

THERMODYNAMIC TABLES								
Aluminium	H kJ/mol	S J/mol K	G kJ/mol			H kJ/mol	S J/mol K	G kJ/mol
Al(s)	0	28.3	0		Carbon			
Al ³⁺ (aq)	-531	-321.7	-485					
AlCl ₃ (s)	-704.2	-110.67	-628.8		C(s, graphite)	0	5.74	0
Al ₂ O ₃ (s)	-1675.7	123.68	-1582.3		C(s, diamond)	1.895	2.377	2.9
Al(OH) ₃	-1276	N/A	N/A					
Barium					C(g)	716.682	158.096	671.257
Ba²⁺(aq)	-534.6	-560.8	9.6					
BaCl ₂ (s)	-858.6	123.68	-810.4		CCl ₄ (l)	-135.44	216.4	-65.21
BaO(s)	-553.5	70.42	-525.1		CCl ₄ (g)	-102.9	309.85	-60.59
Ba(OH) ₂ (s)	-904	47	-815		CHCl ₃ (l)	-134.47	201.7	-73.66
BaSO ₄ (s)	-1473.2	132.2	-1362.2		CHCl ₃ (g)	-103.14	295.71	-70.34
Beryllium					CH ₄ (g, methane)	-74.81	186.264	-50.72
Be(s)	0	9.5	0		C ₂ H ₂ (g, acetylene)	226.73	200.94	209.2
Be(OH) ₂ (s)	-902.5	51.9	-815		C ₂ H ₄ (g, ethylene)	52.26	219.56	68.15
Bromine								
Br-(aq)	111.9	174.9	82.43		C ₂ H ₆ (g, ethane)	-84.68	229.6	-32.82
Br(g)	111.884	175.022	82.396		C ₃ H ₈ (g, propane)	-103.8	269.9	-23.49
Br ₂ (l)	0	152.2	0		C ₆ H ₆ (l, benzene)	49.03	172.8	124.5
Br ₂ (g)	30.907	245.463	3.11		CH ₃ OH(l, methanol)	-238.66	126.8	-166.27
BrF ₃ (g)	-255.6	292.53	-229.43		CH ₃ OH(g, methanol)	-200.66	239.81	-161.96
HBr(g)	-36.4	198.695	-53.45		C ₂ H ₅ OH(l, ethanol)	-277.69	160.7	-174.78
Calcium								
Ca ²⁺ (aq)	-542.8	-53.1	-553.6		C ₂ H ₅ OH(g, ethanol)	-235.1	-282.7	-168.49
Ca(s)	0	41.42	0		CO(g)	-110.525	197.674	-137.168
Ca(g)	178.2	158.884	144.3		CO ₂ (g)	-393.509	213.74	-394.359
Ca ²⁺	1925.9	---	---		CS ₂ (g)	117.36	237.84	67.12
CaC ₂ (s)	-59.8	69.96	-64.9		COCl ₂ (g)	-218.8	283.53	-204.6
CaCO ₃ (s; calcite)	-1206.92	92.9	-1128.79		Cesium			
CaCl ₂ (s)	-795.8	104.6	-748.1		Cs(s)	0	85.23	0
CaF ₂ (s)	-1219.6	68.87	-1167.43		Cs+(g)	457.964	---	---
CaH ₂ (s)	-186.2	42	-147.2		CsCl(s)	-443.04	101.17	-414.53
CaO(s)	-635.09	39.75	-604.3		Chlorine			
CaS(s)	-482.4	56.5	-477.4		Cl-(aq)	-167	57	-131
Ca(OH) ₂ (s)	-986.09	83.39	-898.49		Cl(g)	121.679	165.198	105.68
Ca(OH) ₂ (aq)	-1002.82	-74.5	-868.07		Cl-(g)	-233.13	---	---
CaSO ₄ (s)	-1434.11	106.7	-1321.79		Cl ₂ (g)	0	223.066	0
					HCl(g)	-92.307	186.908	-95.299
					HCl(aq)	-167.159	56.5	-131.228

