Oxybismutomicrolite $(Bi_{1.33}\square_{0.67})_{\Sigma=2}Ta_2O_6O$

Crystal Data: Cubic. *Point Group:* $4/m\ \bar{3}\ 2/m$. As rough octahedral crystals to 1 mm and equant grains to 2 mm.

Physical Properties: *Cleavage*: None. *Fracture:* Uneven. *Tenacity:* Brittle. Hardness = ~5 VHN = 551-689, 609 average (100 g load). D(meas.) = 6.98(2) D(calc.) = 7.056

Optical Properties: Translucent in thin splinters. *Color:* Black; light gray in reflected light. *Streak:* Grayish-white.
Optical Class: Isotropic. *n*(calc.) = 2.184

Cell Data: *Space Group:* $Fd\bar{3}\ m$. $a = 10.4746(11)$ $Z = 8$

X-ray Powder Pattern: Solnechnaya ('Sunny') pegmatite, Central Transbaikalia, Russia.
3.026 (100), 1.854 (33), 2.621 (32), 1.581 (27), 6.051 (12), 3.160 (10), 1.514 (7)

Chemistry:

	(1)		(1)
Na_2O	3.45	TiO_2	3.89
CaO	2.88	SnO_2	1.77
MnO	0.31	Nb_2O_5	4.50
PbO	0.76	Ta_2O_5	51.08
Bi_2O_3	29.81	F	1.17
ThO_2	0.18	-O = F	0.49
		Total	99.31

(1) Solnechnaya ('Sunny') pegmatite, Central Transbaikalia, Russia; average of 7 electron microprobe analyses supplemented by FTIR spectroscopy; corresponds to $(Bi_{0.79}Na_{0.68}Ca_{0.32}Mn_{0.03}Pb_{0.02}\square_{0.16})_{\Sigma=2.00}(Ta_{1.42}Ti_{0.30}Nb_{0.21}Sn_{0.07})_{\Sigma=2.00}O_{6.00}(O_{0.52}F_{0.38}\square_{0.10})_{\Sigma=1.00}$.

Mineral Group: Pyrochlore supergroup (general formula - $A_2B_2X_6Y$); microlite group ($B = Ta^{5+}$).

Occurrence: In complex granitic miarolitic pegmatite, enriched in bismuth.

Association: Albite, lepidolite, elbaite, Bi-rich fluornatromicrolite, bismutotantalite, stibiotantalite.

Distribution: In the Solnechnaya ('Sunny') pegmatite vein, Malkhan pegmatite field, Krasnochikoyskiy District, Zabaykalskiy Kray, Central Transbaikalia, Russia.

Name: For a member of the *microlite* group with prefixes to indicate essential oxygen (*oxy*) in the *Y* site and essential Bi^{3+} (*bismuto*) in the *A* site.

Type Material: A.E. Fersman Mineralogical Museum, Russian Academy of Sciences, Moscow, Russia (5409/1).

References: (1) Kasatkin, A.V., S.N. Britvin, I.S. Peretyazhko, N.V. Chukanov, R. Škoda, and A. A. Agakhanov (2020) Oxybismutomicrolite, a new pyrochlore-supergroup mineral from the Malkhan pegmatite field, Central Transbaikalia, Russia. Mineral. Mag., 84, 444-454.
(2) Atencio, D., M.B. Andrade, A.G. Christy, R. Gieré, and P.M. Kartashov (2010) The pyrochlore supergroup of minerals: nomenclature. Can. Mineral., 48, 673-698.