

Crystal Data: Triclinic. *Point Group:* 1 or $\bar{1}$. As spheroidal aggregates of split crystals to 20 μm .

Physical Properties: *Cleavage:* Perfect on {010}. *Tenacity:* Brittle. *Hardness* = ~4
D(meas.) = 3.72(3) D(calc.) = 3.74

Optical Properties: Transparent. *Color:* Apple green, colorless in transmitted light. *Streak:* White.
Luster: Vitreous.

Optical Class: Biaxial (+). $\alpha = 1.715(3)$ $\beta = 1.720(5)$ $\gamma = 1.753(3)$ $2V(\text{meas.}) = 80(10)^\circ$
 $2V(\text{calc.}) = 60.4^\circ$

Cell Data: *Space Group:* P1 or $P\bar{1}$. $a = 5.858(7)$ $b = 7.082(12)$ $c = 5.567(6)$ $\alpha = 97.20(4)^\circ$
 $\beta = 109.11(5)^\circ$ $\gamma = 109.78(5)^\circ$ $Z = 1$

X-ray Powder Pattern: Aït Ahmane mine, Bou Azzer ore district, central Anti-Atlas, Morocco.
3.202 (100), 2.772 (68), 3.099 (64), 2.813 (60), 3.358 (58), 3.57 (43), 1.714 (39)

Chemistry:	(1)	(2)
CaO	25.92	24.77
MgO	1.23	
CoO	1.08	
NiO	13.01	16.50
As ₂ O	52.09	50.77
H ₂ O	7.8	7.96
Total	101.13	100.00

(1) Aït Ahmane mine, Bou Azzer ore district, central Anti-Atlas, Morocco; average electron microprobe analysis supplemented by IR spectroscopy, H₂O by modified Penfield method; corresponds to Ca_{2.04}(Ni_{0.77}Mg_{0.13}Co_{0.06}) $\Sigma=0.96$ (AsO₄)_{2.00}·1.91H₂O. (2) Ca₂Ni(AsO₄)₂·2H₂O.

Mineral Group: Fairfieldite group.

Occurrence: Secondary in the weathered zone of a hydrothermal arsenopyrite-glaucodot-cobaltite deposit.

Association: Annabergite, nickelaustinite, pecoraite, calcite, a mineral of the chromite-manganochromite series.

Distribution: From the Aït Ahmane mine, Bou Azzer ore district, central Anti-Atlas, Morocco.

Name: Identifies the *nickel*-dominant analogue of *talmessite*.

Type Material: A.E. Fersman Mineralogical Museum, RAS, Moscow, Russia (3750/1) and the Mineralogical Collection, Technische Universität Bergakademie, Freiberg, Germany (82195).

References: (1) Chukanov, N.V., A.A. Mukhanova, S. Möckel, D.I. Belakovsky, and L.A. Levitskaya (2010) Nickeltalmessite, Ca₂Ni(AsO₄)₂·2H₂O, a new mineral species of the fairfieldite group, Bou Azzer, Morocco. *Geology of Ore Deposits*, 52, 606-611.