Biehlite  
 \((\text{Sb}^{3+}, \text{As}^{3+})_2\text{MoO}_6\)

**Crystal Data:** Monoclinic.  
**Point Group:** 2/m.  
Crystals are fibrous, to 1 cm, elongated along [001], in felted masses and irregular aggregates.

**Physical Properties:**  
**Tenacity:** Flexible.  
**Hardness:** “Soft”.  
\(D(\text{meas.}) = \text{n.d.}\)  
\(D(\text{calc.}) = 5.23\)

**Optical Properties:**  
**Translucent.**  
**Color:** White.  
**Streak:** White.  
**Luster:** Silky.  
**Optical Class:** [Biaxial.]
\[
n = [2.13] \quad (\text{by the rule of Gladstone and Dale}).
\]
\[
\alpha = \text{n.d.} \quad \beta = \text{n.d.} \quad \gamma = \text{n.d.} \quad 2V(\text{meas.}) = \text{n.d.}
\]

**Cell Data:**  
**Space Group:** \(C2/c\).  
\(a = 18.076(5)\)  
\(b = 5.920(5)\)  
\(c = 5.083(5)\)  
\(\beta = 96.97(1)°\)  
\(Z = 4\)

**X-ray Powder Pattern:**  
Tsumeb, Namibia; shows strong preferred orientation.  
2.990 (100), 2.960 (100), 5.622 (65), 3.104 (61), 2.104 (42), 3.376 (39), 1.962 (32)

**Chemistry:**

\[
\begin{array}{lcc}
\text{MoO}_3 & 33.76 \\
\text{Sb}_2\text{O}_3 & 60.99 \\
\text{As}_2\text{O}_3 & 4.95 \\
\hline
\text{Total} & 99.70 \\
\end{array}
\]

(1) Tsumeb, Namibia; by electron microprobe, average of five analyses; corresponds to \((\text{Sb}_{1.79}\text{As}_{0.21})\Sigma=2.00\text{Mo}_{1.00}\text{O}_6\).

**Occurrence:** A rare secondary mineral from an oxidized zone in a dolostone-hosted hydrothermal polymetallic ore deposit.

**Association:** Anglesite, wulfenite.

**Distribution:** From Tsumeb, Namibia.

**Name:** To honor Dr. Friedrich Karl Biehl (1887–?), mineralogist, Westfälische-Wilhelms University, Münster, Germany, who authored an early dissertation on Tsumeb species.

**Type Material:** Hamburg University, Hamburg, Germany.

**References:**  