

Every chemical change is accompanied by a change in energy, usually in the form of heat. In this experiment, you will calculate the enthalpy change of the above displacement reaction by adding an excess of zinc powder to a measured amount of  $\text{CuSO}_4$  (aq) and measuring the temperature change over a period of time. This quantity of heat is measured experimentally by allowing the reaction to take place in a thermally insulated vessel called calorimeter.  $C_p$  [1] The heat capacity of the system represents the amount of heat required to raise the temperature of the system  $1^\circ\text{C}$ , and  $\Delta T$  is the difference between the final and initial temperatures:  $\Delta T = T_f - T_i$ . The energy change of a reaction that occurs at constant pressure is termed the heat of reaction or the enthalpy change. If the calorimeter were perfect, no heat would be radiated to the laboratory. 0).