WC	*hP*2	(187) *P*-6*m*2 – da

WC [2], tungsten carbide, Strukturbericht notation B_h
Structural features: Directly superposed close-packed W layers; C in trigonal prismatic voids. Infinite columns of base-linked CW_6 trigonal prisms share edges to form a 3D-framework. See Fig. IV.10.

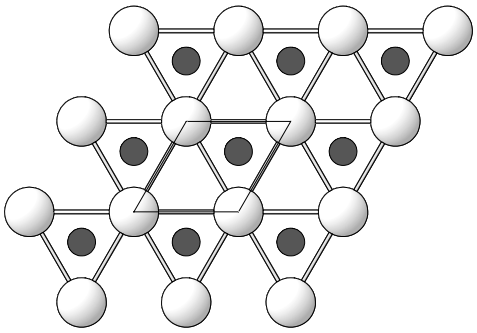

Fig. IV.10. **WC**

Arrangement of W_6 trigonal prisms (W atoms large) centered by C atoms (small) viewed along [001].

Parthé E., Sadagopan V. (1962) [1]
CW
$a = 0.290$, $c = 0.283$ nm, $c/a = 0.976$, $V = 0.0206$ nm^3, $Z = 1$

site	Wyck.	sym.	*x*	*y*	*z*	occ.	atomic environment
C1	1*d*	-6*m*2	$^1/_3$	$^2/_3$	$^1/_2$		14-vertex polyhedron W_6C_8
W2	1*a*	-6*m*2	0	0	0		14-vertex polyhedron C_6W_8

Experimental: powder, diffractometer, neutrons, R = 0.046

Remarks: Cell parameters from [2], where C was located based on crystal chemical considerations. Supersedes reports on WC with NiAs-type structure (e.g. [3]) and a partly disordered structure proposal in [4].

References: [1] Parthé E., Sadagopan V. (1962), Monatsh. Chem. 93, 263-270. [2] Westgren A., Phragmén G. (1926), Z. Anorg. Allg. Chem. 156, 27-36. [3] Hägg G. (1931), Z. Phys. Chem., Abt. B 12, 33-56. [4] Schönberg N. (1954), Acta Metall. 2, 427-432.