CHM 110 – Heat Practice Set

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Solve the problems.

1) If 1.54 L of butane (C₄H₁₀) at 25°C and 1.00 atm is burned, how much heat is evolved?

 $2C_4H_{10}(g) + 13O_2(g) \rightarrow 8CO_2(g) + 10H_2O(l); \Delta H = -5760 \text{ kJ}$

• _____kJ heat evolved.

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2) If 2.57 g of Na₂O₂ is reacted with water, how much heat is evolved?

 $2Na_2O_2(s) + 2H_2O(l) \rightarrow 4NaOH(aq) + O_2(g); \quad \Delta H = -287 \text{ kJ}$

• _____kJ heat evolved.

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3) Calculate (from heats of formation) the enthalpy change for the following reaction:

 $2 C l_2(g) + 2 H_2 O(l) \rightarrow \ 4 H C l(g) + O_2(g) \ ; \quad \Delta \ H = ? \label{eq:eq:electropy}$

• ΔH= _____kJ