

**Crystal Data:** Orthorhombic. *Point Group:* n.d. As radiating polycrystalline aggregates, to 0.05 mm.

**Physical Properties:** Hardness = n.d. VHN = 54 (15 g load). D(meas.) = n.d. D(calc.) = 6.78

**Optical Properties:** Opaque. *Color:* In polished section, bluish gray with slight cream tint. *Luster:* Metallic. *Pleochroism:* Distinct, in pale brown to pale blue. *Anisotropism:* Strong, with undulatory extinction, colors in pale gray-blue to dark yellow-brown.

R<sub>1</sub>–R<sub>2</sub>: (400) —, (420) 31.0–33.2, (440) 30.9–34.3, (460) 30.6–33.8, (480) 30.1–33.0, (500) 29.5–32.2, (520) 28.7–31.5, (540) 27.9–30.6, (560) 27.0–29.6, (580) 26.1–28.4, (600) 25.3–27.2, (620) 24.5–26.0, (640) 23.8–24.8, (660) 23.0–23.8, (680) 22.2–22.7, (700) 21.3–21.6

**Cell Data:** *Space Group:* n.d. *a* = 3.986(4) *b* = 5.624(4) *c* = 9.778(8) *Z* = 1

**X-ray Powder Pattern:** Bukov deposit, Czech Republic. 3.089 (100), 2.706 (70), 1.991 (70), 2.445 (60), 1.847 (60), 3.987 (50), 2.525 (50)

| Chemistry: | (1)   | (2)    |
|------------|-------|--------|
| Cu         | 42.71 | 42.29  |
| Tl         | 22.44 | 22.67  |
| Se         | 34.57 | 35.04  |
| Total      | 99.72 | 100.00 |

(1) Bukov deposit, Czech Republic; by electron microprobe, average of five analyses, corresponding to Cu<sub>6.06</sub>Tl<sub>0.99</sub>Se<sub>3.95</sub>. (2) Cu<sub>6</sub>TlSe<sub>4</sub>.

**Occurrence:** In calcite veins.

**Association:** Crookesite, berzelianite, umangite, bukovite.

**Distribution:** In the Bukov deposit, Rožná district, Czech Republic [TL].

**Name:** To honor Germain Sabatier (1923–), former Director of Research, C.N.R.S., Orléans, France.

**Type Material:** National School of Mines, Paris, France.

**References:** (1) Johan, Z., M. Kvaček, and P. Picot (1978) La sabatierite, un nouveau séléniure de cuivre et de thallium. Bull. Minéral., 101, 557–560 (in French with English abs.). (2) (1979) Amer. Mineral., 64, 1331–1332 (abs. ref. 1). (3) Berger, R.A. (1987) Crookesite and sabatierite in a new light – a crystallographer’s comment. Zeits. Krist., 181, 241–249.