

## ANEXO 6 ENERGÍAS LIBRES ESTANADARES DE ELEMENTOS DISUELTOS EN ACERO LIQUIDO

TABLE 21-IV—STANDARD FREE ENERGIES OF ELEMENTS DISSOLVED IN LIQUID IRON<sup>(13,14)</sup>

Element, i†	$\gamma_i^\circ$ (1873)*	M (pure) = M(i.d., X, liq.) $\Delta G(X)$ , cal/g atom	M (pure) = M(i.d., wt. %, liq.) $\Delta G$ (%), cal/g atom
Ag (l)	200	19,700	19,700 - 10.46T
Al (l)	0.029	-15,100 + 1.03T	-15,100 - 6.67T
B (s)	0.022	-15,600 + 0.71T	-15,600 - 5.15T
C (gr)	0.57	5,400 - 4.0T	5,400 + 10.1T
Ca (v)	2240	- 9,430 + 20.3T	- 9,430 + 11.8T
Ce (l)	0.03	-13,000	-13,000 + 11.0T
Co (l)	1.07	240	240 - 9.26T
Cr (l)	1.0	0	- 9.01T
Cr (s)	1.14	4,600 - 2.19T	4,600 - 11.20T
Cu (l)	8.6	8,000	8,000 - 9.41T
½ H <sub>2</sub> (g)	—	—	8,720 + 7.28T
Mn (l)	1.3	976	8,720 - 11.02T (ppm) 976 - 9.12T
Mo (l)	1	0	-10.23T
Mo (s)	1.86	6,600 - 2.29T	6,600 - 12.52T
½ N <sub>2</sub> (g)	—	—	860 + 5.71T
Nb (l)	1.0	0	-10.2T
Nb (s)	1.4	5,500 - 2.3T	5,500 - 12.5T
Ni (l)	0.66	- 5,500 + 1.80T	- 5,500 - 7.42T
½ O <sub>2</sub> (g)	—	—	-28,000 - 0.69T
½ P <sub>2</sub> (g)	—	—	-29,200 - 4.6T
Pb (l)	1400	50,800 - 12.7T	50,800 - 25.4T
½ S <sub>2</sub> (g)	—	—	-32,280 + 5.6T
Si (l)	0.0013	-31,430 + 3.64T	-31,430 - 4.21T
Sn (l)	2.8	3,820	3,820 - 10.62T
Ti (l)	0.074	- 9,700	- 9,700 - 8.85T
Ti (s)	0.077	- 6,000 - 1.9T	- 6,000 - 10.75T
U (l)	0.027	-13,400	-13,400 - 12.0T
V (l)	0.08	-10,100 + 0.37T	-10,100 - 8.6T
V (s)	0.1	- 4,950 - 1.93T	- 4,950 - 10.9T
W (l)	1	0	-11.5T
W (s)	1.2	+ 7,500 - 3.65T	+ 7,500 - 15.2T
Zr (l)	0.014	-19,300 + 1.82T	-19,300 - 8.31T
Zr (s)	0.016	-15,400	-15,400 - 10.13T

\* $\gamma_i^\circ = \lim_{X \rightarrow 0} a_i/X_i$  .

† Letters in parentheses indicate the standard states used. All are at 1 atm pressure.

5