## Heats of Formation, $\Delta H^{o}_{f}$

You can find the standard enthalpies of formation in the appendix of your textbook or at the following link:

## Standard Enthalpies of Formation

- 1. Write a balanced formation equation for each the following:
  - a) K<sub>2</sub>CrC<sub>2</sub>O<sub>4</sub>
  - b) CH<sub>3</sub>Cl
  - c) H<sub>2</sub>SO<sub>4</sub>-
- 2. Write a balanced formation equation for ethanol, CH<sub>3</sub>CH<sub>2</sub>OH, and include the value of  $\Delta H^{o}_{f}$ . (look in the appendix of your book for  $\Delta H^{o}_{f}$  values or use the link at the top of the page).
- 3. Use the  $\Delta H^{o}_{f}$  values in the appendix of your text to determine the enthalpy change for the following reactions: (balance the equations)

a) 
$$Fe_2O_3$$
 (s) + C (graphite)  $\rightarrow$  Fe (s) +  $CO_2$  (g)

b) 
$$CaCO_3$$
 (s)  $\rightarrow$   $CaO$  (s)  $+$   $CO_2$  (g)

4. Use <u>bond dissociation energies</u> to calculate  $\Delta H^{o}_{rxn}$  for the following reaction.

$$H_2O(1) + SO_3(g) \rightarrow H_2SO_4(1)$$