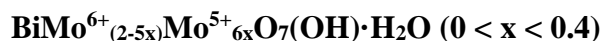


Gelosaite

Crystal Data: Monoclinic. *Point Group:* $2/m$. Prismatic crystals are elongated along [010] and tabular on {100} to 1 mm. *Twining:* Common by an undetermined twin law.

Physical Properties: *Cleavage:* None. *Fracture:* Conchoidal. *Tenacity:* Brittle. Hardness = ~3 D(meas.) = n.d. D(calc.) = 5.114

Optical Properties: Transparent. *Color:* Colorless, yellow, yellowish green, pale blue.

Streak: White. *Luster:* Adamantine.

Optical Class: Anisotropic. $n(\text{calc.}) = 2.04$ *Pleochroism:* Blue to pale blue (blue varieties).

Cell Data: *Space Group:* $P2_1/n$. $a = 5.8505(4)$ $b = 9.0421(6)$ $c = 13.917(1)$ $\beta = 100.42(1)^\circ$ $Z = 4$

X-ray Powder Pattern: Su Senargiu, Sardinia, Italy.

4.83 (100), 2.755 (60), 3.015 (50), 2.080 (50), 1.509 (30), 3.30 (25), 3.41 (21)

Chemistry:	(1)	(2)
PbO	0.01	
Bi ₂ O ₃	42.87	42.52
Mo ₂ O ₅	14.97	
MoO ₃	37.85	52.54
WO ₃	0.02	
H ₂ O	[4.85]	4.93
Total	100.57	100.00

(1) Su Senargiu, Sardinia, Italy; electron microprobe analysis, Mo partitioned between Mo₂O₅ and MoO₃ based on the structure analysis, H₂O was calculated from stoichiometry; corresponds to BiMo⁶⁺_{1.48}Mo⁵⁺_{0.62}O₇(OH)·H₂O. (2) BiMo₂O₇(OH)·H₂O.

Occurrence: A secondary mineral formed in the oxidation zone of bismuth-molybdenum deposits.

Association: Sardignaites, ferrimolybdate, koechlinite, wulfenite, muscovite (Sardinia); bismutite, quartz (Australia).

Distribution: From Su Senargiu, Sarroch (CA), Sardinia, Italy [TL] and the Old 25 and Wolfram pipes, Kingsgate Bi-Mo deposits, 28 km east of Glen Innes, New England district, northeastern New South Wales, Australia.

Name: Honors Mario *Gelosa* (1947-2006) from Porto Torres, Sardinia, who first found the mineral.

Type Material: Natural History Museum, University of Pisa, Tuscany, Italy (18910).

References: (1) Orlandi, P., F. Demartin, M. Pasero, P. Leverett, P.A. Williams, and D.E. Hibbs (2011) Gelosaite, BiMo⁶⁺_(2-5x)Mo⁵⁺_{6x}O₇(OH)·H₂O ($0 \leq x \leq 0.4$), a new mineral from Su Senargiu (CA), Sardinia, Italy, and a second occurrence from Kingsgate, New England, Australia. *Amer. Mineral.*, 96, 268-273.