

Favreauite**PbBiCu₆O₄(SeO₃)₄(OH)·H₂O**

Crystal Data: Tetragonal. *Point Group:* 4/m. As square tabular crystals to 0.1 mm, flattened on {001} and combined in subparallel and divergent groups.

Physical Properties: *Cleavage:* Perfect on {001}. *Fracture:* Irregular. *Tenacity:* Brittle. Hardness = ~ 3 D(meas.) = n.d. D(calc.) = 4.851

Optical Properties: Transparent. *Color:* Green. *Streak:* n.d. *Luster:* Vitreous. *Optical Class:* Uniaxial (-). *n*(calc.) = 1.854. *Pleochroism:* Slight, in green tints. *Absorption:* $O < E$.

Cell Data: *Space Group:* P4/n. *a* = 9.860(4) *c* = 9.700(5) *Z* = 2

X-ray Powder Pattern: El Dragón mine, Antonio Quijarro Province, Potosí Department, Bolivia. 5.67 (100), 3.470 (76), 2.961 (40), 2.247 (36), 3.190 (35), 2.632 (34), 2.709 (33)

Chemistry:	(1)	(2)
CaO	0.64	
CuO	30.63	33.99
PbO	14.08	15.89
Bi ₂ O ₃	13.95	16.59
SeO ₂	30.16	31.60
H ₂ O	[1.79]	1.92
Total	91.25	100.00

(1) El Dragón mine, Antonio Quijarro Province, Potosí Department, Bolivia; average of 6 electron microprobe analyses supplemented by IR spectroscopy, H₂O from charge balance; corresponding to Pb_{0.95}Ca_{0.17}Bi_{0.90}Cu_{5.81}Se_{4.10}O₁₆(OH)·H₂O. (2) PbBiCu₆O₄(SeO₃)₄(OH)·H₂O.

Occurrence: A secondary mineral formed by the oxidation of a selenide-bearing hydrothermal vein hosted by sandstones and shales.

Association: Ahlfeldite, allophane, calcite, chalcocite, malachite, molybdomenite, alfredopetrovite.

Distribution: From the El Dragón mine, Antonio Quijarro Province, Potosí Department, Bolivia.

Name: Honors Georges *Favreau*, amateur mineralogist and professional engineer, President of the Association Française de Microminéralogie (1993-2007) and co-discoverer of this new mineral, for his contributions to mineralogy.

Type Material: Geosciences collections, Museum Victoria, Melbourne, Victoria, Australia (M53004) and the Natural History Museum of Los Angeles County, Los Angeles, USA (64111-64113).

References: (1) Mills, S.J., A.R. Kampf, A.G. Christy, R.M. Housley, B. Thorne, Yu-S. Chen and I.M. Steele (2014) Favreauite, a new selenite mineral from the El Dragón mine, Bolivia. *Eur. J. Mineral.*, 26(6), 771-781. (2) (2016) *Amer. Mineral.*, 101, 1016 (abs. ref. 1).