Chvilevaite

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Na(Cu, Fe, Zn)_2S_2
\]


Crystal Data: Hexagonal. Point Group: \(3m\). Tabular, equant, and prismatic grains, up to 0.5 mm, intergrown with other sulfides.


\[
\begin{align*}
R_1 & - R_2: (400) - , (420) 17.9-17.9, (440) 17.7-18.0, (460) 17.5-18.4, (480) 17.4-19.0, (500) 17.3-19.7, (520) 17.4-20.7, (540) 17.5-21.6, (560) 17.7-22.5, (580) 17.8-23.3, (600) 18.0-24.0, (620) 18.2-24.8, (640) 18.5-25.6, (660) 18.8-26.2, (680) 19.1-26.8, (700) 19.4-27.4
\end{align*}
\]

Cell Data: Space Group: \(P3m1\). \(a = 3.873(1)\) \(c = 6.848\) \(Z = 1\)

X-ray Powder Pattern: Akatui deposit, Russia.
3.02 (100), 2.40 (100), 1.945 (100), 3.40 (90), 1.870 (90), 6.85 (60)

Chemistry:

\[
\begin{align*}
\text{Na} & \quad 10.93 \\
\text{Cu} & \quad 38.63 \\
\text{Fe} & \quad 11.64 \\
\text{Zn} & \quad 6.72 \\
\text{Ca} & \quad 0.26 \\
\text{Mn} & \quad 0.06 \\
\text{As} & \quad 0.55 \\
\text{S} & \quad 30.83 \\
\text{Total} & \quad 99.62
\end{align*}
\]

(1) Akatui deposit, Russia; by electron microprobe, corresponding to \(Na_{1.01}Ca_{0.01}\sum=1.02(Cu_{1.28}Fe_{0.44}Zn_{0.22}As_{0.01})\sum=1.95S_{2.03}\).

Occurrence: Of hydrothermal origin.

Association: Sphalerite, covellite, chalcocite, galena, pyrite, boulangerite, arsenopyrite, carbonates, quartz.

Distribution: From the Akatui Pb–Zn deposit, Akatui, eastern Transbaikal, Russia [TL].

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