

Standard Free Energies of Formation



Substance	ΔG°_f (kJ/mol)	Substance	ΔG°_f (kJ/mol)	Substance	ΔG°_f (kJ/mol)
AgCl(s)	-109.8	CaSO ₄ (s)	-1334.3	N ₂ H ₄ (g)	+120.3
Al ₂ O ₃ (s)	-1582.2	Fe ₂ O ₃ (s)	-742.2	N ₂ H ₄ (l)	+110.5
CHCl ₃ (g)	-18.4	HBr(g)	-53.5	N ₂ O(g)	+104.2
CH ₂ Cl ₂ (g)	-68.9	HCl(g)	-95.3	N ₂ O ₄ (g)	+97.8
CH ₂ O(g)	-110.0	HF(g)	-324.4	N ₂ O ₅ (g)	+118.0
CH ₃ Cl(g)	-60.2	HC ₂ H ₃ O ₂ (l)	-328.6	NaCl(s)	-384.0
CH ₃ OH(l)	-166.1	H ₂ O(g)	-228.5	NaHCO ₃ (s)	-837.8
CH ₄ (g)	-50.8	H ₂ O(l)	-237.1	NaOH(s)	-379.6
CO(g)	-137.2	H ₂ O ₂ (l)	-120.3	Na ₂ CO ₃ (s)	-1048.0
CO ₂ (g)	-394.4	H ₂ S(g)	-33.3	O(g)	+238.1
C ₂ H ₂ (g)	+209.1	H ₂ SO ₄ (l)	-689.9	O ₃ (g)	+163.2
C ₂ H ₄ (g)	+68.4	KCl(s)	-408.8	PCl ₃ (g)	-269.6
C ₂ H ₆ (g)	-32.1	K ₂ SO ₄ (s)	-1319.6	PCl ₅ (g)	-208.6
C ₂ H ₅ OH(l)	-172.8	MgCl ₂ (s)	-592.0	PbO(s)	-189.3
C ₃ H ₅ N ₃ O ₉ (l)	unavailable	MgO(s)	-568.9	PbS(s)	-96.6
C ₆ H ₆ (l)	+124.3	MgCO ₃ (s)	-1002.3	SF ₆ (g)	-1116.4
CaCO ₃ (s) ¹	-1141.5	NH ₃ (g)	-16.4	SO ₂ (g)	-300.0
CaCl ₂ (s)	-748.1	NH ₄ Cl(s)	-203.1	SO ₃ (g)	-371.0
CaO(s)	-603.5	NO(g)	+86.6		
Ca(OH) ₂ (s)	-898.4	NO ₂ (g)	+51.3		

¹calcite

All standard state, 25 °C and 1 bar (written to 1 decimal place).

P.J. Linstrom and W.G. Mallard, Eds, NIST Chemistry WebBook, NIST Standard Reference Database Number 69, National Institute of Standards and Technology, Gaithersburg MD, 20899, <http://webbook.nist.gov>, (retrieved March 9, 2011).

Lide, David R., Ed., Handbook of Chemistry and Physics, 84th ed., CRC Press: Boca Raton FL, 2003, 5-1 to 5-60.