

C₂CeNi Structure:

A2BC_oC8_38_d_b_a-001

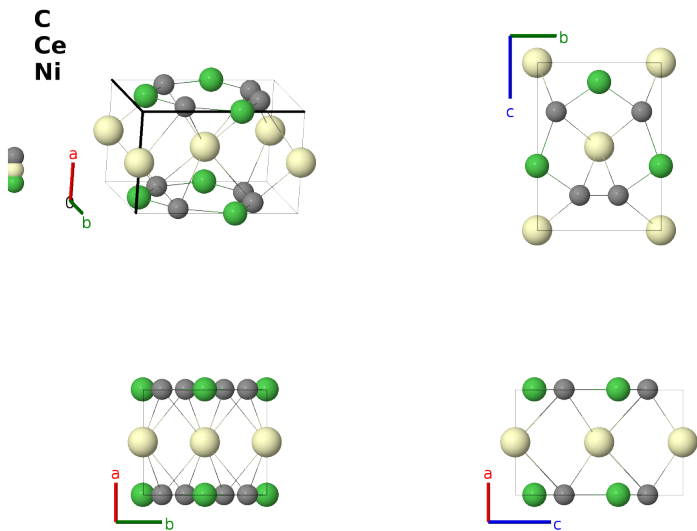
This structure previously used the label(s) **A2BC_oC8_38_e_a.b**. Calls to these addresses will be redirected here.

Cite this page as:

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<https://aflow.org/prototype-encyclopedia/37DH>

https://aflow.org/prototype-encyclopedia/A2BC_oC8_38_d_b_a-001



Prototype	C ₂ CeNi
AFLOW prototype label	A2BC_oC8_38_d_b_a-001
ICSD	20397
CCDC	1598209
Pearson symbol	oC8
Space group number	38
Space group symbol	<i>Amm</i> 2
AFLOW prototype command	<code>aflow --proto=A2BC_oC8_38_d_b_a-001 --params=a, b/a, c/a, z₁, z₂, y₃, z₃</code>

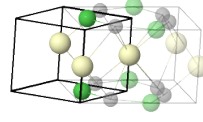
Other compounds with this structure

C₂CoDy, C₂CoPu, C₂CoSm, C₂CoTh, C₂ErFe, C₂FeGd, C₂FeSm, C₂NiLa, C₂NiNd, C₂NiPa, C₂NiPr, C₂NiPu, C₂NiSm, C₂NiYb, C₂PrRh

Base-centered Orthorhombic primitive vectors



$$\begin{aligned}\mathbf{a}_1 &= a \hat{\mathbf{x}} \\ \mathbf{a}_2 &= \frac{1}{2}b \hat{\mathbf{y}} - \frac{1}{2}c \hat{\mathbf{z}} \\ \mathbf{a}_3 &= \frac{1}{2}b \hat{\mathbf{y}} + \frac{1}{2}c \hat{\mathbf{z}}\end{aligned}$$



Basis vectors

	Lattice coordinates		Cartesian coordinates	Wyckoff position	Atom type
$\mathbf{B}_1$	$= -z_1 \mathbf{a}_2 + z_1 \mathbf{a}_3$	$=$	$cz_1 \hat{\mathbf{z}}$	(2a)	Ni I
$\mathbf{B}_2$	$= \frac{1}{2} \mathbf{a}_1 - z_2 \mathbf{a}_2 + z_2 \mathbf{a}_3$	$=$	$\frac{1}{2}a \hat{\mathbf{x}} + cz_2 \hat{\mathbf{z}}$	(2b)	Ce I
$\mathbf{B}_3$	$= (y_3 - z_3) \mathbf{a}_2 + (y_3 + z_3) \mathbf{a}_3$	$=$	$by_3 \hat{\mathbf{y}} + cz_3 \hat{\mathbf{z}}$	(4d)	C I
$\mathbf{B}_4$	$= -(y_3 + z_3) \mathbf{a}_2 - (y_3 - z_3) \mathbf{a}_3$	$=$	$-by_3 \hat{\mathbf{y}} + cz_3 \hat{\mathbf{z}}$	(4d)	C I

References

- [1] O. I. Bodak and E. P. Marusin, *The Crystal Structure of $R\text{NiC}_2$ Compounds ($R=\text{Ce}, \text{La}, \text{Pr}$)*, Dopovidia Akademii Nauk Ukrain's'koi RSR, Seriya A: Fiziko_MatematichniTaTekhnichniNauki**41**, 1048 – –1050(1979).

Found in

- [1] P. Villars and L. Calvert, *Pearson's Handbook of Crystallographic Data for Intermetallic Phases* (ASM International, Materials Park, OH, 1991), 2nd edn.

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