

Selenostephanite

Ag₅Sb(Se, S)₄

©2001-2005 Mineral Data Publishing, version 1

Crystal Data: Orthorhombic. *Point Group:* $2/m\ 2/m\ 2/m$. Platy crystals, in irregular aggregates to 0.08 mm, filling interstices.

Physical Properties: Hardness = 2.5–3 VHN = 95–116 (20 g load). D(meas.) = n.d. D(calc.) = 7.5

Optical Properties: Opaque. *Color:* In polished section, grayish white with olive tint. *Anisotropism:* Brownish gray to gray.

R₁–R₂: (420) 33.3–34.8, (520) 33.6–36.0, (580) 32.6–34.8, (640) 31.0–33.0, (700) 30.4–32.3

Cell Data: *Space Group:* $P2_12_12_1$. $a = 7.86$ $b = 11.84$ $c = 8.92$ $Z = 4$

X-ray Powder Pattern: Rudnaya Sopka deposit, Russia. 2.96 (10), 2.64 (9), 2.28 (9), 2.23 (9), 1.918 (9b), 1.888 (9b)

Chemistry:

	(1)
Ag	55.80
Sb	12.63
Se	29.04
S	1.44
Total	98.91

(1) Rudnaya Sopka deposit, Russia; by electron microprobe, corresponding to Ag_{5.00}Sb_{1.00}(Se_{3.56}S_{0.44})_{Σ=4.00}.

Occurrence: In quartz and orthoclase-quartz veins with other silver minerals in a volcanogenic Au–Ag deposit.

Association: Mirargyrite, clausthalite, Au–Ag alloy, pyrargyrite, acanthite, clausthalite, naumannite, argyrodite, tetrahedrite–tennantite, pyrite, sphalerite, chalcopyrite, orthoclase, quartz.

Distribution: From the Rudnaya Sopka Au–Ag deposit, central Chukotka Peninsula, Russia [TL].

Name: For selenium in the composition, and similarity to stephanite.

Type Material: Central Institute for Geological Exploration for Base and Precious Metals, Moscow; A.E. Fersman Mineralogical Museum, Academy of Sciences, Moscow, Russia, 82774.

References: (1) Botova, M.M., S.M. Sandomirskaya, and N.G. Tschuvikina (1985) Selenostephanite Ag₅Sb(Se, S)₄ – a new mineral. Zap. Vses. Mineral. Obshch., 114, 627–630 (in Russian). (2) (1987) Amer. Mineral., 72, 225 (abs. ref. 1). (3) Pekov, I.V. (1998) Minerals first discovered on the territory of the former Soviet Union. Ocean Pictures, Moscow, 182.