

Stannomicrolite**(Sn²⁺, Fe²⁺, Mn²⁺)(Ta, Sn⁴⁺, Nb)₂(O, OH)₇**

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Crystal Data: Cubic. *Point Group:* $4/m\bar{3}2/m$. As rims, to 20 μm , surrounding ferrowodginite crystals, which may be almost completely replaced when small.

Physical Properties: *Fracture:* [Uneven] (by analogy to pyrochlore group).
Tenacity: [Brittle.] *Hardness* = > 7 *D*(meas.) = 8.34 (synthetic Sn₂Ta₂O₇). *D*(calc.) = 8.21 (synthetic Sn₂Ta₂O₇).

Optical Properties: Translucent. *Color:* Yellowish brown; in reflected light, light gray with a reddish or lilac tint, with strong reddish brown internal reflections.

Optical Class: Isotropic. *n* = n.d.

Cell Data: *Space Group:* $Fd\bar{3}m$. *a* = 10.57 *Z* = [8]

X-ray Powder Pattern: Near Sukula, Finland.
3.046 (vs), 1.866 (s), 1.589 (s), 2.640 (ms), 1.524 (m), 1.2105 (m), 1.1796 (m)

Chemistry:	(1)	(2)	(3)
Nb ₂ O ₅	7.40	7.40	7.40
Ta ₂ O ₃	41.86	41.86	41.86
TiO ₂	0.99	0.99	0.99
SnO ₂	48.35		8.49
SnO		43.22	35.63
FeO	2.09	2.09	2.09
MnO	1.42	1.42	1.42
H ₂ O			0.61
Total	102.10	96.97	98.49

(1) Near Sukula, Finland; by electron microprobe, total Sn as SnO₂. (2) Do.; analysis (1) with total Sn as SnO. (3) Do.; analysis (1) with Sn²⁺, Sn⁴⁺ and (OH)¹⁻ calculated to fill all sites; then corresponding to (Sn_{1.69}²⁺Fe_{0.18}²⁺Mn_{0.13}²⁺)_{Σ=2.00}(Ta_{1.21}Sn_{0.36}⁴⁺Nb_{0.35}Ti_{0.08})_{Σ=2.00}[O_{6.57}(OH)_{0.43}]_{Σ=7.00}.

Mineral Group: Pyrochlore group, microlite subgroup; Sn_A > 20%; (Nb + Ta)_B > 2Ti_B; Ta_B ≥ Nb_B.

Occurrence: A very rare mineral, replacing ferrowodginite inclusions in tantalian cassiterite, in a museum specimen from a granite pegmatite.

Association: Ferrowodginite, tantalian cassiterite, bismuth.

Distribution: From near Sukula, Tammela, Finland, the exact locality now lost.

Name: For tin, STANNum, in the composition, and membership in the *microlite* subgroup of the pyrochlore group.

Type Material: n.d.

References: (1) Hogarth, D.D. (1977) Classification and nomenclature of the pyrochlore group. *Amer. Mineral.*, 62, 403–410 [sukulaite = stannomicrolite]. (2) Vormaa, A. and J. Siivola (1967) Sukulaite – Ta₂Sn₂O₇ – and wodginite as inclusions in cassiterite in the granite pegmatite in Sukula, Tammela in SW Finland. *Compt. Rendus Soc. géol. Finlande* [Bull. Geol. Finland No. 229], 39, 173–187. (3) (1968) *Amer. Mineral.*, 53, 2103–2104 (abs. ref. 2). (4) Ercit, T.S., P. Černý, and J. Siivola (1987) The composition of stannomicrolite. *Neues Jahrb. Mineral., Monatsh.*, 249–252.