

**Table of Thermodynamic Data**

	$\Delta_f H^\circ \left( \frac{kJ}{mol} \right)$	$\Delta_f G_m^\circ \left( \frac{kJ}{mol} \right)$	$S_m^\circ \left( \frac{J}{mol \cdot K} \right)$
$Ba_{(aq)}^{2+}$	-537.6	-560.8	9.6
$BaSO_{4(s)}$	-1473	-1362	132.2
$BF_{3(g)}$	-1137.0	-1120.3	254.12
$B_2O_{3(s)}$	-1272.8	-1193.7	53.97
Butanoic acid ( $CH_3CH_2CH_2CO_2H$ )	-532.62	-399.57	
$Ca_{(aq)}^{2+}$	-542.8	-553.6	-53.1
$CaF_{2(s)}$	-1220	-1167	68.87
$CCl_{4(g)}$	-102.9	-60.59	309.9
$CCl_{4(l)}$	-135.4	-65.21	216.4
$CH_{4(g)}$	-74.81	-50.72	186.3
$CH_3OH_{(l)}$	-239.1	-166.3	126.8
$CN_{(aq)}^-$	151	166	118
$CO_{(g)}$	-110.5	-137.2	197.7
$COCl_{2(g)}$	-218.8	-206	283.5
$CO_{2(g)}$	-393.5	-394.4	213.7
$CS_{2(g)}$	116.7	67.1	
$CS_{2(l)}$	89.0	64.6	
$HC \equiv CH_{(g)}$	226.7	209.2	200.9
$C_3H_{8(g)}$	-103.8	-23.3	270.3
$Cl_{2(g)}$	0	0	223.0
$Cl_{(aq)}^-$	-167.1	-131.0	56.5
$ClO_{(aq)}^-$	-107.1	-36.8	42
$ClO_{(g)}$	101.8	98.1	226.6
$ClO_{2(g)}$	102.5	120.5	256.8
$F_{(g)}$	78.99	61.91	158.8
$F_{(aq)}^-$	-332.6	-278.8	-13.8
$F_{(g)}^-$	-255.6	-262.5	145.5
$Fe_{(aq)}^{2+}$	-87.9	-84.94	113
$Fe_{(aq)}^{3+}$	-47.7	-10.5	-293
$FeO_{(s)}$	-272.0		
$H_{2(g)}$	0	0	130.7
$HCN_{(g)}$	135	125	201.7
$HCN_{(l)}$	105	121	112.8
$HCN_{(aq)}$	105	112	129
$HF_{(g)}$	-271.1	-273.2	173.78
$HCl_{(g)}$	-92.31	-95.3	186.9
$HBr_{(g)}$	-36.40	-53.45	198.7
$HI_{(g)}$	26.48	1.70	206.6
$H_2O_{(g)}$	-241.8	-228.6	188.8
$H_2O_{(l)}$	-285.8	-237.1	69.91
$H_3O_{(aq)}^+$	-285.8	-237.1	

	$\Delta_f H^\circ \left( \frac{\text{kJ}}{\text{mol}} \right)$	$\Delta_f G_m^\circ \left( \frac{\text{kJ}}{\text{mol}} \right)$	$S_m^\circ \left( \frac{\text{J}}{\text{mol} \cdot \text{K}} \right)$
$H_2S(g)$	-20.63	-33.56	205.8
$H_2CO_3(aq)$	-699.7	-623.1	
$HCO_3^-(aq)$	-689.9	-586.8	
$I_2(g)$	62.44	19.33	260.7
$I^-(aq)$	-55.94	-51.67	109.4
$KCl(s)$	-436.7	-409.1	82.59
$KClO_3(s)$	-397.7	-296.3	143.1
$Mg^{2+}(aq)$	-466.9	-454.8	-138.1
$Mn^{2+}(aq)$	-220.8	-228.1	-73.6
$MnO_4^-(aq)$	-518.4	-425.1	190
$NH_3(aq)$	-80.29	-26.50	111.3
$NH_3(g)$	-45.9	-16.4	192.8
$NH_4^+(aq)$	-132.5	-79.31	113.4
$NOCl(g)$	51.71	66.08	261.6
$NO(g)$	90.25	86.55	210.8
$NO_2(g)$	33.18	51.31	240.1
$NO_3^-(aq)$	-206.57	-110.5	146
$N_2O(g)$	82.05	104.2	219.9
$N_2O_4(g)$	9.16	97.89	304.3
$N_2O_4(l)$	-19.5	97.5	209.2
$O_3(g)$	142.7	163.2	238.93
$OF_2(g)$	24.7	41.9	247.4
$OH^-(aq)$	-230.0	-157.2	-10.75
$P_4O_{10}(s)$	-2984.0	-2697.7	228.86
$Pb^{2+}(aq)$	-1.7	-24.43	10.5
$PbSO_4(s)$	-919.94	-813.14	148.57
Pyruvic acid	-607.52	-486.6	
Pyruvate anion (conjugate base of pyruvic acid)	-596.22	-472.37	
$S_{(rhombic)}$	0	0	31.80
$S_{(monoclinic)}$	2.64		32.60
$SO_2(g)$	-296.8	-300.2	248.2
$SO_3(g)$	-395.7	-371.1	256.8
$SO_4^{2-}(aq)$	-909.3	-744.5	20.1
$SO_2Cl_2(g)$	-364.0	-320.0	311.9
$SO_2Cl_2(l)$	-394.1		
$Sn_{(grey)}$	-2.09	0.13	44.14
$Sn_{(white)}$	0	0	51.55
$TiCl_4(g)$	-763.2	-726.7	354.9
$TiCl_4(l)$	-804.2	-737.2	252.3