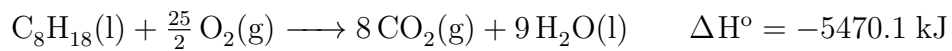


HEAT SUMMATION 2



$$\begin{aligned} \Delta\text{H}^\circ &= [8\Delta\text{H}_{\text{CO}_2(\text{g})}^\circ + 9\Delta\text{H}_{\text{H}_2\text{O}(\text{l})}^\circ] - [\Delta\text{H}_{\text{C}_8\text{H}_{18}(\text{l})}^\circ + \frac{25}{2}\Delta\text{H}_{\text{O}_2(\text{g})}^\circ] \\ -5470.1 \text{ kJ} &= [8(-393.5 \text{ kJ}) + 9(-285.8 \text{ kJ})] - [\Delta\text{H}_{\text{C}_8\text{H}_{18}(\text{l})}^\circ + \frac{25}{2}(0)] \end{aligned}$$

$$\Delta\text{H}_{\text{C}_8\text{H}_{18}(\text{l})}^\circ = -5720.2 \text{ kJ} + 5470.1 \text{ kJ}$$

$$\Delta\text{H}_{\text{C}_8\text{H}_{18}(\text{l})}^\circ = -250.1 \text{ kJ}$$

Please note that the textbook value (pg 799) for the heat of formation of C_8H_{18} is -250.1 kJ !!!