Stetefeldtite  \( \text{Ag}_2\text{Sb}_2(\text{O, OH})_7(?) \)

Crystal Data: Cubic.  \( \text{Point Group: } 4/m \bar{3} 2/m. \)  Powdery, massive.

Physical Properties: Hardness = 3.5–4.5  \( D(\text{meas.}) = 4.6 \)  \( D(\text{calc.}) = [4.58] \)

Optical Properties: Semitransparent.  \text{Color: } \) Yellow, black to brown when admixed with impurities; pale yellow in transmitted light.  \text{Streak: } \) Pale yellow, shining.

Optical Class: Isotropic.  \( n = 1.95 \)

Cell Data:  \text{Space Group: } Fd\bar{3}m.  \( a = 10.46 \)  \( Z = 8 \)

X-ray Powder Pattern: Belmont, Nevada, USA.
3.02 (100), 2.61 (70), 1.85 (70), 1.58 (70), 1.20 (50), 0.884 (50), 1.17 (40)

Chemistry:
\[
\begin{array}{ll}
\text{Sb}_2\text{O}_4 & 43.77 \\
\text{Ag} & 23.74 \\
\text{Cu} & 12.78 \\
\text{Fe} & 1.82 \\
\text{S} & 4.7 \\
\text{H}_2\text{O} & 7.9 \\
\hline
\text{Total} & 94.71
\end{array}
\]

(1) Belmont, Nevada, USA; average of two analyses; assuming Cu, Fe, and S are contained in admixed chalcocite and pyrite, then corresponds to \( \text{Ag}_{1.1}\text{Sb}_{1.4}(\text{O, OH, H}_2\text{O})_{6.3}. \)

Mineral Group: Stibiconite group.

Occurrence: Apparently an alteration product in the oxidized zone of some hydrothermal Ag-Sb-bearing mineral deposits, where it may constitute an ore of silver.

Association: Chalcocite, pyrite, quartz (Belmont, Nevada, USA).

Distribution: In the USA, in Nevada, in the Empire and Philadelphia districts, Belmont, 80 km northeast of Tonopah, Nye Co., and in the Black Warrior mine, near Silver Peak, Esmeralda Co.; in Arizona, at the Snyder Hill mine, Tucson Mountains, Pima Co., in the Johnny Lyon Hills, Cochise Co., and from the Red Cloud mine, Silver District, La Paz Co.

Name: To honor Carl August Stetefeldt (1838–1896), German-American mining engineer and metallurgist.

Type Material: Location of original type material is unknown; restudied on Harvard University, Cambridge, Massachusetts, 80285; National Museum of Natural History, Washington, D.C., USA, 104763.