

A Selection of Enthalpies Changes Useful for Born-Haber Cycles

1 st Ionization Energy $\Delta_{IE1}H$	/kJmol ⁻¹	2 nd Ionization Energy $\Delta_{IE2}H$	/kJmol ⁻¹	1 st Electron affinity $\Delta_{EA1}H$	/kJmol ⁻¹
Li	+420	Li	+7298	F	-328.0
Na	+496	Na	+4563	Cl	-346
K	+419	K	+3051	Br	-324.6
Rb	+403	Rb	+2632	O	-141
Cs	+376	Cs	+2420	O ⁻ (2 nd e.a. of O)	+790
Mg	+738	Mg	+1451		
Ca	+590	Mg ⁺ (3 rd IE of Mg)	+7733		
		Ca	+1145		
Lattice Enthalpy $\Delta_{LE}H$	/kJmol ⁻¹	solution $\Delta_{soln}H$	/kJmol ⁻¹	hydration $\Delta_{hyd}H$	/kJmol ⁻¹
LiF	-1031	LiCl	-37.0	Li ⁺	-520
NaF	-918	NaF	+71	Na ⁺	-406
NaCl	-787	NaCl	+3.88	K ⁺	-322
NaBr	-751	NaBr	-1.0	Ag ⁺	-473
KCl	-711	NaI	-7.5	Mg ²⁺	-1921
KBr	-679	KF	-17.7	Ca ²⁺	-1650
MgCl ₂	-2526	KCl	+26	Al ³⁺	-4665
CaCl ₂	-2258	NaOH	-44.5		
Na ₂ O	-2478	KOH	-57.6	F ⁻	-506
BeO	-4443	NH ₄ NO ₃	+25	Cl ⁻	-378
MgO	-3791	NH ₄ Cl	+17	Br ⁻	-336
CaO	-3454			O ²⁻	-937
AgCl	-890				
NH ₄ NO ₃	-646				
CdI ₂	-2435			NH ₄ ⁺	-307
CdI ₂ (theoretical)	-1986			NO ₃ ⁻	-314
AgCl (theoretical)	-769				
LiCl (theoretical)	-1021				
NaCl (theoretical)	-777				
KBr (theoretical)	-667				
MgCl (theoretical)	-753				
MgCl ₃ (theoretical)	-5440				