

Zinclipscorbite

Crystal Data: Tetragonal. *Point Group:* 422. As spheroidal, fibrous aggregates to 2.5 mm.

Physical Properties: *Cleavage:* None. *Tenacity:* Brittle. *Fracture:* Uneven. Hardness = 5
D(meas.) = 3.65(4) D(calc.) = 3.727

Optical Properties: Translucent. *Color:* Dark green to brown. *Streak:* Light green to beige.
Luster: Vitreous.

Optical Class: Uniaxial (+). $\omega = 1755(5)$ $\varepsilon = 1.795(5)$. *Pleochroism:* X = bright green to blue-green, Z = light greenish brown. *Absorption:* X > Z.

Cell Data: *Space Group:* P4₃2₁2 or P4₁2₁2. $a = 7.242(2)$ $c = 13.125(5)$ Z = 4

X-Ray Diffraction Pattern: Silver Coin mine, Valmy, Humboldt Co., Nevada, USA.
3.32 (100), 4.79 (80), 3.21 (60), 1.605 (50), 2.602 (45), 1.663 (45), 2.299 (40)

Chemistry:	(1)	(2)
CaO	0.30	
ZnO	15.90	20.29
Al ₂ O ₃	4.77	
Fe ₂ O ₃	35.14	39.82
P ₂ O ₅	33.86	35.39
As ₂ O ₅	4.05	
H ₂ O	4.94	4.49
Total	98.96	100.00

(1) Silver Coin mine, Valmy, Humboldt Co., Nevada, USA; average electron microprobe analysis supplemented by Mössbauer spectroscopy, H₂O by Penfield method; corresponds to

$(\text{Zn}_{0.76}\text{Ca}_{0.02})_{\Sigma=0.78}(\text{Fe}_{1.72}\text{Al}_{0.36})_{\Sigma=2.08}[(\text{PO}_4)_{1.86}(\text{AsO}_4)_{0.14}]_{\Sigma=2.00}(\text{OH})_{1.80} \cdot 0.17\text{H}_2\text{O}$.

(2) $\text{ZnFe}^{3+}_2(\text{PO}_4)_2(\text{OH})_2$.

Occurrence: Secondary in the oxidation zone of a hydrothermal vein-type silver and base metal sulfide deposit.

Association: Apophyllite, quartz, baryte, jarosite, plumbojarosite, turquoise, calcite.

Distribution: From the Silver Coin mine, Valmy, Edna Mountains, Humboldt Co., Nevada, USA.

Name: The prefix identifies the *zinc*-dominant analogue of *lipscombite*.

Type Material: Mining and Technology University, Freiberg, Germany (81019).

References: (1) Chukanov, N.V., I.V. Pekov, S. Möckel, A.E. Zadov, and V.T. Dubinchuk (2006) Zinclipscorbite $\text{ZnFe}^{3+}_2(\text{PO}_4)_2(\text{OH})_2$ - a new mineral. Zap. Ross. Mineral. Obsch., 135(6), 13-18.