

Crystal Data: Orthorhombic. *Point Group:* $2/m\ 2/m\ 2/m$. As lamellar {100} crystals, elongated on [001], dominated by {100} with {110}, curved {010} common, {211} uncommon, to 3 cm; typically as jackstraw or booklike radial aggregates intergrown about [001].

Physical Properties: *Cleavage:* {100} and {010}, good. *Tenacity:* Brittle. Hardness = 3.5–4 D(meas.) = 4.26(5) D(calc.) = 4.279

Optical Properties: Transparent to translucent. *Color:* Dark green. *Streak:* Malachite-green. *Luster:* Adamantine.

Optical Class: Biaxial (+). *Pleochroism:* X = yellow-green; Y = Z = green. *Orientation:* X = b; Y = a; Z = c. *Dispersion:* $r > v$, strong. $\alpha = > 1.8$ $\beta = > 1.8$ $\gamma = > 1.8$ 2V(meas.) = 74(3)°

Cell Data: *Space Group:* $Pn\bar{m}$. $a = 8.5201(8)$ $b = 12.545(1)$ $c = 6.0794(6)$ $Z = 4$

X-ray Powder Pattern: Jardinera No. 1 mine, Chile.

2.591 (vs), 5.471 (s), 3.754 (s), 3.043 (s), 1.519 (s), 4.599 (m), 2.759 (m), 2.415 (m)

Chemistry:

	(1)	(2)
MoO ₃	34.00	34.38
Al ₂ O ₃	0.14	
CuO	56.26	57.01
H ₂ O	8.79	8.61
Total	99.19	100.00

(1) Jardinera No. 1 mine, Chile; by electron microprobe, average of 20 analyses; H₂O by LOI, MoO₄²⁻ and OH⁻ confirmed by IR; corresponds to Cu_{2.97}Al_{0.01}(MoO₄)_{0.99}(OH)_{4.09}.

(2) Cu₃(MoO₄)(OH)₄.

Occurrence: A uncommon secondary mineral in the oxidized zone of a copper–molybdenum deposit in granite.

Association: Powellite, chrysocolla, brochantite, lindgrenite, gold, molybdenite, chalcocite, hematite, barite, quartz.

Distribution: From the Jardinera No. 1 mine, five km east of Inca de Oro, Atacama, Chile.

Name: Honors husband and wife Marissa Szenics (1950–) and Terry Szenics (1947–), mineral collectors and dealers who found the first specimens.

Type Material: Harvard University, Cambridge, Massachusetts, USA, 133734, 133735, 133738, 133739.

References: (1) Francis, C.A., L.C. Pitman, and D.E. Lange (1997) Szenicsite, a new copper molybdate from Inca de Oro, Atacama, Chile. *Mineral. Record*, 28, 387–394. (2) (1998) *Amer. Mineral.*, 83, 403 (abs. ref. 1). (3) Burns, P.C. (1998) The crystal structure of szenicsite, Cu₃MoO₄(OH)₄. *Mineral. Mag.*, 62, 461–469.