

Pb₅[AsO₃]₃Cl

hP36

(176) *P6₃/m – ih³fb*

Pb₅(AsO₃)₃Cl [1], finnemanite

Structural features: Infinite columns of face-linked ClPb₆ octahedra and Pb₂As₃O₉ units (three :AsO₃ ψ-tetrahedra sharing vertices with two face-linked :PbO₃ ψ-tetrahedra).

Effenberger H., Pertlik F. (1979) [1]

As₃ClO₉Pb₅

a = 1.0322, *c* = 0.7055 nm, *c/a* = 0.683, *V* = 0.6510 nm³, *Z* = 2

site	Wyck.	sym.	<i>x</i>	<i>y</i>	<i>z</i>	occ.	atomic environment
O1	12 <i>i</i>	1	0.09	0.367	0.061		single atom As
As2	6 <i>h</i>	<i>m</i> ..	0.0131	0.4139	¹ / ₄		non-coplanar triangle O ₃
O3	6 <i>h</i>	<i>m</i> ..	0.151	0.617	¹ / ₄		single atom As
Pb4	6 <i>h</i>	<i>m</i> ..	0.2283	0.2646	¹ / ₄		5-vertex polyhedron O ₅
Pb5	4 <i>f</i>	3..	¹ / ₃	² / ₃	0.0101		non-coplanar triangle O ₃
Cl6	2 <i>b</i>	-3..	0	0	0		octahedron Pb ₆

Transformation from published data: origin shift 0 0 ¹/₂

Experimental: single crystal, diffractometer, X-rays, *R* = 0.076

Remarks: Natural specimen from Långban, Sweden. Supersedes a structure proposal in space group (173) *P6₃* [2].

References: [1] Effenberg H., Pertlik F. (1979), *TMPM*, *Tschermaks Mineral. Petrogr. Mitt.* 26, 95-107.

[2] Gabrielson O. (1955), *Ark. Mineral. Geol.* 2, 1-8.