Stistaite SnSb

Crystal Data: Cubic. *Point Group:* n.d. As well-formed cubic crystals, to 0.15 mm, and as aggregates in tin.

Physical Properties: *Tenacity:* Malleable. Hardness = > 2 VHN = 103–127, 115 average. D(meas.) = n.d. D(calc.) = 5.59

Optical Properties: Opaque. *Color:* Pale gray; in polished section, creamy white.

R: (400) —, (420) —, (440) —, (460) 78.0, (480) 79.3, (500) 80.5, (520) 81.2, (540) 81.6, (560) 81.5, (580) 81.3, (600) 81.5, (620) 81.8, (640) 82.0, (660) 82.5, (680) —, (700) —

Cell Data: *Space Group:* n.d. $a = 4.15$ $Z = 1$

X-ray Powder Pattern: Elkiaidai River, Uzbekistan.
3.09 (10), 2.19(10), 1.374 (8), 1.253(7), 1.022 (6), 1.779 (4), 1.537 (4)

Chemistry:

	(1)	(2)	(3)	
Sn	56.9	55.55	56.38	49.36
Cu		0.12		
Sb	43.1	44.33	44.13	50.64
Total	100.0	[100.00]	100.51	100.00

(1) Elkiaidai River, Uzbekistan; by electron microprobe; corresponds to $Sn_{1.15}Sb_{0.85}$. (2) Rio Tamaná, Colombia; by electron microprobe, recalculated to 100% from an original total of 93.84%; corresponds to $Sn_{1.12}Sb_{0.87}$. (3) Baimka placer, Russia; by electron microprobe, corresponds to $Sn_{1.13}Sb_{0.87}$. (4) SnSb.

Occurrence: In concentrates from placer deposits from a region of Silurian shaly-sandy sediments (Elkiaidai River, Uzbekistan); in concentrates from precious metal placers (Rio Tamaná, Colombia).

Association: Tin, zircon, "leucoxene", rutile, apatite, barite, celestine, scheelite, cinnabar (Elkiaidai River, Uzbekistan); tin, sorosite, herzenbergite, cassiterite, lead (Baimka placer, Russia)

Distribution: From the Elkiaidai River, eastern margin of the Northern Nuratau Range, western Uzbekistan [TL]. At the Baimka gold-PGE placer, western Chukotka, Russian Far East, Russia. In the Rio Tamaná, the Department of Chocó, Cauca, Colombia.

Name: For the composition, from Greek STIbium, *antimony*, and STAnnum, *tin*.

Type Material: n.d.

References: (1) Nikolaeva, E.P., V.A. Grigorenko, S.D. Gagarkina, and P.E. Tsypkina (1970) New natural intermetallic compounds of tin, antimony and copper. Zap. Vses. Mineral. Obshch., 99, 68–70 (in Russian). (2) (1971) Amer. Mineral., 56, 358 (abs. ref. 1). (3) Rose, D. (1981) New data for stistaite and antimony-bearing ν–Cu_6Sn_5 from Rio Tamaná, Colombia. Neues Jahrb. Mineral., Monatsh., 117–126. (4) Barkov, A.Y., Laajoki, K.V.O., S.S. Gornostayev, Y.A. Pakhomoovskii, and Y.P. Men'shikov (1998) Sorosite, Cu(Sn, Sb), a new mineral from the Baimka placer deposit, western Chukotka, Russian Far East. Amer. Mineral., 83, 901–906. (5) Hägg, R. and A.G. Hybinette (1935) X-ray studies on the systems tin-antimony and tin-arsenic. Phil. Mag., ser. 7, 20, 913–929. (6) Pekov, I.V. (1998) Minerals first discovered on the territory of the former Soviet Union. Ocean Pictures, Moscow, 195.