

Sahlinite

$\text{Pb}_{14}\text{O}_9(\text{AsO}_4)_2\text{Cl}_4$

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Crystal Data: Monoclinic, pseudotetragonal. *Point Group:* $2/m$ or m . Crystals are thin, scaly, to 2 mm, in seams and aggregates.

Physical Properties: *Cleavage:* On {010}, perfect. Hardness = 2–3 $D(\text{meas.}) = 7.38\text{--}8.00$ $D(\text{calc.}) = 8.096$

Optical Properties: Semitransparent. *Color:* Pale sulfur-yellow, pale greenish yellow, bright yellow, to orange.

Optical Class: Biaxial (-). *Orientation:* $X = b$. $n =$ Very high. $2V(\text{meas.}) = 96.5^\circ$

Cell Data: *Space Group:* $C2/c$ or Cc . $a = 12.710(13)$ $b = 22.498(8)$ $c = 11.360(9)$ $\beta = 118.99(3)^\circ$ $Z = 4$

X-ray Powder Pattern: Långban, Sweden; close to kombatite. 3.011 (10), 2.946 (10), 2.814 (9), 1.754 (8), 2.249 (7), 1.985 (5), 2.021 (4)

Chemistry:	(1)	(2)	(3)
As_2O_5	6.57	5.3	6.63
CO_2	0.43		
PbO	89.33	91.1	90.20
CaO	0.46		
Cl	4.05	4.0	4.09
H_2O	0.10		
$-\text{O} = \text{Cl}_2$	0.91	0.9	0.92
Total	100.03	99.5	100.00

(1) Långban, Sweden, average of two analyses; after deduction of Ca and CO_2 as calcite, corresponds to $\text{Pb}_{13.70}\text{O}_{8.85}(\text{AsO}_4)_{1.95}\text{Cl}_{3.92}$. (2) Do.; by electron microprobe. (3) $\text{Pb}_{14}\text{O}_9(\text{AsO}_4)_2\text{Cl}_4$.

Occurrence: In a metamorphosed Fe–Mn orebody (Långban, Sweden); in layered hausmannite-barite ore (Kombat mine, Namibia).

Association: Hausmannite, manganhumite, forsterite, dolomite (Långban, Sweden); copper, jacobsonite, hausmannite, barite (Kombat mine, Namibia).

Distribution: From Långban, Värmland, Sweden. At the Kombat Cu–Pb–Ag mine, 49 km south of Tsumeb, Namibia.

Name: To honor Dr. Carl Sahlin (1861–1943), General Manager of the iron works at Laxå, Sweden.

Type Material: Swedish Museum of Natural History, Stockholm, Sweden; National Museum of Natural History, Washington, D.C., USA, B13892.

References: (1) Palache, C., H. Berman, and C. Frondel (1951) Dana's system of mineralogy, (7th edition), v. II, 775. (2) Rouse, R.C. and P.J. Dunn (1985) A re-examination of sahlinitite from Långban, Sweden. *Neues Jahrb. Mineral., Monatsh.*, 127–131.