

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

Physical Properties: *Cleavage:* Perfect on {0001}. *Tenacity:* Brittle. Hardness = n.d. VHN = 110–153, 135 average (20 g load). D(meas.) = n.d. D(calc.) = 3.94

Optical Properties: Opaque. *Color:* Bronze, tarnishing to a sooty black coating; in reflected light, orange, changing to rosy purple with time. *Luster:* Metallic. *Pleochroism:* Distinct, from pale orange to dark gray with a lilac tint. *Anisotropism:* Strong, from black to white.

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

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:

	(1)
Na	10.93
Cu	38.63
Fe	11.64
Zn	6.72
Ca	0.26
Mn	0.06
As	0.55
S	30.83
Total	99.62

(1) Akatui deposit, Russia; by electron microprobe, corresponding to $(\text{Na}_{1.01}\text{Ca}_{0.01})_{\Sigma=1.02}(\text{Cu}_{1.28}\text{Fe}_{0.44}\text{Zn}_{0.22}\text{As}_{0.01})_{\Sigma=1.95}\text{S}_{2.03}$.

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].

Name: For Tat'yana Nikiforovna Chvileva (1925–), economic mineralogist, Institute of Mineralogy and Geochemistry of Rare Elements, Moscow, Russia.

Type Material: A.E. Fersman Mineralogical Museum, Academy of Sciences, Moscow, Russia, 88050.

References: (1) Kachalovskaya, V.M., B.S. Osipov, N.G. Nazarenko, V.A. Kukoev, A.O. Mazmanyanyan, I.N. Egorov, and L.N. Kaplunnik (1988) Chvilevaite – a new alkali sulfide with the composition Na(Cu, Fe, Zn)₂S₂. Zap. Vses. Mineral. Obshch., 117, 204–207 (in Russian). (2) (1989) Amer. Mineral., 74, 946 (abs. ref. 1).