$Al[PO_4]$	$hP18$	(180) $P6_222$ – kdc

$AlPO_4$ quartz-type ht [2], berlinite high
Structural features: AlO_4 and PO_4 tetrahedra share vertices to form a 3D-framework with twisted chains and narrow channels of hexagonal cross-section parallel to [001]. Substitution derivative of SiO_2 β-quartz.

Muraoka Y., Kihara K. (1997) [1]
AlO_4P
a = 0.50387, c = 1.1061 nm, c/a = 2.195, V = 0.2432 nm^3, Z = 3

site	Wyck.	sym.	x	y	z	occ.	atomic environment
O1	12k	1	0.1921	0.42	0.2439		non-colinear PAl
P2	3d	222	$^1/_2$	0	$^1/_2$		tetrahedron O_4
Al3	3c	222	$^1/_2$	0	0		tetrahedron O_4

Transformation from published data ($P6_222$ *): origin shift 0 0 $^1/_3$
Experimental: single crystal, diffractometer, X-rays, wR = 0.041, T = 858 K

Remarks: Phase stable at T > 855 K. In [1] the origin of the cell is shifted by 0 0 $^1/_3$ from the description in the International Tables for Crystallography.

References: [1] Muraoka Y., Kihara K. (1997), Phys. Chem. Miner. 24, 243-253. [2] Ng H.N., Calvo C. (1976), Can. J. Phys. 54, 638-647.