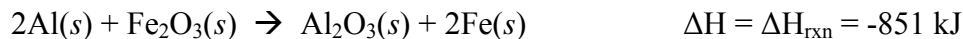
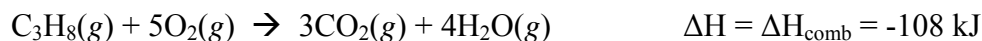


Types of Enthalpy Change

heat of reaction (ΔH_{rxn}): enthalpy change for a chemical reaction



heat of combustion (ΔH_{comb}): enthalpy change for the chemical reaction when 1 mol of a substance reacts with O_2 (combustion)



heat of formation (ΔH_f): enthalpy change for the chemical reaction when 1 mol of a compound is produced from its component elements



heat of fusion (ΔH_{fus}): enthalpy change for the melting (or freezing) of 1 mol of a substance



$$[\Delta H_{\text{fus}}(\text{melting}) = +5.0 \text{ kJ} ; \Delta H_{\text{fus}}(\text{freezing}) = -5.0 \text{ kJ}]$$

heat of vaporization (ΔH_{vap}): enthalpy change for the vaporization (or condensation) of 1 mol of a substance



$$[\Delta H_{\text{vap}}(\text{vaporization}) = +40.7 \text{ kJ} ; \Delta H_{\text{vap}}(\text{condensation}) = -40.7 \text{ kJ}]$$

exothermic: heat released in process (heat is a “product”; ΔH negative)

endothermic: heat absorbed in process (heat is a “reactant”; ΔH positive)