

Crystal Data: Hexagonal, pseudocubic. *Point Group:* $\bar{3}$ (probable). As pseudo-octahedra, to 2 mm. *Twinning:* Cubic diffraction symmetry observed is likely due to twinning.

Physical Properties: *Cleavage:* Pseudocubic, good. *Tenacity:* Very brittle. Hardness = ~ 3
D(meas.) = 3.28(1) D(calc.) = 3.22

Optical Properties: Semitransparent. *Color:* Surficially yellow due to alteration; colorless in transmitted light. *Luster:* Vitreous; surface typically earthy due to alteration.

Optical Class: Uniaxial (+); sections exhibit very weak birefringence and interference figures; typically appears isotropic. $n = 1.633(1)$

Cell Data: *Space Group:* $R\bar{3}$ probable, $R3$, $R32$, $R3m$, $R\bar{3}m$ possible; $Pn\bar{3}$ actually observed, thought due to twinning. $a = 11.49$ $c = 14.08$ $Z = 4$

X-ray Powder Pattern: El Hamman, Morocco.

4.06 (vs), 1.814 (s), 1.657 (s), 0.9850 (s), 0.9576 (s), 4.68 (ms), 2.87 (ms)

Chemistry:

	(1)	(2)
SnO ₂	56.3	57.78
MgO	0.3	
CaO	20.6	21.50
H ₂ O(I)	[20.2]	20.72
H ₂ O(II)	[2.6]	
Total	[100.0]	100.00

(1) El Hamman, Morocco; by electron microprobe; H₂O(I) necessary for stoichiometry, H₂O(II) by difference, excess water possibly trapped in the structure; corresponds to (Ca_{0.98}Mg_{0.02})_{Σ=1.00} Sn_{1.00}(OH)₆•0.39H₂O. (2) CaSn(OH)₆.

Mineral Group: Schoenfliesite group.

Occurrence: From a garnetite in a tin-bearing skarn, formed under conditions of relatively low temperature and low X_{CO₂}.

Association: Wickmanite, stokesite, datolite, pectolite, andradite, wollastonite, malayaite, clinopyroxene, löllingite.

Distribution: On the west bank of the Beht River, near El Hamman, central Morocco.

Name: For Dr. Donald McLain Burt (1943–), Professor of Mineralogy, Arizona State University, Tempe, Arizona, USA, authority on mineral equilibria in skarn and greisen deposits, who had predicted the natural occurrence of the compound.

Type Material: Catholic University of Louvain, Louvain, Belgium, EH80016.

References: (1) Sonnet, P.M. (1981) Burtite, calcium hexahydroxostannate, a new mineral from El Hamman, central Morocco. *Can. Mineral.*, 19, 397–401. (2) (1982) *Amer. Mineral.*, 67, 854 (abs. ref. 1). (3) Cohen-Addad, C. (1967) Étude des hydroxystannates CaSn(OH)₆ et ZnSn(OH)₆ par diffraction des rayons X et résonance magnétique nucléaire. *Bull. Soc. fr. Minéral.*, 90, 32–35 (in French with English abs.).