

Crystal Data: Monoclinic. *Point Group:* 2/m. As crusts and as 0.5 mm aggregates of tabular crystals to 100 μm, elongated along [010].

Physical Properties: *Cleavage:* None. *Fracture:* Conchoidal. *Tenacity:* Brittle. *Hardness* = 4.5
D(meas.) = n.d. D(calc.) = 4.45 Soluble in warm dilute HCl.

Optical Properties: Transparent. *Color:* Brown to yellow. *Streak:* Light brown to yellow.
Luster: Subadamantine.

Optical Class: Biaxial (+). α (calc.) = 1.80 β = 1.81(1) γ = 1.87(2) 2V(meas.) = 40(5)^o
Pleochroism: Strong, X = yellow, Y = brown, Z = pale yellow. *Orientation:* Y = b, X ≈ c.

Cell Data: *Space Group:* C2/m. $a = 9.005(1)$ $b = 6.205(1)$ $c = 7.411(1)$ $\beta = 115.31(1)^\circ$ $Z = 2$

X-ray Powder Pattern: Pucher shaft, Saxony, Germany.

2.962 (100), 3.182 (76), 2.538 (75), 2.816 (66), 2.703 (66), 3.393 (55), 1.697 (53)

Chemistry:	(1)	(2)	(1)	(2)	
CaO	9.29	12.51	Fe ₂ O ₃	12.88	10.15
NiO	12.86	16.98	Bi ₂ O ₃	8.56	0.13
CoO	3.83	4.68	P ₂ O ₅	0.23	0.11
CuO	0.11	<0.05	As ₂ O ₅	45.32	49.88
ZnO	0.62	0.36	SO ₃	0.12	<0.05
PbO	0.90	0.14	H ₂ O	[5.35]	[6.53]
			Total	100.07	101.47

(1) Pucher shaft, Saxony, Germany; average electron microprobe analysis, H₂O calculated; corresponds to (Ca_{0.83}Bi_{0.18}Pb_{0.02})_{Σ=1.03}(Ni_{0.86}Fe_{0.81}Co_{0.26}Zn_{0.04})_{Σ=1.97}[(AsO₄)_{1.98}(PO₄)_{0.02}]_{Σ=2.00}[(OH)_{1.01}(H₂O)_{0.98}]_{Σ=1.99}. (2) Do., average electron microprobe analysis, H₂O calculated; corresponds to Ca_{1.03}(Ni_{1.05}Fe³⁺_{0.59}Co_{0.29}Zn_{0.02})_{Σ=1.95}[(AsO₄)_{2.01}(PO₄)_{0.01}]_{Σ=2.02}[(H₂O)_{1.40}(OH)_{0.56}]_{Σ=1.96}.

Mineral Group: Tsumcorite group.

Occurrence: In the oxidation zone of polymetallic ore deposits.

Association: Quartz, mawbyite, cobaltlotharmeyerite, galena, arseniosiderite, plumbogummite (Pucher shaft); nickeltsumcorite, annabergite, nickellotharmeyerite, nickelaustinite, gaspéite, calcite, dolomite, aragonite, quartz, goethite, cerussite, arseniosiderite, mimetite, oxyplumboroméite, Mn oxides/hydroxides (old Km-3 mine).

Distribution: In dump material from the Pucher shaft, near Scheeberg, Saxony, Germany [TL]. From dumps of the old Km-3 mine, Lavrion mining district, Attiki Prefecture, Greece. From the Bou Azzer As-Co-Ni-Ag-Au deposit, Anti-Atlas, Morocco.

Name: The prefix, *nickel*, indicates the nickel analog of *lotharmeyerite*.

Type Material: Museum for Mineralogy and Geology, Dresden, Germany.

References: (1) Krause, W., H. Effenberger, H.-J. Bernhardt, and M. Martin (2001) Cobalttsumcorite and nickellotharmeyerite, two new minerals from Schneeberg, Germany: description and crystal structure. N. Jb. Mineral. Mh., 2001, 558-576. (2) (2002) Amer. Mineral., 87, 997 (abs. ref. 1). (3) Pekov, I.V., N.V. Chukanov, D.A. Varlamov, D.I. Belakovskiy, A.G. Turchkova, P. Voudouris, A. Katerinopoulos, and A. Magganas (2016) Nickeltsumcorite, Pb(Ni,Fe³⁺)₂(AsO₄)₂(H₂O,OH)₂, a new tsumcorite-group mineral from Lavrion, Greece. Mineral. Mag., 80(2), 337-346 [locality].