Standard Enthalpy of Formation* for Various Compounds

Compound	ΔH°_f (kJ/mol)	Compound	ΔH°_f (kJ/mol)	Compound	ΔH°_f (kJ/mol)	Compound	ΔH°_f (kJ/mol)
$Ag_2O(s)$	−30.6	$C_2H_5OH(l)$	−277.6	$HCl(g)$	−92.3	$NH_4Cl(s)$	−315.4
$Ag_2S(s)$	−31.8	$C_2H_6(g)$	−84.7	$HF(g)$	−268.6	$NH_4NO_3(s)$	−365.1
$AgBr(s)$	−99.5	$C_3H_8(g)$	−103.8	$HgO(s)$	−90.7	$NiO(s)$	−244.3
$AgCl(s)$	−127.0	$n\text{-}C_4H_{10}(g)$	−124.7	$HgS(s)$	−58.2	$NO(g)$	+90.4
$AgI(s)$	−62.4	$n\text{-}C_5H_{12}(l)$	−173.1	$HI(g)$	+25.9	$NO_2(g)$	+33.9
$Al_2O_3(s)$	−1669.8	$CO(g)$	−110.5	$HNO_3(l)$	−173.2	$Pb_3O_4(s)$	−734.7
$BaCl_2(s)$	−860.1	$CO_2(g)$	−393.5	$KBr(s)$	−392.2	$PbBr_2(s)$	−277.0
$BaCO_3(s)$	−1218.8	$CoO(s)$	−239.3	$KCl(s)$	−435.9	$PbCl_2(s)$	−359.2
$BaO(s)$	−558.1	$Cr_2O_3(s)$	−1128.4	$KClO_3(s)$	−391.4	$PbO(s)$	−217.9
$BaSO_4(s)$	−1465.2	$Cu_2O(s)$	−166.7	$KF(s)$	−562.6	$PbO_2(s)$	−276.6
$Ca(OH)_2(s)$	−986.6	$CuO(s)$	−155.2	$Mg(OH)_2(s)$	−924.7	$PCl_3(g)$	−306.4
$CaCl_2(s)$	−795.0	$CuS(s)$	−48.5	$MgCl_2(s)$	−641.8	$PCl_5(g)$	−398.9
$CaCO_3(s)$	−1207.0	$CuSO_4(s)$	−769.9	$MgCO_3(s)$	−1113	$SiO_2(s)$	−859.4
$CaO(s)$	−635.5	$Fe_2O_3(s)$	−822.2	$MgO(s)$	−601.8	$SnCl_2(s)$	−349.8
$CaSO_4(s)$	−1432.7	$Fe_3O_4(s)$	−1120.9	$MgSO_4(s)$	−1278.2	$SnCl_4(l)$	−545.2
$CCl_4(l)$	−139.5	$H_2O(g)$	−241.8	$MnO(s)$	−384.9	$SnO(s)$	−286.2
$CH_3OH(l)$	−238.6	$H_2O(l)$	−285.8	$MnO_2(s)$	−519.7	$SnO_2(s)$	−580.7
$CH_4(g)$	−74.8	$H_2O_2(l)$	−187.6	$NaCl(s)$	−411.0	$SO_2(g)$	−296.1
$CHCl_3(l)$	−131.8	$H_2S(g)$	−20.1	$NaF(s)$	−569.0	$SO_3(g)$	−395.2
$C_2H_2(g)$	+226.7	$H_2SO_4(l)$	−811.3	$NaOH(s)$	−426.7	$ZnO(s)$	−348.0
$C_2H_4(g)$	+52.3	$HBr(g)$	−36.2	$NH_3(g)$	−46.2	$ZnS(s)$	−202.9

* All standard enthalpy values are at 25°C and 1 atmosphere of pressure.

Standard Enthalpy of Formation* for Atomic and Molecular Ions

Cations	ΔH°_f (kJ/mol)	Cations	ΔH°_f (kJ/mol)	Anions	ΔH°_f (kJ/mol)	Anions	ΔH°_f (kJ/mol)
$Ag^+(aq)$	+105.9	$K^+(aq)$	−251.2	$Br^-(aq)$	−120.9	$H_2PO_4^-(aq)$	−1302.5
$Al^{3+}(aq)$	−524.7	$Li^+(aq)$	−278.5	$Cl^-(aq)$	−167.4	$HPO_4^{2-}(aq)$	−1298.7
$Ba^{2+}(aq)$	−538.4	$Mg^{2+}(aq)$	−462.0	$ClO_3^-(aq)$	−98.3	$I^-(aq)$	−55.9
$Ca^{2+}(aq)$	−543.0	$Mn^{2+}(aq)$	−218.8	$ClO_4^-(aq)$	−131.4	$MnO_4^-(aq)$	−518.4
$Cd^{2+}(aq)$	−72.4	$Na^+(aq)$	−239.7	$CO_3^{2-}(aq)$	−676.3	$NO_3^-(aq)$	−206.6
$Cu^{2+}(aq)$	+64.4	$NH_4^+(aq)$	−132.8	$CrO_4^{2-}(aq)$	−863.2	$OH^-(aq)$	−229.9
$Fe^{2+}(aq)$	−87.9	$Ni^{2+}(aq)$	−64.0	$F^-(aq)$	−329.1	$PO_4^{3-}(aq)$	−1284.1
$Fe^{3+}(aq)$	−47.7	$Pb^{2+}(aq)$	+1.6	$HCO_3^-(aq)$	−691.1	$S^{2-}(aq)$	+41.8
$H^+(aq)$	0.0	$Sn^{2+}(aq)$	−10.0			$SO_4^{2-}(aq)$	−907.5
		$Zn^{2+}(aq)$	−152.4				

* All standard enthalpy values are at 25°C, 1 molar concentration, and 1 atmosphere of pressure.