

Crystal Data: Triclinic. *Point Group:* $\bar{1}$. As thin blades up to ~300 μm , flattened on {001} and exhibiting {001}, {010}, {1 $\bar{1}$ 0}, {2 $\bar{1}$ 0}, and {111}, also in sheaf-like bundles, less commonly in divergent sprays, and sometimes as dense crusts and cavity linings. *Twinning:* Ubiquitous by reflection on {001}.

Physical Properties: *Cleavage:* Perfect on {001}. *Fracture:* Curved. *Tenacity:* Brittle. Hardness = 2-3 D(meas.) = n.d. D(calc.) = 3.084

Optical Properties: Transparent. *Color:* Sky-blue to greenish blue. *Streak:* Very pale blue. *Luster:* Vitreous. *Optical Class:* Biaxial (-). $\alpha = 1.634$ $\beta = 1.644$ $\gamma = 1.651$ $2V(\text{meas.}) = 78(2)^\circ$ $2V(\text{calc.}) = 79.4^\circ$ *Orientation:* $X \approx c^*$; $Y \approx b^*$. *Dispersion:* Weak, $r < v$. *Pleochroism:* $Z = \text{greenish blue}$, $Y = \text{pale greenish blue}$, $X = \text{colorless}$. *Absorption:* $Z > Y > X$.

Cell Data: *Space Group:* $P\bar{1}$. $a = 6.0530(2)$ $b = 10.2329(3)$ $c = 12.9112(4)$ $\alpha = 87.413(19)^\circ$ $\beta = 78.480(2)^\circ$ $\gamma = 78.697(2)^\circ$ $Z = 2$

X-ray Powder Pattern: Jote mine, Tierra Amarilla, Copiapó Province, Atacama, Chile. 12.76 (100), 4.206 (26), 3.40 (25), 3.92 (24), 5.009 (23), 2.97 (20), 3.233 (19)

Chemistry:	(1)	(2)	(3)
CaO	17.12	15.70	15.72
CuO	12.23	11.22	11.15
Al ₂ O ₃	9.07	8.32	7.14
As ₂ O ₅	50.83	46.62	48.32
H ₂ O	[19.78]	18.14	17.67
Total	109.03	100.00	100.00

(1) Jote mine, Tierra Amarilla, Copiapó Province, Atacama, Chile; average of 5 electron microprobe analyses, H₂O calculated from structure analysis, OH and H₂O confirmed by Raman spectroscopy; corresponds to Ca_{1.98}Cu_{1.00}Al_{1.15}As_{2.87}H_{14.24}O₁₉. (2) Analysis 1 normalized. (3) Ca₂CuAl[AsO₄][AsO₃(OH)]₂(OH)₂·5H₂O.

Occurrence: In narrow seams and vugs in the oxidized upper portion of a hydrothermal sulfide vein hosted by volcanoclastic rocks.

Association: Conicalcite, mansfieldite, pharmacalumite, pharmacosiderite, scorodite.

Distribution: From the Jote mine, Pampa Larga district, Tierra Amarilla, Copiapó Province, Atacama, Chile.

Name: For the mine from which the first specimens were collected.

Type Material: Natural History Museum of Los Angeles County, Los Angeles, California, USA. (63592–63594).

References: (1) Kampf, A.R., S.J. Mills, R.M. Housley, G.R. Rossman, B.P. Nash, M. Dini, and R.A. Jenkins (2013) Joteite, Ca₂CuAl[AsO₄][AsO₃(OH)]₂(OH)₂·5H₂O, a new arsenate with a sheet structure and unconnected acid arsenate groups. *Mineral. Mag.*, 77(6), 2811-2823. (2) (2015) *Amer. Mineral.*, 100, 2010 (abs. ref. 1).