Shcherbinaite V_2O_5

Crystal Data: Orthorhombic. *Point Group:* $2/m\ 2/m\ 2/m$. Acicular crystals, to 1 cm, may be lathlike, elongated along [001] and flattened on [100], in finely fibrous aggregates. *Twinning:* By rotation about [100], with {031} composition plane probable, as simple and geniculated contact twins.

Physical Properties: *Cleavage:* {010} and {001}, perfect. *Tenacity:* Brittle. Hardness = n.d. D(meas.) = 3.38 D(calc.) = [3.37]

Optical Properties: Translucent. *Color:* Yellow-green, golden yellow; straw-yellow in transmitted light. *Luster:* Vitreous.
Optical Class: Biaxial. *Orientation:* X or $Y = c$. $n = 2.42$ 2V(meas.) = n.d.

Cell Data: *Space Group:* $Pnmm$. $a = 4.364(8)$ $b = 11.50(2)$ $c = 3.561(4)$ Z = 2

X-ray Powder Pattern: Bezymianny volcano, Russia.
4.339 (100), 2.883 (50), 4.067 (28), 3.411 (28), 2.176 (24), 5.726 (22), 2.760 (22)

Chemistry:

	(1)	(2)
V_2O_5	39.	97.55
Na_2O	3.9	
LOI	12.5	
insol.	42.	
Total	97.4	97.55

(1) Bezymianny volcano, Russia; acid insoluble = SiO_2 24%, Fe_2O_3 3.3%, CaO 7%, Mg and Al $> 1\%$. (2) Izalco volcano, El Salvador; by electron microprobe, maximum of 15 analyses, with no elements other than V detected.

Occurrence: Deposited from fumarolic gasses, rich in halogens, at 500–550 °C, on the walls of volcanic fissures (Bezymianny volcano, Russia); in vanadium-bearing sublimates in fumaroles on a basaltic volcanic cone (Izalco volcano, El Salvador).

Association: Bannermanite, stoiberite, ziesite, fingerite, chalcocyanite, chalcanthite (Izalco volcano, El Salvador).

Distribution: From the Bezymyanniy volcano and the Tolbachik fissure volcano, Kamchatka Peninsula, Russia. In El Salvador, on the Izalco volcano.

Name: Honors Vladimira Vital'evich Shcherbina (1907–1978), Russian geochemist of the Vernadsky Institute of Geochemistry and Analytical Chemistry, Academy of Sciences, Moscow, Russia.

Type Material: A.E. Fersman Mineralogical Museum, Academy of Sciences, Moscow, Russia, vis6272.

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