$Al[PO_4][H_2O]_2$	*hP*150	(185) $P6_3cm - d^9c^7$

$AlPO_4 \cdot 2H_2O$ VPI-5 [1], zeolite VFI hydrated
Structural features: AlO_4 and PO_4 tetrahedra share vertices to form a VFI-type zeolite framework; H_2O in channels delimited by 18-rings parallel to [001].

Rudolf P.R., Crowder C.E. (1990) [1]
AlH_4O_6P
a = 1.89777, c = 0.81155 nm, c/a = 0.428, V = 2.5312 nm^3, Z = 18

site	Wyck.	sym.	x	y	z	occ.	atomic environment
$(OH_2)1$	12*d*	1	0.031	0.135	0.143	0.5	
O2	12*d*	1	0.081	0.403	0.101		non-colinear PAl
$(OH_2)3$	12*d*	1	0.161	0.28	0.259		non-colinear $(OH_2)_2$
O4	12*d*	1	0.172	0.504	0.358		non-colinear PAl
Al5	12*d*	1	0.176	0.495	0.16		tetrahedron O_4
O6	12*d*	1	0.187	0.585	0.076		non-colinear PAl
O7	12*d*	1	0.265	0.489	0.123		non-colinear PAl
P8	12*d*	1	0.345	0.511	0.034		tetrahedron O_4
O9	12*d*	1	0.373	0.454	0.103		non-colinear PAl
$(OH_2)10$	6*c*	..*m*	0.122	0	0.48		non-colinear $(OH_2)_2$
$(OH_2)11$	6*c*	..*m*	0.253	0	0.0		
$(OH_2)12$	6*c*	..*m*	0.334	0	0.304		non-coplanar triangle O_2P
P13	6*c*	..*m*	0.4	0	0.074		tetrahedron O_4
O14	6*c*	..*m*	0.462	0	0.193		non-colinear PAl
Al15	6*c*	..*m*	0.553	0	0.206		tetrahedron O_4
O16	6*c*	..*m*	0.574	0	0.403		non-colinear PAl

Transformation from published data: origin shift 0 0 0.52
Experimental: powder, diffractometer, X-rays, R = 0.149

Remarks: Short interatomic distances for partly occupied site(s). Hydrogen atoms are not taken into consideration for Pearson symbol, Wyckoff sequence and atomic environments. In table 2 of [2] the occupancies of former O10, O12 and O14 are misprinted as $^1/_2$ in stead of 1 (the authors state that all water molecules were located, agreement with the notation used for the non-water sites).

References: [1] Rudolf P.R., Crowder C.E. (1990), Zeolites 10, 163-168.