

Telargpalite

(Pd, Ag)₃(Te, Pb)

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Crystal Data: Cubic. *Point Group:* n.d. As rounded, commonly elongate, grains, to 200 μm, dispersed and intergrown with sulfide minerals.

Physical Properties: Hardness = n.d. VHN = 62 (10 g load). D(meas.) = n.d. D(calc.) = 7.378

Optical Properties: Opaque. *Color:* In polished section, pale gray with lilac tint.

R: (400) —, (420) —, (440) 44.7, (460) 45.3, (480) 46.6, (500) 47.5, (520) 49.1, (540) 50.1, (560) 50.9, (580) 51.7, (600) 52.4, (620) 53.7, (640) 54.7, (660) 55.6, (680) 56.7, (700) 57.2

Cell Data: *Space Group:* n.d. *a* = 12.60(2) *Z* = 16

X-ray Powder Pattern: Oktyabr mine, Russia.

2.42 (10), 2.10 (5), 3.05 (4), 2.74 (3), 1.475 (3), 2.22 (2), 1.822 (2)

Chemistry:

	(1)	(2)
Pd	39.0	42.73
Ag	30.8	29.82
Pb	6.7	0.46
Bi	3.7	1.46
Te	19.8	26.32
Se	0.6	
Total	100.6	100.79

(1) Oktyabr mine, Russia; by electron microprobe, average of analyses of nine samples; corresponding to $(\text{Pd}_{1.72}\text{Ag}_{1.34})_{\Sigma=3.06}(\text{Te}_{0.73}\text{Pb}_{0.15}\text{Bi}_{0.08}\text{Se}_{0.04})_{\Sigma=1.00}$. (2) Nadezhda deposit, Russia; by electron microprobe, average of 41 analyses; corresponding to $(\text{Pd}_{1.86}\text{Ag}_{1.28})_{\Sigma=3.14}(\text{Te}_{0.96}\text{Bi}_{0.03}\text{Pb}_{0.01})_{\Sigma=1.00}$.

Occurrence: In metasomatically altered Cu–Ni sulfide ores (Talnakh area, Russia); in the layered ultramafic Stillwater complex (Nye, Montana, USA).

Association: Chalcopyrite, bornite, millerite, braggite, silver, kotulskite, clausthalite (Talnakh area, Russia).

Distribution: In Russia, from the Oktyabr mine, Talnakh area, Noril'sk region, western Siberia [TL], and in the Nadezhda deposit, Lukkulaivaara layered intrusion, Karelia. From Nye, Stillwater Co., Montana, USA.

Name: For the constituent chemical elements, TELlurium, ARGentum *silver*, and PALLadium.

Type Material: A.E. Fersman Mineralogical Museum, Academy of Sciences, Moscow, Russia, 76575.

References: (1) Kovalenker, V.A., A.D. Genkin, T.L. Evstigneeva, and I.P. Laputina (1974) Telargpalite – new mineral of palladium, silver, and tellurium, from the copper-nickel ores of the Oktyabr deposit. *Zap. Vses. Mineral. Obshch.*, 103, 595–600 (in Russian). (2) (1975) *Amer. Mineral.*, 60, 489 (abs. ref. 1). (3) Barkov, A.Y., R.F. Martin, M. Tarkian, G. Poirier, and Y. Thibault (2001) Pd–Ag tellurides from a Cl-rich environment in the Lukkulaivaara layered intrusion, northern Russian Karelia. *Can. Mineral.*, 39, 639–653. (4) Cabri, L.J., Ed. (1981) *Platinum group elements: mineralogy, geology, recovery*. *Can. Inst. Min. & Met.*, 142.