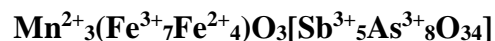


**Lepageite**

**Crystal Data:** Triclinic. *Point Group:*  $\bar{1}$ . As crystals to 30  $\mu\text{m}$ . *Twinning:* Non-merohedral twin-component (180° rotation about  $c^*$ ) indicated by structure analysis, twin law [-0.998 -0.001 0.005/0.000 -1.000 -0.002/0.729 -0.025 0.998].

**Physical Properties:** *Cleavage:* None. *Fracture:* n.d. *Tenacity:* n.d. *Hardness:* = n.d. *D(meas.):* = n.d. *D(calc.):* = 5.192

**Optical Properties:** Opaque. *Color:* Brownish black. *Streak:* n.d. *Luster:* Metallic. *Optical Class:* n.d.

**Cell Data:** Space Group:  $P\bar{1}$ .  $a = 10.607(3)$   $b = 10.442(3)$   $c = 15.260(5)$   $\alpha = 89.58(1)^\circ$   $\beta = 104.479(8)^\circ$   $\gamma = 89.706(9)^\circ$   $Z = \text{n.d.}$

**X-ray Powder Pattern:** Calculated pattern.

2.831 (100), 2.854 (92), 2.846 (88), 2.898 (85), 2.487 (34), 2.474 (34), 2.463 (34)

Chemistry:	(1)	(2)
As <sub>2</sub> O <sub>3</sub>	31.62	30.68
Sb <sub>2</sub> O <sub>3</sub>	26.23	28.26
Fe <sub>2</sub> O <sub>3</sub>	21.17	21.67
FeO	10.74	11.14
MnO	8.44	8.25
MgO	0.26	
Total	98.46	100.00

(1) Szklary pegmatite, Lower Silesia, southwest Poland; average electron microprobe analysis, overall 2<sup>+</sup> cation and Fe<sup>3+</sup> content fixed by stoichiometry; corresponds to (Fe<sup>3+</sup><sub>6.90</sub>Fe<sup>2+</sup><sub>3.89</sub>Mn<sup>2+</sup><sub>3.10</sub>Mg<sub>0.16</sub>) $\Sigma=14.05$ (As<sup>3+</sup><sub>8.32</sub>Sb<sup>3+</sup><sub>4.68</sub>) $\Sigma=13.00$ O<sub>37</sub>. (2) Mn<sup>2+</sup><sub>3</sub>(Fe<sup>3+</sup><sub>7</sub>Fe<sup>2+</sup><sub>4</sub>)O<sub>3</sub>[Sb<sup>3+</sup><sub>5</sub>As<sup>3+</sup><sub>8</sub>O<sub>34</sub>].

**Occurrence:** A primary accessory mineral in a lens of granitic LCT (Li-Cs-Ta) pegmatite formed during injection of an evolved LCT-type melt related to anatectic processes within a metasedimentary-metavolcanic complex into serpentinite.

**Association:** Mn-Be-Na-Cs-bearing cordierite, schafarzikite, harmotome, Ba-bearing microcline, barite, hematite.

**Distribution:** From the Szklary pegmatite, ~6 km north of Ząbkowice Śląskie, Lower Silesia, southwest Poland.

**Name:** Honors Yvon Le Page (b. 1943) a crystallographer who developed the program MISSYM that has played a major role in the solution of complex mineral structures (including lepageite), solved the structures of many minerals, and was involved in the description of several new minerals.

**Type Material:** Mineralogical Museum, University of Wrocław, Poland (MMWr IV7926).

**References:** (1) Pieczka, A., M.A. Cooper, and F.C. Hawthorne (2019) Lepageite, Mn<sup>2+</sup><sub>3</sub>(Fe<sup>3+</sup><sub>7</sub>Fe<sup>2+</sup><sub>4</sub>)O<sub>3</sub>[Sb<sup>3+</sup><sub>5</sub>As<sup>3+</sup><sub>8</sub>O<sub>34</sub>], a new arsenite-antimonite mineral from the Szklary pegmatite, Lower Silesia, Poland. *Amer. Mineral.*, 104(7), 1043-1050.