Concept to remember:

Chemical Thermodynamics-IV:

Heat absorbed or evolved at constant pressure is heat of reaction or enthalpy of reaction ($\Delta_r H$)

If $q_p > 0 \rightarrow \Delta_r H > 0 \rightarrow$ endothermic reaction

If $q_p < 0 \rightarrow \Delta_r H < 0 \rightarrow$ exothermic reaction

For a reaction, if change in gas molecule before and after the reaction is 0, then $\Delta H = \Delta U$

(as $\Delta n_g = 0$)

$\Delta_r H$ = (sum of enthalpies of products) – (sum of enthalpies of reactants)

$= \sum a_p H_{products} - \sum a_r H_{reactants}$