

Crystal Data: Monoclinic or orthorhombic. *Point Group:* $2/m$; $2/m\ 2/m\ 2/m$ or $mm2$. Lathlike fibrous crystals, to 3 mm, may be cylindrical, in incrustations of radiating aggregates.

Physical Properties: *Tenacity:* Flexible and elastic. Hardness = ~ 4 VHN = 148–256, 232 average (50 g load). D(meas.) = n.d. D(calc.) = 5.26–5.267

Optical Properties: Translucent. *Color:* Bright yellow-green; light to dark gray in reflected light, with green to yellowish internal reflections. *Streak:* White. *Luster:* Adamantine. *Optical Class:* Biaxial (–) or (+). *Pleochroism:* Strong; X = emerald-green with olive tint; Y = emerald-green; Z = olive-green. *Orientation:* X = b; Z \wedge c $\simeq 0^\circ$ [2M]; X = a; Y = b; Z = c [2O]. *Dispersion:* $r \gg v$, very strong. $\alpha = > 1.87$ $\beta = \text{n.d.}$ $\gamma = < 1.89$ 2V(meas.) = $85(1)^\circ$ *Anisotropism:* Moderate.

Cell Data: *Space Group:* $P2/c$ (2M), with $a = 17.989(6)$ $b = 4.792(1)$ $c = 5.500(2)$ $\beta = 95.15(3)^\circ$ Z = 4, or *Space Group:* $Pm\bar{c}n$ or $P2_1cn$ (2O), with $a = 17.916(3)$ $b = 4.790(1)$ $c = 5.509(1)$ Z = 4

X-ray Powder Pattern: Lake George deposit, Canada (2M). 2.996 (10), 3.502 (7), 3.173 (7), 4.646 (6), 2.114 (4), 1.870 (4), 1.787 (4)

Chemistry:

	(1)	(2)
VO ₂	22.01	22.15
Sb ₂ O ₃	79.31	77.85
Total	101.32	100.00

(1) Lake George deposit, Canada; by electron microprobe, Sb³⁺ and V⁴⁺ confirmed by crystal-structure analysis, H₂O and (OH)^{1–} absent by IR; corresponds to Sb_{2.01}³⁺V_{0.98}⁴⁺O₅.

(2) Sb₂VO₅.

Polymorphism & Series: 2M and 2O polytypes.

Occurrence: In late veins in a hydrothermal antimony deposit (Lake George deposit, Canada); in a metasomatized hydrothermal iron deposit (Buca della Vena mine, Italy).

Association: Antimony, stibnite, s enarmontite, pyrite, arsenopyrite, sphalerite, quartz (Lake George deposit, Canada); anatase, apuanite, barite, beryl, derbylite, dolomite, hematite, magnetite, pyrite, tourmaline, versiliaite (Buca della Vena mine, Italy).

Distribution: From the Lake George antimony deposit, 40 km west of Fredricton, New Brunswick, Canada. In the Buca della Vena mine, northeast of Stazzema, Apuan Alps, Tuscany, Italy.

Name: From the Latin for antimony, STIBIum, and VANadium in the composition.

Type Material: Canadian Geological Survey, Ottawa, 61523–61525; National Museum of Natural Science, Ottawa, 44654–44658; Royal Ontario Museum, Toronto, Canada, M36642; The Natural History Museum, London, England, 1984,369–370; Harvard University, Cambridge, Massachusetts, 117335; National Museum of Natural History, Washington, D.C., USA, 148697; University of Pisa, Pisa, Italy, 4880 (2O polytype).

References: (1) Kaiman, S., D.C. Harris, and J.E. Dutrizac (1980) Stibivanite, a new mineral from the Lake George antimony deposit, New Brunswick. *Can. Mineral.*, 18, 329–332. (2) Szymański, J.T. (1980) A redetermination of the structure of Sb₂VO₅, stibivanite, a new mineral. *Can. Mineral.*, 18, 333–337. (3) (1981) Amer. Mineral., 66, 1278 (abs. refs. 1 and 2). (4) Merlino, S., P. Orlandi, N. Perchiazzi, R. Basso, and A. Palenzona (1989) Polytypism in stibivanite. *Can. Mineral.*, 27, 625–632.

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