

# Sundiusite

# Pb<sub>10</sub>O<sub>8</sub>(SO<sub>4</sub>)Cl<sub>2</sub>

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**Crystal Data:** Monoclinic. *Point Group:* 2/m, m, or 2. Platy crystals, in plumose aggregates, to 8 mm.

**Physical Properties:** *Cleavage:* {100}, perfect; {001}, possible. *Tenacity:* Brittle. Hardness = ~3 D(meas.) = 7.0(2) D(calc.) = 7.20

**Optical Properties:** Semitransparent. *Color:* White to colorless. *Streak:* White. *Luster:* Adamantine.

*Optical Class:* Biaxial (+); birefringence 0.070. *Orientation:* Length-slow.  $\alpha = > 2.1$   
 $\beta = > 2.1$   $\gamma = > 2.1$  2V(meas.) = n.d.

**Cell Data:** *Space Group:* C2/m, Cm, or C2.  $a = 24.67(1)$   $b = 3.781(1)$   $c = 11.881(5)$   
 $\beta = 100.07(4)^\circ$  Z = 2

**X-ray Powder Pattern:** Långban, Sweden.

2.981 (10), 2.737 (8), 3.101 (6), 3.044 (6), 6.10 (3), 3.744 (3), 3.914 (2)

## Chemistry:

	(1)	(2)
FeO	0.5	
PbO	93.1	94.30
Cl	3.0	3.00
SO <sub>3</sub>	3.5	3.38
-O = Cl <sub>2</sub>	0.7	0.68
Total	99.4	100.00

(1) Långban, Sweden; by electron microprobe, corresponding to (Pb<sub>9.65</sub>Fe<sub>0.15</sub>)<sub>Σ=9.80</sub>(SO<sub>4</sub>)O<sub>7.8</sub>Cl<sub>1.95</sub>. (2) Pb<sub>10</sub>O<sub>8</sub>(SO<sub>4</sub>)Cl<sub>2</sub>.

**Occurrence:** On fracture surfaces in a museum specimen of manganese ore from a metamorphosed Fe-Mn orebody.

**Association:** Blixite, braunite, hausmannite, manganoan biotite, calcite.

**Distribution:** From Långban, Värmland, Sweden.

**Name:** To honor Nils Sundius (1886–1976), Swedish mineralogist, who made numerous contributions to Långban mineralogy.

**Type Material:** The Natural History Museum, London, England, 1980,580; Royal Ontario Museum, Toronto, Canada, M36619; Harvard University, 117086; National Museum of Natural History, Washington, D.C., USA, 134984.

**References:** (1) Dunn, P.J. and R.C. Rouse (1980) Sundiusite, a new lead sulfate oxychloride from Långban, Sweden. Amer. Mineral., 65, 506–508.