$Mg_{0.2}(Al_{0.4}Si_{0.6})O_2$	*hP*24	(180) $P6_222$ – kfe

$MgAl_2Si_3O_{10}$ [1]
Structural features: $(Si,Al)O_4$ tetrahedra share vertices to form a 3D-framework with twisted chains; Mg in narrow channels of hexagonal cross-section parallel to [001] (all sites split). Filled-up derivative of SiO_2 β-quartz.

Schulz H. et al. (1971) [1]
$Al_{0.40}Mg_{0.20}O_2Si_{0.60}$
$a = 0.5182$, $c = 0.536$ nm, $c/a = 1.034$, $V = 0.1246$ nm^3, $Z = 3$

site	Wyck.	sym.	*x*	*y*	*z*	occ.	atomic environment
O1	12*k*	1	0.409	0.225	0.12067	0.5	
M2	6*f*	2..	$^1/_2$	0	0.014	0.5	
Mg3	6*e*	2..	0	0	0.12767	0.1	

M2 = 0.6Si + 0.4Al
Experimental: single crystal, diffractometer, X-rays, R = 0.055

Remarks: We assigned an approximate value to the Al/Si ratio of site M2 based on the nominal composition. Short interatomic distances for partly occupied site(s). Refinement with all atoms in ideal positions gave R = 0.065. In table 5 of [1] the *x*-coordinate of former site (Si,Al) is misprinted as 0 instead of $^1/_2$ (agreement with Wyckoff position 6*f*).

References: [1] Schulz H., Hoffmann W., Muchow G.M. (1971), Z. Kristallogr. 134, 1-27.