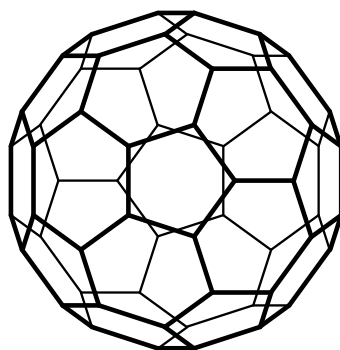




>>Entry Name: Fullerene-C₆₀

Synonym(s): Buckminsterfullerene. Footballene. Buckyball



CAS Registry Number: 99685-96-8

Related CAS Registry Numbers(s): 108739-25-9 111138-12-6 120329-57-9 120329-58-0 133318-63-5

Molecular Formula: C₆₀

Molecular Weight: 720.66

Accurate Mass: 720

Percentage Composition: C 100.00%

General Statement: Truncated icosahedral struct.; all 60 atoms equivalent in rigid cage of 5- and 6-membered rings. Ccp in solid state

Source/Synthesis: Forms spontaneously when C is laser-vaporised, in smoke from C arc. Also discovered to occur naturally in a sample of Russian *Shungite*, a carbonaceous rock

Use/Importance: Forms metal-containing compds. which are superconductors, e.g. K₃C₆₀

Physical Description: Ultra-stable mustard-yellow needles and plates

Melting Point: Mp 280°

Boiling Point: Subl. 400° *in vacuo*

Solubility: Sol. org. solvs. (magenta soln.)

Other Data: Cmr 143.2 ppm. Cp 0.63 Jg⁻¹ (298K); $\Delta H_{\text{subl.}}$ 167.6 kJ mol⁻¹; $\Delta H_f(\text{c})$ -2327 kJ mol⁻¹

Aldrich: 37964-6

Fluka: 18830

Sigma: B8030

>>Derivative: Dimer

see Fullerene-C₁₂₀, [BZY62-L](#)

>>Derivative: Hexacontahydro

Synonym(s): Hexacontahydrofullerene-C₆₀. Perhydrobuckminsterfullerene. Soccerane. Fuzzyball

Molecular Formula: C₆₀H₆₀

Molecular Weight: 781.134

Accurate Mass: 780.4695

Percentage Composition: C 92.26%; H 7.74%

Other Data: Not yet known (1994)

References: