

diamond

An allotropic form of the element carbon with cubic structure (space group $O_h^7 - Fd3m$) which is thermodynamically stable at pressures above 6 GPa at room temperature and metastable at atmospheric pressure. At low pressures diamond converts rapidly to graphite at temperatures above 1900 K in an inert atmosphere. The chemical bonding between the carbon atoms is covalent with sp^3 hybridization.

Note:

There is also a hexagonal diamond-like structure of the element carbon (lonsdaleite).

Source:

PAC, 1995, 67, 473 (*Recommended terminology for the description of carbon as a solid (IUPAC Recommendations 1995)*) on page 487