

Conclusions (at least 5)

Base your conclusions on your observations, the objective of this lab and these topics:

- How can heat of reaction be determined from Hess' Law and calorimetry techniques?
- What was the ΔH_f of MgO and the final experimental error for the lab?
- How do these topics apply to this lab:
The First Law of Thermodynamics, Conservation of Energy, and Hess' Law
- Were these reactions endothermic or exothermic and how can you tell?
- Identify at least three sources of error in this lab that would affect your results.
How could these errors be reduced?
- Would the errors you mentioned cause the heat of reaction to be higher or lower than the accepted value? Explain.

Questions

1. What are some of the more common uses for magnesium oxide?
2. Based on the accepted value for the Heat of Formation of MgO, calculate the heat evolved if 2.50 moles of Mg was combusted to form magnesium oxide.
3. How many grams of magnesium oxide would be produced if the heat evolved from the combustion of magnesium was -108 kJ? How many grams of magnesium was burned?
4. Assume you made an error of + 0.5°C in reading your thermometer when calculating the heat evolved in **PART I** of this experiment. Based on the temperature change that you calculated in **PART I**, recalculate the heat of reaction for **PART I** (calculations 1-3) and determine your % error assuming that the original heat of reaction was the accepted value.