$KAl[SiO_4]$	*hP*30	(186) $P6_3mc$ – d^2b^2a

$KAlSiO_4$ ht1 [1], kalsilite-1H high
Structural features: AlO_4 and SiO_4 tetrahedra share vertices (splitting of both O sites) to form a tridymite-type framework; K in channels delimited by 6-rings parallel to [001].

Dollase W.A., Freeborn W.P. (1977) [1]
$AlKO_4Si$
a = 0.5153, c = 0.8682 nm, c/a = 1.685, V = 0.1997 nm^3, Z = 2

site	Wyck.	sym.	*x*	*y*	*z*	occ.	atomic environment
O1	12*d*	1	0.405	0.019	0.243	0.5	single atom O
O2	12*d*	1	0.61333	0.28	0.008	0.167	
Al3	2*b*	3*m*.	$^1/_3$	$^2/_3$	0.306		
Si4	2*b*	3*m*.	$^1/_3$	$^2/_3$	0.687		
K5	2*a*	3*m*.	0	0	0.0		

Transformation from published data: origin shift 0 0 0.75
Experimental: single crystal, Weissenberg photographs, X-rays, R = 0.098
Remarks: High kalsilite-1H is stable at T > 1138 K, however, partial disorder is here attributed to an incomplete transformation from the nepheline precursor. Short interatomic distances for partly occupied site(s). Space group (173) $P6_3$ was tested and rejected.

References: [1] Dollase W.A., Freeborn W.P. (1977), Am. Mineral. 62, 336-340.