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## Bond energy

Part II (H)  
& Part II Sub

In chemistry, bond energy (BE), also called the mean bond enthalpy or average bond enthalpy, is the measure of bond strength in a chemical bond. IUPAC defines bond energy as the average value of the gas-phase bond-dissociation energy (usually at a temperature of 298.15 K) for all bonds of the same type within the same chemical species. The larger the average bond energy, per electron pair bond, of a molecule,

enthalpy change of the following fission:  $R-X \rightarrow R+X$ . The BDE, denoted by  $D^{\circ}(R-X)$ , is usually derived by the thermochemical equation:

$$D^{\circ}(R-X) = \Delta H_f^{\circ}(R) + \Delta H_f^{\circ}(X) - \dots$$

The enthalpy of formation  $\Delta H_f^{\circ}$  of a large number of atoms, free radicals, ions, clusters and compounds is available from the websites of NIST, NACA, CODATA and JUPAC. Most

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Benzoic acid, due to the electron-withdrawing effect of chlorine, promoting ionization. In benzoic acid, the carbon atoms which are present in the ring are  $sp^2$  hybridized. As a result, benzoic acid is a stronger acid than cyclohexanecarboxylic acid, also in aromatic