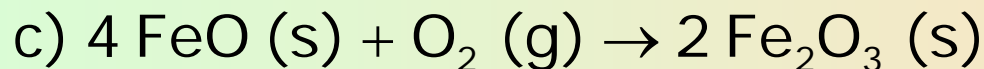
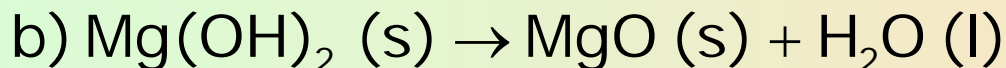
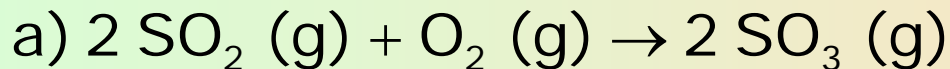


Calculate the standard enthalpy change for each of the following reactions:



Enthalpies of formation:

$$\Delta H_f^\circ [\text{SO}_2 (\text{g})] = -296.9 \text{ kJ/mol}; \quad \Delta H_f^\circ [\text{SO}_3 (\text{g})] = -395.2 \text{ kJ/mol};$$

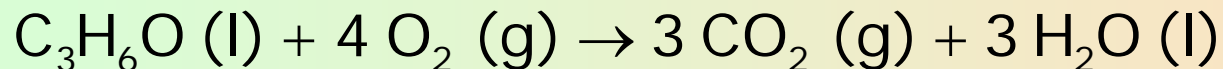
$$\Delta H_f^\circ [\text{Mg}(\text{OH})_2 (\text{s})] = -924.7 \text{ kJ/mol}; \quad \Delta H_f^\circ [\text{MgO} (\text{s})] = -601.8 \text{ kJ/mol}$$

$$\Delta H_f^\circ [\text{FeO} (\text{s})] = -271.9 \text{ kJ/mol}; \quad \Delta H_f^\circ [\text{Fe}_2\text{O}_3 (\text{s})] = -822.2 \text{ kJ/mol}$$

$$\Delta H_f^\circ [\text{H}_2\text{O} (\text{l})] = -285.8 \text{ kJ/mol}$$

Enthalpies of Formation: Exercises

Complete combustion of 1 mol of acetone, $\text{C}_3\text{H}_6\text{O}$, results in the liberation of 1790 kJ:



Calculate the enthalpy of formation of acetone.

Enthalpy changes:

$$\Delta H_f^\circ [\text{CO}_2 (\text{g})] = -393.5 \text{ kJ/mol};$$

$$\Delta H_f^\circ [\text{H}_2\text{O} (\text{l})] = -285.8 \text{ kJ/mol};$$

Enthalpies of Formation: Exercises

Calculate the standard enthalpy of formation of gaseous diborane, B_2H_6 , using the following thermochemical information:

