

**Crystal Data:** Hexagonal. *Point Group:*  $\bar{3} 2/m$  (2T) and  $6mm$  (4H). Tabular hexagonal crystals, to 0.01 mm, in powdery aggregates.

**Physical Properties:** *Cleavage:* {0001}, marked. *Hardness* = Very soft. *VHN* = n.d. *D*(meas.) = 4.5 (synthetic). *D*(calc.) = [4.55]

**Optical Properties:** Translucent to transparent. *Color:* Pale yellow; in polished section, gray, with intense brownish to yellow-orange internal reflections. *Luster:* Resinous. *Streak:* Golden yellow. *Pleochroism:* Strong. *Anisotropism:* Dark greenish gray.

*R*<sub>1</sub>–*R*<sub>2</sub>: n.d.

**Cell Data:** *Space Group:*  $P\bar{3}m1$  (2T), with *a* = 3.639 *c* = 5.868 *Z* = 1, or  
*Space Group:*  $P6_3mc$  (4H), with *a* = 3.650 *c* = 11.811 *Z* = 2

**X-ray Powder Pattern:** Synthetic.  
5.89 (100), 2.784 (55), 3.162 (30), 1.824 (30), 2.155 (25), 1.743 (20), 1.669 (8)

**Chemistry:** Sn and S are major constituents.

**Polymorphism & Series:** Stacking polytypes 2T and 4H are known.

**Mineral Group:** Melonite group.

**Occurrence:** A secondary mineral in tin sulfide ores (Cerro de Potosí, Bolivia); a secondary mineral in a tin-bearing pegmatite (Lagares-do-Estanho tin pegmatite); in a high-temperature deposit, hydrothermally altered (Arandis, Namibia).

**Association:** Stannite, pyrite, cassiterite, sulfur.

**Distribution:** From Cerro [Rico], Potosí, Bolivia [2T TL]. In Portugal, at Panasqueira [4H TL] and from the Lagares-do-Estanho tin pegmatite. In the Stiepelmann mine, Arandis, Namibia. From Forestville, Northumberland Co., Pennsylvania, USA.

**Name:** For Dr. Fritz Berndt, German mineralogist, Corporación Minera de Bolivia, Oruro, Bolivia.

**Type Material:** National Museum of Natural History, Washington, D.C., USA, 114486, C5354A.

**References:** (1) Moh, G.H. and F. Berndt (1964) Two new natural tin sulfides, Sn<sub>2</sub>S<sub>3</sub> and SnS<sub>2</sub>. *Neues Jahrb. Mineral., Monatsh.*, 94–95. (2) (1965) *Amer. Mineral.*, 50, 2107 (abs. ref. 1). (3) Moh, G.H. (1966) Das binäre System Zinn-Schwefel und seine Minerale. *Fortschr. Mineral. (abs.)* 42, 211. (4) Clark, A.H. (1972) On the natural occurrence of tin sulfides (berndtite). *Naturwissenschaften*, 59, 361. (5) Hazen, R.M. and L.W. Finger (1978) The crystal structures and compressibilities of layer minerals at high pressure. I. SnS<sub>2</sub>, berndtite. *Amer. Mineral.*, 63, 289–292.