

$\text{Eu}_{3.16}\text{NiC}_6$	$hP22$	$(176) P6_3/m - h^3cb$
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$\text{Eu}_{3.16}\text{NiC}_6$ [1]

Structural features: Approximately planar $\text{Ni}(\text{C}_2)_3$ trigonal units in Eu_6Eu_3 tricapped trigonal prisms, which share atoms to form a 3D-framework; additional Eu in channels of hexagonal cross-section parallel to $[001]$ (partial disorder). C_2 pairs. Ordering variant of $\text{Gd}_3\text{Mn}_2\text{C}_6$.

Witte A.M., Jeitschko W. (1996) [1]

$\text{C}_6\text{Eu}_{3.16}\text{Ni}$

$a = 0.8613$, $c = 0.5499$ nm, $c/a = 0.638$, $V = 0.3533$ nm³, $Z = 2$

site	Wyck.	sym.	x	y	z	occ.	atomic environment
C1	$6h$	$m..$	0.0295	0.2632	$\frac{1}{4}$		single atom C
C2	$6h$	$m..$	0.1403	0.4298	$\frac{1}{4}$		non-colinear CNi
Eu3	$6h$	$m..$	0.39359	0.32827	$\frac{1}{4}$		8-vertex polyhedron C_8
Ni4	$2c$	$-6..$	$\frac{1}{3}$	$\frac{2}{3}$	$\frac{1}{4}$		coplanar triangle C_3
Eu5	$2b$	$-3..$	0	0	0	0.162	octahedron C_6

Experimental: single crystal, diffractometer, X-rays, $R = 0.015$

Remarks: Short interatomic distances for partly occupied site(s).

References: [1] Witte A.M., Jeitschko W. (1996), Z. Naturforsch. B 51, 249-256.