

CePO₄ hexagonal [1], rhabdophane-(Ce)

Structural features: Distorted CeO₈ square antiprisms are interconnected via common edges and PO₄ tetrahedra to form a 3D-framework with channels parallel to [001]. Single PO₄ tetrahedra. See Fig. IV.42.

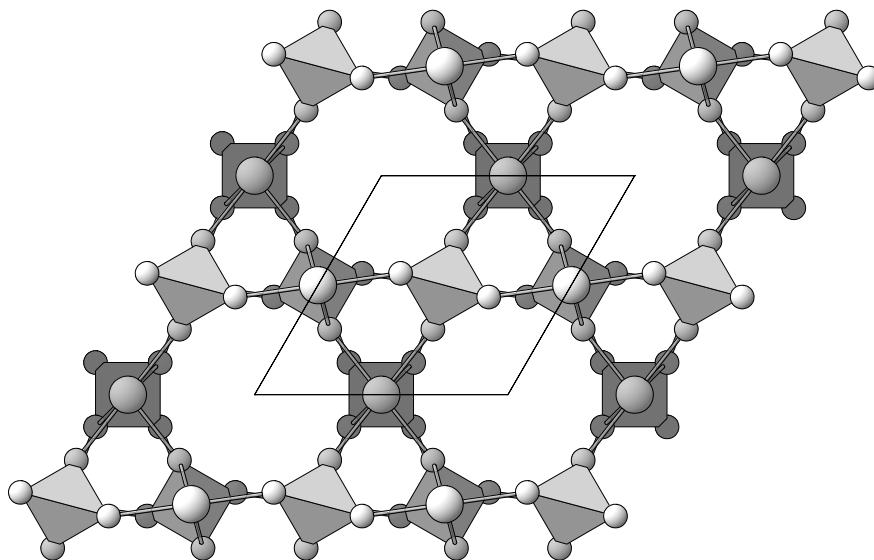


Fig. IV.42. **CePO₄ hexagonal**

Arrangement of PO₄ tetrahedra (O atoms small) and Ce atoms (large) viewed along [001]. Light, medium and dark tetrahedra are shifted by $c/3$.

Mooney R. (1950) [1]

CeO₄P

$a = 0.7055$, $c = 0.6439$ nm, $c/a = 0.913$, $V = 0.2776$ nm³, $Z = 3$

site	Wyck.	sym.	x	y	z	occ.	atomic environment
O1	12 <i>k</i>	1	0.147	0.446	0.30667		single atom P
P2	3 <i>d</i>	222	$\frac{1}{2}$	0	$\frac{1}{2}$		tetrahedron O ₄
Ce3	3 <i>c</i>	222	$\frac{1}{2}$	0	0		8-vertex polyhedron O ₈

Experimental: powder, film, X-rays

References: [1] Mooney R. (1950), Acta Crystallogr. 3, 337-340.