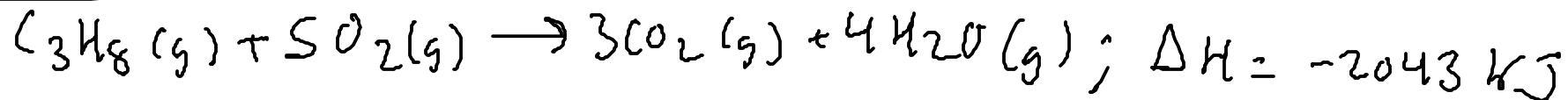


6.61, p 257



Calculate grams propane necessary to provide 369 kJ of heat.

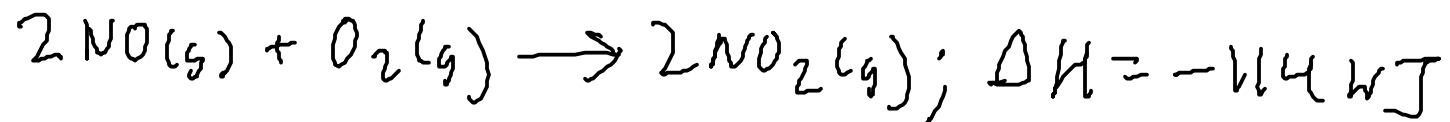
$$Q = -369 \text{ kJ} \quad -2043 \text{ kJ} = \text{mol C}_3\text{H}_8$$

$$44.094 \text{ g C}_3\text{H}_8 = \text{mol C}_3\text{H}_8$$

$$\begin{array}{l} \text{C}_3\text{H}_8! \quad (\text{C}: 3 \times 12.0) \\ \quad \quad \quad \text{H}: 8 \times 1.008 \\ \hline 44.094 \end{array}$$

$$-369 \text{ kJ} \times \frac{\text{mol C}_3\text{H}_8}{-2043 \text{ kJ}} \times \frac{44.094 \text{ g C}_3\text{H}_8}{\text{mol C}_3\text{H}_8} = 7.96 \text{ g C}_3\text{H}_8$$

6.57, p 257



What is the enthalpy change per gram of NO?

$$2 \text{ mol NO} = -114 \text{ kJ}$$

$$\begin{array}{l} \text{NO: N: } 1 \times 14.0 \\ \text{O: } 1 \times 16.00 \end{array}$$

$$\hline 30.01 \text{ g NO} = \text{mol NO}$$

$$1 \text{ g NO} \times \frac{\text{mol NO}}{30.01 \text{ g NO}} \times \frac{-114 \text{ kJ}}{2 \text{ mol NO}} = -1.90 \text{ kJ/g NO}$$