

Thermodynamic Values (25 °C)

Substance and State	ΔH_f° ($\frac{\text{kJ}}{\text{mol}}$)	ΔG_f° ($\frac{\text{kJ}}{\text{mol}}$)	S° ($\frac{\text{J}}{\text{K}\cdot\text{mol}}$)	Substance and State	ΔH_f° ($\frac{\text{kJ}}{\text{mol}}$)	ΔG_f° ($\frac{\text{kJ}}{\text{mol}}$)	S° ($\frac{\text{J}}{\text{K}\cdot\text{mol}}$)
Carbon				Nitrogen			
C(s) (graphite)	0	0	6	N ₂ (g)	0	0	192
C(s) (diamond)	2	3	2	NCl ₃ (g)	230	271	
CO(g)	-110.5	-137	198	NF ₃ (g)	-125	-83.6	261
CO ₂ (g)	-393.5	-394	214	NH ₃ (g)	-46	-17	193
CH ₄ (g)	-75	-51	186	NH ₃ (aq)	-80	-27	111
CH ₃ OH(g)	-201	-163	240	NO(g)	90	87	211
CH ₃ OH(l)	-239	-166	127	NO ₂ (g)	34	52	240
H ₂ CO(g)	-116	-110	219	N ₂ O(g)	82	104	220
HCN(g)	135.1	125	202	N ₂ O ₄ (g)	10	98	304
C ₂ H ₂ (g)	227	209	201	N ₂ O ₅ (g)	-42	134	178
C ₂ H ₄ (g)	52	68	219	HNO ₃ (g)	-135	-74.7	266
C ₂ H ₅ OH(g)	-235	-168.6	282.6	HNO ₃ (aq)	-207	-111	146
C ₂ H ₅ OH(l)	-278	-175	161	HNO ₃ (l)	-174	-81	156
C ₂ H ₆ (g)	-84.7	-32.9	229.5	NH ₄ Cl(s)	-314	-201	95
C ₃ H ₆ (g)	20.9	62.7	266.9	NH ₄ ClO ₄ (s)	-295	-89	186
C ₃ H ₈ (g)	-104	-24	270	NH ₄ NO ₃ (s)	-366	-184	151
C ₄ H ₁₀ (g)	-125.7	-15.7	310	NH ₄ NO ₃ (aq)	-340	-191	260
C ₄ H ₁₀ (l)	-147.3	-15.0	231	Silver			
C ₆ H ₆ (l)	49.0	124.5	172.8	Ag(s)	0	0	42.6
C ₆ H ₁₂ O ₆ (s)	-1273	-911	212	Ag ⁺ (aq)	105.6	77.1	72.7
Bromine				AgBr(s)	-100.4	-96.9	107.1
Br ⁻ (aq)	-120.9	-102.8	80.7	AgCl(s)	-127.1	-109.8	96.2
Br ₂ (l)	0	0	152.231	Sulfur			
Chlorine				S(rhombic)	0	0	31.8
Cl ₂ (g)	0	0	222.957	S(monoclinic)	0.3	0.1	32.6
Cl ₂ (aq)	-23	7	121	SO ₂ (g)	-296.8	-300.2	248.8
Cl ⁻ (aq)	-167	-131	57	SO ₃ (g)	-395.7	-371.1	256.3
HCl(g)	-92	-95	187	H ₂ S(g)	-20.17	-33.0	205.6
HCl(aq)	-167	-131	55.1	Titanium			
CCl ₄ (g)	-96	-53.7	310	TiCl ₄ (g)	-763	-727	355
CCl ₄ (l)	-139	-68.6	214.4	TiO ₂ (s)	-945	-890	50
Fluorine				Aluminum			
F ₂ (g)	0	0	203	AlBr ₃ (s)	-526.3	-505	184
F ⁻ (aq)	-333	-279	-14	Al(s)	0	0	28.32
HF(g)	-271	-273	174	Barium			
Hydrogen				BaCl ₂ (aq)	-872	-823	123
H ₂ (g)	0	0	131	Ba(OH) ₂ ·8H ₂ O(s)	-3342	-2793	427
H(g)	217	203	115	Iodine			
H ⁺ (aq)	0	0	0	I ₂ (s)	0	0	116.7
OH ⁻ (aq)	-230	-157	-11	I ₂ (g)	62.25	19.37	260.57
H ₂ O(s)	-292		41	HI(g)	25.94	1.30	206.3
H ₂ O(l)	-286	-237	70	Potassium			
H ₂ O(g)	-242	-229	189	KOH(s)	-425	-379	78.9
H ₂ O ₂ (l)	-188	-120	110	KCl(s)	-437	-409	82.6
H ₂ O ₂ (aq)	-191	-134	144	KClO ₃ (s)	-398	-296	143
Magnesium				K ₂ CO ₃ (s)	-1150	-1065	155
Mg(s)	0	0	33	Sodium			
Mg ²⁺ (aq)	-492	-456	-118	NaOH(aq)	-470	-941	50
MgO(s)	-601	-569	26.9	NaCl(aq)	-407	-393	116
Oxygen				Na ₂ CO ₃ (s)	-1130	-1048	139
O ₂ (g)	0	0	205	Iron			
O(g)	249	232	161	FeCl ₃ (s)	-400	-334	142
O ₃ (g)	143	163	239	Fe ₂ O ₃ (s)	-826	-744	87.4
Lead							
Pb ²⁺ (aq)	1.6	-24.3	21				
PbCO ₃ (s)	-699.1	-625.5	131				