

Crystal Data: Cubic. *Point Group:* $4/m \bar{3} 2/m$. As octahedral crystals, occasionally modified by rhombododecahedra, to 1.5 mm.

Physical Properties: *Cleavage:* None. *Tenacity:* Brittle. *Fracture:* Conchoidal. Hardness = 4.5-5 VHN = 485-498 (100 g load). D(meas.) = n.d. D(calc.) = 6.666

Optical Properties: Translucent. *Color:* Pinkish brown. *Streak:* White. *Luster:* Adamantine to resinous.

Optical Class: Isotropic. $n(\text{calc.}) = 2.055$

Cell Data: *Space Group:* $Fd\bar{3}m$. $a = 10.454(1)$ $Z = 8$

X-ray Powder Pattern: Volta Grande pegmatite, Nazareno, Minas Gerais, Brazil. 3.052 (100), 6.112 (86), 3.191 (52), 1.869 (29), 2.642 (28), 1.594 (24), 2.035 (11)

Chemistry:	(1)		(1)
CaO	0.12	UO ₂	4.54
MnO	0.27	TiO ₂	0.18
SrO	4.88	SnO ₂	2.60
BaO	8.63	Nb ₂ O ₅	2.18
PbO	0.52	Ta ₂ O ₅	66.33
La ₂ O ₃	0.52	SiO ₂	0.46
Ce ₂ O ₃	0.49	Cs ₂ O	0.67
Nd ₂ O ₃	0.55	<u>H₂O</u>	<u>[4.84]</u>
Bi ₂ O ₃	0.57	Total	98.35

(1) Volta Grande pegmatite, Nazareno, Minas Gerais, Brazil; average of 3 wavelength-dispersive spectroscopic analyses supplemented by IR spectroscopy, H₂O calculated from structure; corresponds to $[\square_{0.71}(\text{H}_2\text{O})_{0.48}\text{Ba}_{0.33}\text{Sr}_{0.27}\text{U}_{0.10}\text{Mn}_{0.02}\text{Nd}_{0.02}\text{Ce}_{0.02}\text{La}_{0.02}\text{Ca}_{0.01}\text{Bi}_{0.01}\text{Pb}_{0.01}]_{\Sigma=2.00}(\text{Ta}_{1.75}\text{Nb}_{0.10}\text{Sn}_{0.10}\text{Si}_{0.04}\text{Ti}_{0.01})_{\Sigma=2.00}[(\text{O}_{5.77}(\text{OH})_{0.23})_{\Sigma=6.00}[(\text{H}_2\text{O})_{0.97}\text{Cs}_{0.03}]_{\Sigma=1.00}]$.

Mineral Group: Pyrochlore supergroup, microlite subgroup.

Occurrence: An accessory mineral in the heavy mineral concentrate from a zoned granitic pegmatite.

Association: Microcline, albite, quartz, muscovite, spodumene, “lepidolite”, cassiterite, tantalite-(Mn), monazite-(Ce), fluorite, “apatite”, beryl, “garnet”, epidote, magnetite, gahnite, zircon, “tourmaline”, bityite.

Distribution: From the Volta Grande pegmatite, Sn-Ta-rich São João del Rei Pegmatite Province, Nazareno, Minas Gerais, Brazil.

Name: For a member of the *microlite* subgroup with the *A* site dominated by vacancies, the *B* site by Ta, and the *Y* site by H₂O.

Type Material: Institute of Geosciences, University of São Paulo, SP, Brazil (DR725).

References: (1) Andrade, M.B., D. Atencio, N.V. Chukanov, and J. Ellena (2013) Hydrokenomicrolite, $(\square, \text{H}_2\text{O})_2\text{Ta}_2(\text{O}, \text{OH})_6(\text{H}_2\text{O})$, a new microlite-group mineral from Volta Grande pegmatite, Nazareno, Minas Gerais, Brazil. *Amer. Mineral.*, 98, 292-296.