

Crystal Data: Monoclinic. *Point Group:* $2/m$. Crystals are thin to thick tabular $\parallel \{100\}$, or elongated along $[001]$, to 3 cm; $\{100\}$ is usually dominant, but may show many other forms. *Twinning:* Almost all crystals are twinned by contact on $\{100\}$.

Physical Properties: *Cleavage:* $\{001\}$, perfect. *Tenacity:* Flexible, due to twin gliding, but not elastic. Hardness = Soft. $D(\text{meas.}) = 6.05\text{--}6.15$ $D(\text{calc.}) = 6.28$

Optical Properties: Transparent to translucent. *Color:* Colorless, white, pale greenish, yellowish, yellow-orange, rarely violet; colorless in transmitted light. *Luster:* Subadamantine. *Optical Class:* Biaxial (-). *Pleochroism:* Noted in violet material. *Orientation:* $Y = b$; $Z \wedge c = 25^\circ$. *Dispersion:* $r < v$, strong. *Absorption:* $Y > X = Z$. $\alpha = 2.05(1)$ $\beta = 2.15(1)$ $\gamma = 2.20(1)$ $2V(\text{meas.}) = \text{Medium to large}$.

Cell Data: *Space Group:* $C2/m$. $a = 10.865(4)$ $b = 4.006(2)$ $c = 7.233(3)$
 $\beta = 117.24(4)^\circ$ $Z = 4$

X-ray Powder Pattern: Laurium, Greece.

5.14 (10), 3.21 (10), 2.51 (9), 2.98 (7), 3.49 (6), 2.44 (6), 2.01 (6)

Chemistry:

	(1)	(2)	(3)
Pb	78.1	77.75	79.80
O	[3.6]	6.00	3.08
Cl	14.9	12.84	13.65
H ₂ O	3.4	3.51	3.47
insol.		0.09	
Total	[100.0]	100.19	100.00

(1) Laurium, Greece. (2) Tiger, Arizona, USA. (3) PbCl(OH).

Polymorphism & Series: Dimorphous with laurionite.

Occurrence: A secondary mineral formed through alteration of lead-bearing slag by sea water or in hydrothermal polymetallic mineral deposits.

Association: Laurionite, penfieldite, fiedlerite, phosgenite (Laurium, Greece); leadhillite, matlockite, cerussite, hydrocerussite, diaboileite, wherryite (Tiger, Arizona, USA).

Distribution: In slag from: Laurium, Greece. Along Baratti Beach, Tuscany, Italy. From the Meadowfoot smelter, near Wanlockhead, Dumfriesshire, Scotland. At Juliushütte, Astfeld, Harz Mountains, Germany. From the Argent Pb–Ag mine, about 100 km east of Johannesburg, Transvaal, South Africa. In mineral deposits at: Wheal Rose, near Sithney, and at Daymer Bay, Padstow, Cornwall, and at the Wesley mine, near Higher Pitts, Mendip Hills, and the Merehead quarry, near Shepton Mallet, Somerset, England. Exceptional crystals from the Mammoth-St. Anthony mine, Tiger, Pinal Co., Arizona, USA. In Chile, from the San Rafael and Santa Ana mines, near Caracoles, Sierra Gorda district, Antofagasta. Large crystals from the Touissit mine, near Oujda, and from Mibladen, Morocco.

Name: From the Greek for *near*, for the dimorphous relation to *laurionite*.

Type Material: The Natural History Museum, London, England, 84034.

References: (1) Palache, C., H. Berman, and C. Frondel (1951) Dana's system of mineralogy, (7th edition), v. II, 64–66. (2) Merlino, S., M. Pasero, and N. Perchiazzi (1993) Crystal structure of paralaurionite and its OD relationship with laurionite. *Mineral. Mag.*, 57, 323–328. (3) Traill, R.J. and A.P. Sabina (1960) Catalogue of X-ray diffraction patterns and specimen mounts on file at the Geological Survey of Canada. *Geol. Sur. of Canada, Paper 60-4*, 58.

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