

**Crystal Data:** Cubic. *Point Group:*  $\bar{4}3m$ . Granular, massive.

**Physical Properties:** *Fracture:* Conchoidal. *Tenacity:* Sectile. Hardness = 2.5  
D(meas.) = 3.93–4.3; 4.136 (synthetic). D(calc.) = 4.22 Alters to paratacamite on exposure.

**Optical Properties:** Transparent to translucent. *Color:* Colorless, white; grayish to greenish on exposure; colorless in transmitted light. *Streak:* White. *Luster:* Adamantine.  
*Optical Class:* Isotropic; may be anomalously anisotropic.  $n = 1.930(5)$  (synthetic).

**Cell Data:** *Space Group:*  $F\bar{4}3m$ .  $a = 5.407$   $Z = 4$

**X-ray Powder Pattern:** Synthetic.

3.127 (100), 1.915 (55), 1.633 (30), 1.243 (10), 2.710 (8), 1.1054 (8), 1.354 (6)

**Chemistry:**

	(1)	(2)	(3)
Cu	64.17	64.28	64.19
Cl	35.52	35.82	35.81
Total	99.69	100.10	100.00

(1) Nantoko, Chile. (2) Broken Hill, Australia. (3) CuCl.

**Occurrence:** A secondary mineral in hydrothermal copper-bearing deposits; rarely in volcanic sublimates.

**Association:** Cuprite, copper, atacamite, paratacamite, claringbullite, cerussite, hematite.

**Distribution:** In the Carmen Bajo mine, Pintada Mountain, near Nantoko, Copiapó district, Atacama, Chile. From Broken Hill, New South Wales, and at the Wewak, Magpie, and Great Australia mines, Cloncurrie, Queensland, Australia. In the Malanjkhand copper deposit, north of Durg, Madhya Pradesh, India. From the Tolbachik volcano, Kamchatka Peninsula, Russia. At Dzhezkazgan, Kazakhstan. From the Levant mine, St. Just, Cornwall, England. Along Baratti Beach, Tuscany, Italy, in slag. In the USA, at Bisbee, Cochise County, Arizona, and in the Steeple Rock district, Grant Co., New Mexico. From the Ojuela mine, Mapimí, Durango, Mexico.

**Name:** For its occurrence near Nantoko, Chile.

**Type Material:** Mining Academy, Freiberg, Germany, 12012.

**References:** (1) Palache, C., H. Berman, and C. Frondel (1951) Dana's system of mineralogy, (7th edition), v. II, 18–19. (2) (1955) NBS Circ. 539, 4, 35–36.