Eulytite

\( \text{Bi}_4(\text{SiO}_4)_3 \)

Crystal Data: Cubic. Point Group: 4\( \overline{3}m \). As tetrahedral crystals, to 2 mm, showing \{100\}, \{110\}, \{111\}, and \{211\}. Twinning: Interpenetrant, may be multiple.


Optical Properties: Transparent to opaque. Color: Dark brown, yellowish gray, grayish white, straw-yellow, colorless; colorless to pale brown in thin section. Streak: White or yellowish gray. Luster: Resinous oradamantine. Optical Class: Isotropic; anomalously biaxial (-). \( n = 2.05 \)

Cell Data: Space Group: \( I\overline{4}3d \). \( a = 10.29 \quad Z = [4] \)

X-ray Powder Pattern: Synthetic.

3.20 (100), 2.70 (100), 4.13 (80), 2.070 (70), 1.990 (70), 1.664 (70), 1.584 (70)

Chemistry:

\[
\begin{align*}
\text{SiO}_2 & : 16.52 & 16.21 \\
\text{Bi}_2\text{O}_3 & : 82.23 & 83.79 \\
\text{rem.} & : 1.15 \\
\text{Total} & : 99.90 & 100.00
\end{align*}
\]

(1) Schneeberg, Germany; remainder is \( \text{Fe}_2\text{O}_3 \) and \( \text{P}_2\text{O}_5 \). (2) \( \text{Bi}_4(\text{SiO}_4)_3 \).

Occurrence: In bismuth-rich hydrothermal veins.

Association: Bismuth, quartz.

Distribution: In Germany, from Schneeberg and Johanngeorgenstadt, Saxony; at Hechtsberg, near Hausach, and in the Clara Mine, near Oberwolfach, Black Forest. From Dognecea (Dognaczka), Romania. At Lanlivery, Cornwall, England. From the Southwick cliffs, near Dalbeattie, Kirkcudbrightshire, Scotland. In Canada, from the Evans-Lou quarry, near Wakefield Lake, Quebec.

Name: From the Greek for good and dissolved, in reference to its low point of fusion.

Type Material: Mining Academy, Freiberg, Germany, 23972.


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