

**Crystal Data:** Triclinic. *Point Group:*  $\bar{1}$ . As bladed crystals, to 0.4 mm, flattened on {110} and striated on {001} || {010} and on {100} || [001]; dominant forms include {110}, {100}, {010}, {001}; as fine-grained coatings.

**Physical Properties:** *Fracture:* Conchoidal. *Tenacity:* Brittle. *Hardness* = [2.5–3] (by analogy to parsonsite). *D*(meas.) = 6.39 (synthetic). *D*(calc.) = 6.40 Radioactive.

**Optical Properties:** Transparent to translucent. *Color:* Yellow; pale yellow in transmitted light. *Streak:* Pale yellow. *Luster:* Subadamantine.

*Optical Class:* Biaxial (+). *Pleochroism:* Weak; *X* = pale yellow; *Z* = nearly colorless.

*Dispersion:*  $r > v$ . *Absorption:*  $X > Z$ .  $\alpha = 1.882(5)$   $\beta = \text{n.d.}$   $\gamma = 1.915(5)$

$2V(\text{meas.}) = \sim 80^\circ$

**Cell Data:** *Space Group:*  $P\bar{1}$ .  $a = 7.123$   $b = 10.469$   $c = 6.844$   $\alpha = 100^\circ 34'$   $\beta = 94^\circ 48'$   $\gamma = 91^\circ 16'$   $Z = 2$

**X-ray Powder Pattern:** Michael mine, Germany; nearly identical to parsonsite. 3.42 (10b), 2.85 (8), 4.42 (6), 3.03 (6), 4.26 (5), 3.33 (5b), 7.09 (3)

**Chemistry:** (1) Michael mine, Germany; microchemical and spectrographic analysis confirmed Pb, U, and As as major components, P absent; formula established by the similarity of the X-ray powder pattern with that of parsonsite and synthetic Pb<sub>2</sub>(UO<sub>2</sub>)(AsO<sub>4</sub>)<sub>2</sub>.

**Occurrence:** A secondary mineral found on a museum specimen from an oxidizing As–Pb-bearing deposit, formed by alteration of galena.

**Association:** Hügelite, mimetite, barite, galena, quartz.

**Distribution:** In Germany, from the Michael mine, Weiler, near Lahr, Black Forest, and on the Bühlkopf, near Ellweiler, Rhineland-Palatinate.

**Name:** Honors Dr. Arthur Francis Hallimond (1890–1968), British mineralogist, London, England, for his work with secondary uranium minerals.

**Type Material:** n.d.

**References:** (1) Walenta, K. (1965) Hallimondite, a new uranium mineral from the Michael mine near Reichenbach (Black Forest, Germany). *Amer. Mineral.*, 50, 1143–1157.