$Cu_6Ce[AsO_4]_3[OH]_6[H_2O]_3$	*hP*68	(176) $P6_3/m$ – i^3h^5d

$CeCu_6(AsO_4)_3(OH)_6 \cdot 3H_2O$ [1], agardite-(Ce)
Structural features: $CeO_6(OH)_3$ tricapped trigonal prisms (partial vacancies ignored) share vertices with AsO_4 tetrahedra to form infinite columns, which are interconnected via ribbons of edge-linked $Cu(O_2[OH]_2)$ squares to form a 3D-framework; H_2O in large channels parallel to [001] (partial disorder).

Hess H. (1983) [1]
$As_3Ce_{0.71}Cu_6H_{12}O_{21}$
a = 1.3605, c = 0.5917 nm, c/a = 0.435, V = 0.9485 nm^3, Z = 2

site	Wyck.	sym.	x	y	z	occ.	atomic environment
$(OH_2)1$	12*i*	1	0.1644	0.0093	0.0386	0.5	non-coplanar triangle $(OH_2)_3$
O2	12*i*	1	0.1792	0.5728	0.0172		single atom As
Cu3	12*i*	1	0.31377	0.41091	0.0023		square pyramid $(OH)_2O_3$
O4	6*h*	*m*..	0.0076	0.399	$^1/_4$		non-coplanar triangle $AsCu_2$
As5	6*h*	*m*..	0.14946	0.49393	$^1/_4$		tetrahedron O_4
O6	6*h*	*m*..	0.2137	0.4132	$^1/_4$		non-coplanar triangle $AsCu_2$
(OH)7	6*h*	*m*..	0.3765	0.3692	$^1/_4$		non-colinear Cu_2
(OH)8	6*h*	*m*..	0.4388	0.1956	$^1/_4$		non-colinear Cu_2
Ce9	2*d*	-6..	$^2/_3$	$^1/_3$	$^1/_4$	0.707	tricapped trigonal prism $O_6(OH)_3$

Transformation from published data: *y*,*x*,-*z*
Experimental: single crystal, diffractometer, X-rays, R = 0.037

Remarks: Natural specimen from Wolfach, Black Forest, Germany. Minor amounts of Nd, La, Pr, Gd, Sm, and Eu (order of decreasing content) were found by chemical analysis of a similar sample. Short interatomic distances for partly occupied site(s). Hydrogen atoms are not taken into consideration for Pearson symbol, Wyckoff sequence and atomic environments.

References: [1] Hess H. (1983), Neues Jahrb. Mineral., Monatsh. 1983, 385-392.