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hexagonal graphite

The thermodynamically stable form of graphite with an ABAB stacking sequence of the graphene layers. The exact crystallographic description of this allotropic form is given by the space group $d_{6h}^4 - P6_3/\mathrm{mmc}$ (unit cell constants: $a = 245.6$ pm, $c = 670.8$ pm). Hexagonal graphite is thermodynamically stable below approximately 2600 K and 6 GPa.

Note:

The use of the term graphite instead of the more exact term hexagonal graphite may be tolerated in view of the minor importance of rhombohedral graphite, the other allotropic form.

Source:

PAC, 1995, *67*, 473 *(Recommended terminology for the description of carbon as a solid (IUPAC Recommendations 1995))* on page 494

