

Table of Definitions of Types of Enthalpy Changes

Name of Enthalpy Change	Physical or Chemical Change
Heat of Reaction, ΔH_{rxn}^0	Reactants \rightarrow Products
Molar Heat of Formation, ΔH_f^0	Enthalpy change for the formation of one mole of a compound from its elements. Elements \rightarrow 1 mol substance
Molar Heat of Combustion, ΔH_c^0	Enthalpy change when one mole of a substance is completely burned in oxygen. 1 mol substance + n O _{2(g)} \rightarrow combustion products
Molar Heat of change of state(fusion, solidification, vapourization, condensation, sublimation)	1 mol of substance in state A \rightarrow 1 mol of substance in state B
Molar Heat of neutralization, ΔH_{neut}^0	Enthalpy change when one mole of acid reacts with one mole of base to form one mole of water. Acid + Base \rightarrow Salt + H ₂ O (l)
Molar Heat of dissolution, (solution), ΔH_{soln}^0	Enthalpy change when one mol of solute is dissolved in sufficient solvent to make one dm ³ of solution. one mol solute + solvent \rightarrow 1dm ³ solution
Molar enthalpy change of First Ionization Energy, 1 st IE	Enthalpy change when one mole of gaseous atoms is converted into singly positively charged ions. X _(g) \rightarrow X _(g) ⁺¹ + e ⁻¹
Molar Enthalpy change of Bond dissociation	X _{2(g)} \rightarrow 2 X _(g)
Molar Enthalpy of Electron Affinity, EA (First electron affinity)	The enthalpy change when one mole of gaseous atoms is converted to a mole of singly negatively charged ions. X _(g) + e ⁻¹ \rightarrow X _(g) ⁻¹
Molar enthalpy change of Lattice Formation, (lattice energy, LE), ΔH_L^0	Enthalpy change when one mole of an ionic compound is formed from its gaseous ions: M ⁺¹ _(g) + X ⁻¹ _(g) \rightarrow M ⁺¹ X ⁻¹ _(s)