

T3: Bond Energies

Average Bond Dissociation Enthalpies in kcal/mole; to convert to kJ/mole multiply by 4.184.

Single Bonds	ΔH°^*	Single Bonds	ΔH°^*	Multiple Bonds	ΔH°^*
H-H	104.2	B-F	150	C=C	146
C-C	83	B-O	125	N=N	109
N-N	38.4	C-N	73	O=O	119
O-O	35	N-CO	86	C=N	147
F-F	36.6	C-O	85.5	C=O (CO ₂)	192
Si-Si	52	O-CO	110	C=O (aldehyde)	177
P-P	50	C-S	65	C=O (ketone)	178
S-S	54	C-F	116	C=O (ester)	179
Cl-Cl	58	C-Cl	81	C=O (amide)	179
Br-Br	46	C-Br	68	C=O (halide)	177
I-I	36.	C-I	51	C=S (CS ₂)	138
H-C	99	C-B	90	N=O (HONO)	143
H-N	93	C-Si	76	P=O (POCl ₃)	110
H-O	111	C-P	70	P=S (PSCl ₃)	70
H-F	135	N-O	55	S=O (SO ₂)	128
H-Cl	103	S-O	87	S=O (DMSO)	93
H-Br	87.5	Si-F	135	P=P	84
H-I	71	Si-Cl	90	P≡P	117
H-B	90	Si-O	110	C≡O	258
H-S	81	P-Cl	79	C≡C	200

H-Si	75	P-Br	65	N≡N	226
H-P	77	P-O	90	C≡N	213