

**Crystal Data:** Monoclinic. *Point Group:* 2/m. In microcrystalline to amorphous crusts, to 2 mm thick.

**Physical Properties:** Hardness = 4 D(meas.) = 4.98–5.42 D(calc.) = 5.388

**Optical Properties:** Semitransparent. *Color:* Sulfur-yellow, golden yellow.  
*Optical Class:* [Biaxial.]  $\alpha = \text{n.d.}$   $\beta = \text{n.d.}$   $\gamma = \text{n.d.}$  2V(meas.) = n.d.

**Cell Data:** *Space Group:* P2<sub>1</sub>/a.  $a = 10.174(5)$   $b = 9.548(2)$   $c = 5.766(1)$   
 $\beta = 92^\circ 58.5(1.0)'$  Z = 4

**X-ray Powder Pattern:** Johanngeorgenstadt, Germany.  
2.529 (vvsb), 3.46 (vsb), 2.757 (vs), 2.739 (vs), 2.690 (vs), 2.666 (vs), 4.32 (sb)

Chemistry:	(1)	(2)	(3)
As <sub>2</sub> O <sub>5</sub>	50.53	50.0	50.64
Bi <sub>2</sub> O <sub>3</sub>	0.62		
FeO		0.5	
CoO	0.21	1.0	
NiO	48.24	47.0	49.36
CuO	0.57	0.7	
Total	100.17	99.2	100.00

(1) Johanngeorgenstadt, Germany; corresponds to (Ni<sub>2.96</sub>Cu<sub>0.03</sub>Co<sub>0.01</sub>)<sub>Σ=3.00</sub>(AsO<sub>4</sub>)<sub>2.01</sub>.

(2) South Terras mine, Cornwall, England; corresponds to (Ni<sub>2.90</sub>Co<sub>0.06</sub>Cu<sub>0.04</sub>Fe<sub>0.03</sub>)<sub>Σ=3.03</sub>(AsO<sub>4</sub>)<sub>2.00</sub>. (3) Ni<sub>3</sub>(AsO<sub>4</sub>)<sub>2</sub>.

**Occurrence:** A rare secondary mineral in hydrothermal Ni–As–U ore deposits.

**Association:** Bismuth, bunsenite, aerugite (Johanngeorgenstadt, Germany); aerugite (South Terras mine, Cornwall, England).

**Distribution:** From Johanngeorgenstadt, Saxony, Germany. In the South Terras mine, St. Stephen-in-Brannel, Cornwall, England.

**Name:** From the Greek for *yellow* and *sulfur*, in allusion to its distinctive sulfur-yellow color.

**Type Material:** The Natural History Museum, London, England, 32590 and 1907,103.

**References:** (1) Dana, E.S. (1892) Dana's system of mineralogy, (6th edition), 870. (2) Davis, R.J., M.H. Hey, and A.W.G. Kingsbury (1965) Xanthiosite and aerugite. *Mineral. Mag.*, 35, 72–83.