Chromium								
Cr(s)	0	23.77	0	Lithium				
Cr2O3(s)	-1139.7	81.2	-1058.1	Li(s)	0	29.12	0	
CrCl3(s)	-556.5	123	-486.1	Li+	685.783	---	---	
Copper				LiOH(s)	-484.93	42.8	-438.95	
Cu(s)	0	33.15	0	LiOH(aq)	-508.48	2.8	-450.58	
CuO(s)	-157.3	42.63	-129.7	LiCl(s)	-408.701	59.33	-384.37	
CuCl2	-220.1	108.07	-175.7	Magnesium				
				Mg(s)	0	32.68	0	
Fluorine				MgCl2	-641.32	89.62	-591.79	
F2(g)	0	202.78	0	MgCO3(s)	-1095.8	67.5	-1012.1	
F(g)	78.99	158.754	61.191	MgO(s)	-601.7	26.94	-569.43	
F-(g)	-255.39	---	---	Mg(OH)2(s)	-924.54	63.18	833.51	
F-(aq)	-332.63	-13.8	-278.79	MgS(s)	-346	50.33	-341.8	
HF(g)	-271.1	173.779	-273.2	Mercury				
HF(aq)	-332.63	-13.8	-278.79	Hg(l)	0	76.02	0	
Hydrogen				HgCl2(s)	-224.3	146	178.6	
H2(g)	0	130.684	0	HgO(s, red)	-90.83	70.29	-58.539	
H(g)	217.965	114.713	203.247	HgS(s, red)	-58.2	82.4	-50.6	
H+(g)	1536.202	---	---	Nickel				
H2O(l)	-285.83	69.91	-237.129	Ni(s)	0	29.87	0	
H2O(g)	-241.818	188.825	-228.572	NiO(s)	-239.7	37.99	-211.7	
H2O2(l)	-187.78	109.6	-120.35	NiCl2(s)	-305.332	97.65	-259.032	
Iodine				Nitrogen				
I2(s)	0	116.135	0	N2(g)	0	191.61	0	
I2(g)	62.438	260.69	19.327	N(g)	472.704	153.298	455.563	
I(g)	106.838	180.791	70.25	NH3(g)	-46.11	192.45	-16.45	
I-(g)	-197	---	---	N2H4(l)	50.63	121.21	149.34	
ICl(g)	17.78	247.551	-5.46	NH4Cl(s)	-314.43	94.6	-202.87	
Iron				NH4Cl(aq)	-299.66	169.9	-210.52	
Fe(s)	0	27.78	0	NH4NO3(s)	-365.56	151.88	-183.87	
FeO(s)	-272	---	---	NH4NO3(aq)	-339.87	259.8	-190.56	
Fe2O3(s, hematite)	-824.2	87.4	-742.2	NO(g)	90.25	210.76	86.55	
Fe3O4(s, magnetite)	-1118.4	146.4	-1015.4	NO2(g)	33.18	240.06	51.31	
FeCl2(s)	-341.79	117.95	-302.3	N2O(g)	82.05	219.85	104.2	
FeCl3(s)	-399.49	142.3	-344	N2O4(g)	19.16	304.29	97.89	
FeS2(s, pyrite)	-178.2	52.93	-166.9	NOCl(g)	51.71	261.69	66.08	
Fe(CO)5(l)	-774	338.1	-705.3	HNO3(l)	-174.1	155.6	-80.71	
Lead				HNO3(g)	-135.06	266.38	-74.72	
Pb(s)	0	64.81	0	HNO3(aq)	-207.36	146.4	-111.25	
PbCl2(s)	-359.41	136	-314.1					
PbO(s, yellow)	-317.32	68.7	-187.89					
PbS(s)	-100.4	91.2	-98.7					
Oxygen				Sulfur				
O2(g)	0	205.138	0	S(s, rhombic)	0	31.8	0	
O(g)	249.17	161.005	231.731	S(g)	278.805	167.821	238.25	

O3(g)	142.7	238.93	163.2		S2Cl2	-18.4	331.5	-31.8
					SH6(g)	-1209	291.82	-1105.3
Phosphorus					H2S(g)	-20.63	205.79	-33.56
P4(s, white)	0	164.36	0		SO2(g)	-296.83	248.22	-300.194
P4(s, red)	-70.4	91.2	-48.4		SO3(g)	-395.72	256.76	-371.06
P(g)	314.64	163.193	278.25		SOCl2(g)	-212.5	309.77	-198.3
PH3(g)	5.4	310.23	13.4		H2SO4(l)	-813.989	156.904	-690.003
PCl3(g)	-287	311.78	-267.8		H2SO4(aq)	-909.27	20.1	-744.53
P4O10(s)	-2984	228.86	-2697.7					
H3PO4(s)	-1279	110.5	-1119.1		Tin			
Potassium					Sn(s, white)	0	51.55	0
K(s)	0	64.18	0		Sn(s, gray)	-2.09	44.14	0.13
KCl(s)	-436.747	82.59	-409.14		SnCl4(l)	-511.3	258.6	-440.1
KClO(s)	-397.73	143.1	-296.25		SnCl4(g)	-471.5	365.8	-432.2
KI(s)	-327.9	106.32	-324.892		SnCl2(s)	-580.7	52.3	-519.6
KOH(s)	-424.764	78.9	-379.08		Titanium			
KOH(aq)	-482.37	91.6	-440.5		Ti(s)	0	30.63	0
Silicon					TiCl4(l)	-804.2	252.34	-737.2
Si(s)	0	18.83	0		TiCl4(g)	-763.2	354.9	-726.7
SiBr4(l)	-457.3	277.8	-443.9		TiO2	-939.7	49.2	-884.5
SiC(s)	-65.3	16.61	-62.8		Zinc			
SiCl4(g)	-657.01	330.73	-616.98		Zn(s)	0	41.63	0
SiH4(g)	34.3	204.62	56.9		ZnCl2(s)	-415.05	111.46	-369.398
SiF4(g)	-1614.94	282.49	-1572.65		ZnO(s)	-348.28	43.64	-318.3
SiO2(s, quartz)	-910.94	41.84	-856.64		ZnS(s, sphalerite)	-205.98	57.7	-201.29
Silver								
Ag+(aq)	105	73	77					
Ag(s)	0	42.55	0					
Ag2O(s)	-31.05	121.3	-11.2					
AgCl(s)	-127.768	96.2	-109.789					
AgNO3(s)	-124.39	140.92	-33.41					
Sodium								
Na(s)	0	51.21	0					
Na+(aq)	-240	59	-262					
Na(g)	107.32	153.712	76.761					
Na+(g)	609.358	---	---					
NaBr(s)	-361.062	86.82	-348.983					
NaCl(s)	-411.153	72.13	-384.138					
NaCl(g)	-176.65	229.81	-196.66					
NaCl(aq)	-407.27	115.5	-393.133					
NaOH(s)	-425.609	64.455	-379.494					
NaOH(aq)	-470.114	48.1	-419.15					
Na2CO3(s)	-1130.68	134.98	-1044.44					
NaHCO3(s)	-947.7	102	-851.9					