

## Experiment 04 – Decomposition

I was looking at some of the reports and before I start grading, I wanted to pass a little note along to everyone. Specifically, the molarity of the  $\text{Na}_2\text{CO}_3$  solution that you will be using in experiment five.

When you determine the molarity of the sodium carbonate solution you need to keep two things in mind.

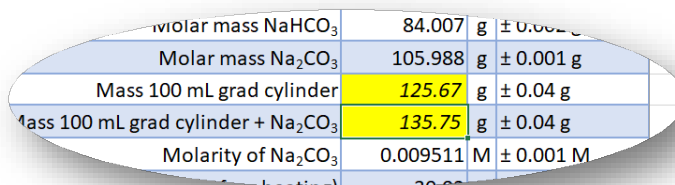
The first is the moles of sodium carbonate and the second is the volume of solution.

In your experiment, you were to add approximately 10 grams of the sodium carbonate to your graduated cylinder. The exact value is the difference between the graduated cylinder with the sodium carbonate and the graduated cylinder. In the picture above, the mass of the sodium carbonate is 10.08 grams.

Remember that the molarity is defined as moles per liter. In this experiment the volume was 0.1000 liters. The moles are achieved from the mass of the sodium carbonate (10.08 g in this example) and the molar mass of the sodium carbonate (105.988 g/mole). In this example, the concentration of the sodium carbonate is 0.009511M.

I hope that this is helpful. If you happened to make a little boo-boo with your report, please feel free to resubmit your report. (So far, I have not been taking points off for late reports.)

Prof.M.



Molar mass $\text{NaHCO}_3$	84.007	g ± 0.001 g
Molar mass $\text{Na}_2\text{CO}_3$	105.988	g ± 0.001 g
Mass 100 mL grad cylinder	125.67	g ± 0.04 g
Mass 100 mL grad cylinder + $\text{Na}_2\text{CO}_3$	135.75	g ± 0.04 g
Molarity of $\text{Na}_2\text{CO}_3$	0.009511	M ± 0.001 M