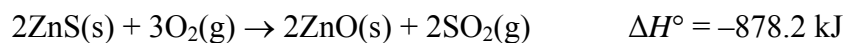


CHAPTER 9	Thermochemical Equations and Stoichiometry	BLM 9.1.6
ASSESSMENT		

1. Consider the following thermochemical equation:



(a) How much heat is released when 3.0 mol ZnS(s) reacts in excess oxygen?

(b) How much heat is released when  $2.3 \times 10^{-2}$  mol ZnS(s) reacts in excess oxygen?

(c) What is the enthalpy change when 223.9 g ZnS(s) reacts in excess oxygen?

CHAPTER 9	Thermochemical Equations and Stoichiometry (continued)	BLM 9.1.6
ASSESSMENT		

(d) What is the enthalpy change when 0.96 g ZnO(s) is produced?

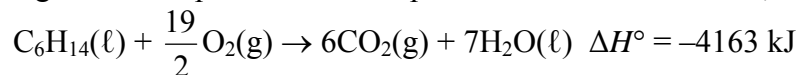
2. Slaked lime ( $\text{Ca(OH)}_2(\text{s})$ ) is produced when lime (calcium oxide,  $\text{CaO}(\text{s})$ ) reacts with liquid water. 65.2 kJ of heat is released for each mol of  $\text{Ca(OH)}_2(\text{s})$  that is produced.

(a) Write a thermochemical equation for the reaction.

(b) What is the enthalpy change when 523.3 kg of lime reacts with excess water?

CHAPTER 9	Thermochemical Equations and Stoichiometry (continued)	BLM 9.1.6
ASSESSMENT		

3. The following reaction represents the complete combustion of hexane,  $\text{C}_6\text{H}_{14}(\ell)$ , at SATP.



- (a) If 0.537 mol of carbon dioxide is produced in the reaction represented by the equation above, how much heat is released by the reaction?

- (b) If 25.0 kg of hexane is burned in sufficient oxygen, how much heat will be released?

- (c) What mass of hexane is required to produce  $1.0 \times 10^5$  kJ of heat by complete combustion?