$Ca_{0.5}MgAl_3O_6$	*hP*22	(176) $P6_3/m$ – h^3ca

$CaMg_2Al_6O_{12}$ [1]
Structural features: Double infinite chains of edge-linked AlO_6 octahedra share vertices to form a 3D-framework; Mg in trigonal prismatic voids, Ca in channels of hexagonal cross-section parallel to [001] (partial disorder for the latter). Variant of $Sr_{0.5}CaSc_3O_6$.

Miura H. et al. (2000) [1]
$Al_3Ca_{0.50}MgO_6$
a = 0.87616, c = 0.2785 nm, c/a = 0.318, V = 0.1851 nm^3, Z = 2

site	Wyck.	sym.	*x*	*y*	*z*	occ.	atomic environment
Al1	6*h*	*m*..	0.01	0.352	$^1/_4$		octahedron O_6
O2	6*h*	*m*..	0.197	0.306	$^1/_4$		non-coplanar triangle Al_3
O3	6*h*	*m*..	0.601	0.134	$^1/_4$		square pyramid Al_3Mg_2
Mg4	2*c*	-6..	$^1/_3$	$^2/_3$	$^1/_4$		trigonal prism O_6
Ca5	2*a*	-6..	0	0	$^1/_4$	0.5	

Transformation from published data: *y*,*x*,-*z*; origin shift 0 0 $^1/_2$
Experimental: powder, diffractometer, X-rays, R_p = 0.051

Remarks: Short interatomic distances for partly occupied site(s). In the abstract of [1] Mg is erroneously stated to be octahedrally coordinated instead of inside trigonal prisms.

References: [1] Miura H., Hamada Y., Suzuki T., Akaogi M., Miyajima N., Fujino K. (2000), Am. Mineral. 85, 1799-1803.