

Sundiusite

Pb₁₀O₈(SO₄)Cl₂

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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 ₃	3.5	3.38
-O = Cl ₂	0.7	0.68
Total	99.4	100.00

(1) Långban, Sweden; by electron microprobe, corresponding to (Pb_{9.65}Fe_{0.15})_{Σ=9.80}(SO₄)O_{7.8}Cl_{1.95}. (2) Pb₁₀O₈(SO₄)Cl₂.

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.