

Crystal Data: Orthorhombic. *Point Group:* *mm*2. As grains, to 0.3 mm.

Physical Properties: Hardness = n.d. VHN = 168–232 (50 g load). D(meas.) = n.d.
D(calc.) = 12.51

Optical Properties: Opaque. *Color:* White with yellowish tint in reflected light.
Luster: Metallic. *Anisotropism:* Slight; gray to pale brown in oil.

R: (400) —, (420) —, (440) 55.4, (460) 56.8, (480) 55.9, (500) 56.4, (520) 58.2, (540) 59.2, (560) 59.6, (580) 59.6, (600) 59.9, (620) 59.5, (640) 60.9, (660) 61.2, (680) 60.9, (700) 61.8

Cell Data: *Space Group:* *Ccm*2₁. *a* = 7.191 *b* = 8.693 *c* = 10.681 *Z* = 16

X-ray Powder Pattern: Talnakh area, Russia.

2.65 (100), 2.16 (90), 2.25 (50), 1.638 (50), 2.50 (30), 1.400 (30), 1.220 (30)

Chemistry:	(1)	(2)	(3)	(4)
Pd	32.8	33.1	35.0	33.84
Pt			2.0	
Pb	34.0	29.0		32.94
Bi	33.4	36.4	59.4	33.22
Te			5.2	
Total	100.2	98.5	101.6	100.00

(1) Talnakh area, Russia; by electron microprobe, corresponds to Pd_{1.95}Pb_{1.04}Bi_{1.01}. (2) Do.; by electron microprobe, corresponds to Pd_{1.99}Pb_{0.90}Bi_{1.11}. (3) Union mine, South Africa; by electron microprobe, corresponds to (Pd_{1.98}Pt_{0.06})_{Σ=2.04}(Bi_{1.71}Te_{0.24})_{Σ=1.95}. (4) Pd₂PbBi.

Occurrence: In hydrothermal Cu–Ni–Fe sulfide veins (Talnakh area, Russia).

Association: Chalcopyrite, talnakhite, cubanite, stannopalladinite, paolovite, sobolevskite, sperrylite, cabriite, palarstanide, nickeloan platinum, sphalerite, silver (Talnakh area, Russia).

Distribution: From the Majak mine, Talnakh area, Noril'sk district, Polar Ural Mountains, western Siberia, Russia [TL]. At the Union mine, in the Merensky Reef, Bushveld complex, Transvaal, South Africa. From Fox Gulch, Goodnews Bay, Alaska, USA.

Name: For its occurrence in the Polar Ural Mountains, Russia.

Type Material: A.E. Fersman Mineralogical Museum, Academy of Sciences, Moscow, Russia, 73002; Canadian Museum of Nature, Ottawa, Canada, 10401; National Museum of Natural History, Washington, D.C., USA, 160244.

References: (1) Genkin, A.D., T.L. Evstigneeva, N.V. Troneva, and L.N. Vyal'sov (1969) Polarite, Pd(Pb,Bi) a new mineral from copper–nickel sulfide ores. *Zap. Vses. Mineral. Obshch.*, 98, 708–715 (in Russian). (2) (1970) *Amer. Mineral.*, 55, 1810 (abs. ref. 1). (3) Cabri, L.J. and R.J. Trail (1966) New palladium minerals from Noril'sk, western Siberia. *Can. Mineral.*, 8, 541–550. (4) Mayer, H. (1979) ??title?? *J. Less-Common Metals*, 66, 1–??. (5) Tarkian, M. (1987) Compositional variations and reflectance of the common platinum-group minerals. *Mineral. Petrol.*, 36, 169–190. (6) Cabri, L.J., Ed. (1981) *Platinum group elements: mineralogy, geology, recovery*. *Can. Inst. Min. & Met.*, 130–131.