two products.



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What is the actual yield of NaCl in your experiment? Show your work below.

Actual mass of yield of NaCl was 4x
31.52g - 24.35g = 7.17g NaCl

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Percent Yield
The yield is the amount of product that is actually obtained from a chemical reaction. It is expressed as a percentage of the theoretical yield.
Percent Yield = $\frac{\text{Actual Yield}}{\text{Theoretical Yield}} \times 100\%$
Percent Yield = $\frac{7.17\text{g}}{10.00\text{g}} \times 100\%$
Percent Yield = 71.7%

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Determine the percent yield of NaCl in your experiment. Show all work neatly in the space below.

Percent Yield = $\frac{7.17\text{g}}{10.00\text{g}} \times 100\%$
Percent Yield = 71.7%

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If you did not finish the product long enough to measure all of the water, explain in detail how that could have affected the percent yield of NaCl.

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If didn't heat it well product long enough, the actual product would be less than the theoretical yield of the product. The weight of the product is greater because the product is wet.

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The Full Yield

Create a data table to record your data from the procedure. Be sure that the data table is neat and organized and that all measurements have the correct significant figures and units.

Evaporating dish: 24.35g

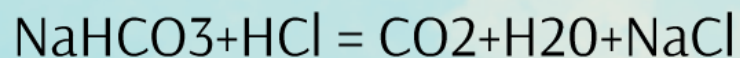
Evaporating dish and NaHCO_3 : 37.06g

Evaporating dish and NaHCO_3 and HCl : 40.06g

Evaporating dish and salt: 31.52g

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Write the complete balanced equation for the reaction that occurred in this lab. Hint: H_2CO_3 is not a final product of the double-replacement reaction; it breaks down (decomposes) immediately into two products.



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The NaHCO_3 is the limiting reactant and the HCl is the excess reactant in this experiment. Determine the theoretical yield of the NaCl product, showing all of your work in the space below.

First you do, NaHCO_3 -Evaporating Dish, so $37.06\text{g} - 24.35\text{g} = 12.71\text{g NaHCO}_3$. Then, you divide by 84.01g mol , so $12.71\text{g NaHCO}_3 / 84.01\text{g mol} = 0.1513\text{mol NaHCO}_3$, Then finally you multiply 0.1513mol by NaCl . So 8.8420g NaCl is the theoretical yield.

*What is the actual yield of
NaCl in your experiment?
Show your work below.*

To find the actual yield of NaCl you do,
 $31.52\text{g} - 24.35\text{g} = 7.14\text{g NaCl}$

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Determine the percent yield of NaCl in your experiment, showing all work neatly in the space below.

$$7.14\text{g}/8.420\text{g} = 0.847981 \times 100 = 84\%$$

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If you had not heated the product long enough to remove all of the water, explain in detail how that would have specifically affected your calculated actual yield and percent yield.

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If I didn't heat the salt product long enough, the actual yield would increase, which would change the calculations of the percent yield. The weight of the dish would be greater because the product in it would be heavier.

Write a data table to record your data from the procedure. Be sure that the data table is neat and organized and that all measurements have the correct significant figures and units.

Evaporating dish: 24.35g
Evaporating dish and NaHCO₃: 37.06g
Evaporating dish and NaHCO₃ and HCl: 40.06g
Evaporating dish and salt: 31.52g

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Write the complete balanced equation for the reaction that occurred in this lab. Hint: HCl is a final product of the double-replacement reaction; it breaks down (decomposes) immediately into two products.



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Percent Yield = $\frac{7.17\text{g}}{10.00\text{g}} \times 100\% = 71.7\%$

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Determine the percent yield of NaCl in your experiment. Show all work neatly in the space below.

Percent Yield = $\frac{7.17\text{g}}{10.00\text{g}} \times 100\% = 71.7\%$

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If you did not finish the product long enough to measure all of the water, explain in detail how that could have affected the actual yield of NaCl and percent yield.

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If didn't heat to salt product long enough, the actual product would have more water than the calculated of the percent yield. The weight of the product is greater because the product is wet.

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The Full Yield