

**Crystal Data:** Triclinic. *Point Group:*  $\bar{1}$ . As tablets and blades to ~1 mm, often grouped in tightly intergrown aggregates. Crystals are flattened on {010}, slightly elongate along [001], and exhibit {100}, {010}, {001},  $\{1\bar{1}0\}$ , {101} and  $\{10\bar{1}\}$ .

**Physical Properties:** *Cleavage:* Good on {100}, perfect on {010}. *Tenacity:* Brittle. Hardness = 2.5 *Fracture:* Irregular, stepped. D(meas.) = 2.93(2) D(calc.) = 2.950 Easily soluble in dilute HCl.

**Optical Properties:** Transparent. *Color:* Colorless. *Streak:* White. *Luster:* Vitreous. *Optical Class:* Biaxial (+).  $\alpha = 1.588(2)$   $\beta = 1.599(2)$   $\gamma = 1.622(2)$  2V(meas.) = 70(2)° 2V(calc.) = 70.2° *Orientation:*  $X \wedge c = 35^\circ$ ,  $Y \wedge a = 16^\circ$ ,  $Z \wedge b = 18^\circ$ . *Dispersion:* Slight,  $r > v$ . Nonpleochroic.

**Cell Data:** *Space Group:*  $P\bar{1}$ .  $a = 8.4143(6)$   $b = 7.5321(5)$   $c = 6.8917(4)$   $\alpha = 82.477(6)^\circ$   $\beta = 97.682(6)^\circ$   $\gamma = 95.379(6)^\circ$   $Z = 2$

**X-Ray Diffraction Pattern:** Torrecillas mine, Iquique Province, Tarapacá Region, Chile. 3.511 (100), 3.248 (81), 7.46 (78), 2.679 (75), 2.953 (62), 2.796 (51), 4.191 (45)

<b>Chemistry:</b>	(1)
Na <sub>2</sub> O	0.12
CaO	14.53
MgO	10.59
As <sub>2</sub> O <sub>5</sub>	60.32
H <sub>2</sub> O	[14.20]
Total	99.76

(1) Torrecillas mine, Iquique Province, Tarapacá Region, Chile; average electron microprobe analysis supplemented by Raman spectroscopy, H<sub>2</sub>O calculated from structure; corresponds to (Ca<sub>0.99</sub>Na<sub>0.01</sub>) $\Sigma=1.00$ Mg<sub>1.00</sub>[AsO<sub>3</sub>(OH)]<sub>2</sub>(H<sub>2</sub>O)<sub>2</sub>.

**Occurance:** A low-temperature secondary phase on massive quartz-hematite veins and formed under hyperarid conditions from the oxidation of native arsenic, and possibly other As-bearing primary phases by reaction with fluids (derived from fog) rich in dissolved Na, Ca, and Mg.

**Association:** Camanchacaite, anhydrite, gypsum, halite, talmessite.

**Distribution:** From the Torrecillas mine, northern Atacama Desert, Salar Grande, Iquique Province, Tarapacá Region, Chile.

**Name:** The prefix indicates the magnesium analogue of *fluckite*.

**Type Material:** Natural History Museum of Los Angeles County, Los Angeles, California, USA (67257).

**References:** (1) Kampf, A.R., B.P. Nash, A.J. Celestian, M. Dini, and A.A. Molina Donoso (2019) Camanchacaite, chinchorroite, espadaite, magnesiofluckite, picaite and rósecoite: six new hydrogen-arsenate minerals from the Torrecillas mine, Iquique Province, Chile. Mineral. Mag., 83, 655-671.