

**Bulachite** **$\text{Al}_2(\text{AsO}_4)(\text{OH})_3 \cdot 3\text{H}_2\text{O}$** 

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**Crystal Data:** Orthorhombic. *Point Group:*  $2/m\ 2/m\ 2/m$ ,  $mm2$ , or  $222$ . As flattened needles, in bundles and radial aggregates, to 0.75 mm, in crusts.

**Physical Properties:** Hardness =  $\sim 2$  D(meas.) = 2.60(10) D(calc.) = 2.59

**Optical Properties:** Translucent. *Color:* White to blue-green. *Luster:* Satiny.  
*Optical Class:* Biaxial (-). *Orientation:*  $X \perp$  flattening;  $Y \parallel$  transverse axis;  $Z \parallel$  length.  
*Dispersion:*  $r > v$ .  $\alpha = 1.540\text{--}1.548$   $\beta = [1.546]$   $\gamma = 1.548\text{--}1.560$   $2V(\text{meas.}) = \sim 66^\circ$

**Cell Data:** *Space Group:*  $Pmnm$ ,  $Pma2$ ,  $Pmn2_1$ , or  $P2_122_1$ .  $a = 15.53$   $b = 17.78$   
 $c = 7.03$   $Z = 10$

**X-ray Powder Pattern:** Neubulach, Germany.  
 7.78 (10), 3.49 (8), 8.97 (7), 6.55 (7), 5.92 (7), 3.75 (7), 2.73 (6b)

<b>Chemistry:</b>	(1)	(2)
$\text{As}_2\text{O}_5$	39.1	38.57
$\text{Al}_2\text{O}_3$	37.2	34.22
$\text{H}_2\text{O}$	25.5	27.21
Total	101.8	100.00

(1) Neubulach, Germany;  $\text{H}_2\text{O}$  by TGA, corresponds to  $\text{Al}_{2.17}\text{As}_{1.01}\text{O}_{4.05}(\text{OH})_{3.46} \cdot 2.48\text{H}_2\text{O}$ .  
 (2)  $\text{Al}_2(\text{AsO}_4)(\text{OH})_3 \cdot 3\text{H}_2\text{O}$ .

**Occurrence:** Initially found on two museum specimens collected on mine dumps.

**Association:** Arsenocrandallite, malachite, azurite, barian pharmacosiderite, goethite, quartz.

**Distribution:** At Neubulach, Black Forest, Germany.

**Name:** For the occurrence at Neubulach, Germany.

**Type Material:** n.d.

**References:** (1) Walenta, K. (1983) Bulachit, ein neues Aluminiumarsenatmineral von Neubulach im nördlichen Schwarzwald. *Aufschluss*, 34, 445–451 (in German). (2) (1985) *Amer. Mineral.*, 70, 214 (abs. ref. 1).