

Bismutomicrolite**(Bi, Ca)(Ta, Nb)₂O₆(OH)**

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Crystal Data: Cubic. *Point Group:* $4/m\bar{3}2/m$. As crystals, octahedral, to 2 mm; commonly massive, in veinlets.

Physical Properties: *Fracture:* Uneven. *Tenacity:* [Brittle] (by analogy to the pyrochlore group). Hardness = 5 D(meas.) = ~6.5 D(calc.) = 6.83–6.97

Optical Properties: Semitransparent. *Color:* Yellow, pink, brown; dark gray to black. *Luster:* Dull, resinous. *Optical Class:* Isotropic. $n = > 2.00$

Cell Data: *Space Group:* $Fd\bar{3}m$. $a = 10.430\text{--}10.485$ $Z = 8$

X-ray Powder Pattern: Tromba pegmatite, Brazil. 2.997 (vvs), 1.838 (vs), 1.568 (vs), 3.136 (s), 5.94 (ms), 2.595 (ms), 2.004 (ms)

Chemistry:	(1)	(2)	(1)	(2)
Nb ₂ O ₅	5.65	6.65	CaO	1.46
Ta ₂ O ₅	45.49	63.10	SrO	0.92
SiO ₂	0.36		Na ₂ O	0.08
Al ₂ O ₃	0.80		K ₂ O	0.09
Fe ₂ O ₃		0.08	Li ₂ O	0.25
Bi ₂ O ₃	40.40	25.09	H ₂ O ⁺	4.16
FeO + MnO	0.22		H ₂ O ⁻	0.04
			Total	99.92
				[99.77]

(1) Wampewo pegmatite, Uganda. (2) Tromba pegmatite, Brazil; original total given as 99.97%, after deduction of Fe₂O₃ corresponds to (Bi_{0.64}Ca_{0.36})_{Σ=1.00}(Ta_{1.69}Nb_{0.31})_{Σ=2.00}O₆(OH).

Mineral Group: Pyrochlore group; microlite subgroup: Bi_A > 20%; (Nb + Ta)_B > 2Ti_B; Ta_B ≥ Nb_B.

Occurrence: A late hydrothermal replacement of bismutotantalite in a lithium-bearing pegmatite (Wampewo pegmatite, Uganda).

Association: Waylandite, bismutotantalite (Wampewo Hill, Uganda); bismutite, bismuth (Tromba pegmatite, Brazil).

Distribution: In the Wampewo pegmatite, Gamba Hill, near Kampala, southwest Uganda. In the Tromba pegmatite, Goiás; at Alto Manoel, Baldoino, Paraíba; and at Lavra Ermo, Carnauba dos Danta, Rio Grande del Norte, Brazil. From the Solnetchnaya mine, Malkhan Range, central Tranbaikalia, Russia.

Name: Assigned by the IMA Committee on pyrochlore nomenclature for the predominant *bismuth* content and relation to *microlite* in the pyrochlore group.

Type Material: n.d.

References: (1) Hogarth, D.D. (1977) Classification and nomenclature of the pyrochlore group. *Amer. Mineral.*, 62, 403–410, esp. 408 [westgrenite = bismutomicrolite]. (2) von Knorring, O. and M.E. Mrose (1963) Westgrenite [bismutomicrolite] and waylandite, two new bismuth minerals from Uganda (abs.). *Geol. Soc. Amer. Spec. Paper* 73, 256A (abs.). (3) (1963) *Amer. Mineral.*, 48, 216 (abs. ref. 2). (4) Erichsen de Oliveira, O., N. Rocha Baptista, and A. Baptista (1970) Westgrenita [bismutomicrolite] no pegmatito de Tromba, Estado de Goiás. *An. Acad. brasil. Ciénc.*, 42(1), 41–44 (in Portuguese).