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Crystal Data: Hexagonal. Point Group: 6/m 2/m 2/m. As small irregular plates, which may be striated in multiple directions producing a cross-hatching, and with hummocky surfaces.

**Physical Properties:** Cleavage: Perfect on  $\{0001\}$ . Tenacity: Brittle. Hardness = 2 VHN = n.d. D(meas.) = 6.9-7.2 D(calc.) = 7.135

Optical Properties: Opaque. Color: White. Streak: White and slightly grayish.

Luster: Metallic.

 $R_1-R_2$ : n.d.

Cell Data: Space Group:  $P6_3/mmc$ . a = 2.665 c = 4.947 Z = 2

X-ray Powder Pattern: Synthetic.

2.091 (100), 2.473 (3), 2.308 (40), 1.687 (28), 1.342 (25), 1.1729 (23), 1.332 (21)

Chemistry:

$$Zn$$
  $\sim 90$   $\sim 90$   $Sn, Pb, Cd$   $\sim 10$   $\sim 10$   $Si, Cu, Ag, trace  $Ca, Ba$$ 

Total

(1) Elsa mine, Canada; combined X-ray fluorescence and spectrographic analyses.

Occurrence: In the oxidized zone of Pb-Zn-Ag sulfide deposits, derived from sphalerite by oxidation (Elsa mine, Canada); coatings on fibrous volcanic glass, as a volcanic sublimate (Mount Elbrus, Russia); in platinum concentrates (Aurora deposit, Russia).

Association: Silver, sulfur, oxidized sphalerite, "limonite", manganese oxides, cerussite, anglesite, freibergite, galena (Elsa mine, Canada); copper, Cu–Zn alloy, sphalerite, djurleite, cuprite (Dulcina de Lampos mine, Chile).

**Distribution:** In the Elsa mine, Keno Hill-Galena Hill area, Yukon Territory, Canada. From Mount Elbrus, Caucasus Mountains, and the Aurora deposit, locality not otherwise specified, Russia. From the Burobaiskii massif, eastern Kazakhstan. In the Dulcina de Lampos copper mine, near Copiapó, Atacama, Chile.

Name: From the German zink, of obscure origin.

References: (1) Palache, C., H. Berman, and C. Frondel (1944) Dana's system of mineralogy, (7th edition), v. I, 127. (2) (1953) NBS Circ. 539, 1, 16. (3) Boyle, R.W. (1961) Native zinc at Keno Hill. Can. Mineral., 6, 692–694. (4) Bartikyan, P.M. (1966) Native lead and zinc in the rocks of Armenia. Zap. Vses. Mineral. Obshch., 95, 99–102 (in Russian). (5) (1962) Mineral. Abs., 18, 200 (abs. ref. 4).