

Crystal Data: Orthorhombic. *Point Group:* 2/m 2/m 2/m. As prismatic crystals to 0.1 mm.

Physical Properties: *Cleavage:* None. *Tenacity:* Brittle. *Fracture:* n.d. Hardness = 3-4
D(meas.) = 3.36(4) D(calc.) = 3.299 Non-fluorescent.

Optical Properties: Transparent. *Color:* Light green. *Streak:* White. *Luster:* Vitreous.
Optical Class: Biaxial (+). $\alpha = 1.731(4)$ $\beta = 1.778(2)$ $\gamma = 1.845(4)$ $2V(\text{meas.}) \approx 90^\circ$ $2V(\text{calc.}) = 83^\circ$
Orientation: $X = a$. *Pleochroism:* $X =$ light green, $Y =$ bluish green, $Z =$ light green-blue.

Cell Data: *Space Group:* Pnma. $a = 7.3890(13)$ $b = 6.2740(11)$ $c = 7.0788(11)$ $Z = 4$

X-Ray Diffraction Pattern: Calculated pattern.
3.28 (100), 3.14 (73), 3.54 (31), 5.11 (27), 3.19 (22), 4.70 (18), 2.845 (18)

Chemistry:	(1)	(2)
VO ₂	50.40	50.88
SO ₃	49.30	49.12
Total	99.70	100.00

(1) Tolbachik volcano, Kamchatka Peninsula, Russia; average electron microprobe analysis; corresponds to V_{0.99}S_{1.01}O₅. (2) VO(SO₄).

Occurrence: Sublimate at volcanic fumaroles.

Association: Shcherbinaite.

Distribution: First cinder cone of the North breach of the Great Fissure eruption, Tolbachik volcano, Kamchatka Peninsula, Russia. At Colima volcano, State of Colima, Mexico.

Name: Honors Professor Peter *Pauffer*, Technical University of Dresden, for his contributions to physical and structural crystallography and mineralogy.

Type Material: Mineralogical Museum, Department of Mineralogy, St. Petersburg University, Russia.

References: (1) Krivovichev, S.V., L.P. Vergasova, S.N. Britvin, S.K. Filatov, V. Kahlenberg, and V.V. Ananiev (2007) Paufferite, β -VO(SO₄), a new mineral species from the Tolbachik volcano, Kamchatka Peninsula, Russia. *Can. Mineral.*, 45, 921-927. (2) Ostrooumov, M. and Y. Taran (2016) Vanadium, V - a new native element mineral from the Colima volcano, State of Colima, Mexico, and implications for fumarole gas composition. *Mineral. Mag.*, 80(2), 371-382.