Stibiomicrolite $(Sb, Ca, Na)_2(Ta, Nb)_2O_7$

Crystal Data: Cubic. *Point Group:* $4/m\ \overline{3}\ 2/m$. Extremely fine grained.

Physical Properties: *Fracture:* [Uneven] (by analogy to the pyrochlore group).
Tenacity: [Brittle.] Hardness = < 5.5 D(meas.) = n.d. D(calc.) = 5.84–6.22

Optical Properties: Semitransparent. *Color:* Greenish white to white; gray in reflected light.
Streak: White.
Optical Class: Isotropic. $n = > 1.9$

Cell Data: *Space Group:* $Fd3m$. a = 10.455(2) Z = 8

X-ray Powder Pattern: Varuträsk pegmatite, Sweden.
3.01 (10), 3.14 (9), 6.03 (8), 1.575 (8), 2.61 (7), 1.846 (7), 2.010 (5)

Chemistry:

	(1)
Nb_2O_5	17.54
Ta_2O_5	52.65
Sb_2O_3	19.24
CaO	6.78
Na_2O	2.58
Total	[98.79]

(1) Varuträsk pegmatite, Sweden; by electron microprobe, total Sb as Sb_2O_3, original total given as 98.80%; corresponds to $(Sb_{0.71}Ca_{0.65}Na_{0.45})_{\Sigma=1.81}(Ta_{1.29}Nb_{0.71})_{\Sigma=2.00}O_7$. (2) Odd West pegmatite, Canada; analysis not given, corresponds to $(Ca_{0.71}Sb_{0.46}Na_{0.22}Fe_{0.04}Sn_{0.03})_{\Sigma=1.46}(Ta, Nb)_2O_7$.

Mineral Group: Pyrochlore group, microlite subgroup; $Sb_A > 20\%$; $(Nb + Ta)_B > 2Ti_B$; $Ta_B \geq Nb_B$.

Occurrence: A very rare mineral, replacing stibiotantalite, in the lithium-rich albite unit of a complex granite pegmatite (Varuträsk pegmatite, Sweden).

Association: Stibiotantalite, antimony, allemontite, lithiophilite, alkalic beryl, cassiterite, columbite–tantalite, microlite (Varuträsk pegmatite, Sweden); cassiterite (Odd West pegmatite, Canada).

Distribution: In the Varuträsk pegmatite, 15 km northwest of Skellefteå, Västerbotten, Sweden. In the Odd West pegmatite, southeastern Manitoba, Canada.

Name: From the Latin for antimony, STIBIum, in its composition, and membership in the *microlite* subgroup of the pyrochlore group.

Type Material: Swedish Museum of Natural History, Stockholm, Sweden, 600200; University of Manitoba, Winnipeg, Canada, M6134.

References: (1) Groat, L.A., P Černý, and T.S. Ercit (1987) Reinstatement of stibiomicrolite as a valid species. Geol. Fören. Förhandl. Stockholm, 109, 105–109. (2) (1988) Amer. Mineral., 73, 1499 (abs. ref. 1). (3) Palache, C., H. Berman, and C. Frondel (1944) Dana's system of mineralogy, (7th edition), v. I, 757 [hypothetical mineral].