

substance: PdPS
property: physical properties

energy gap

E_g	1.4 eV		given as $E_A = 0.7$ eV, from $\log \rho \propto E_A/kT$, $T = 300...450$ K, on single crystals	71B
	1.38 eV	$T = 295$ K	from optical transmission on a crystal platelet	

resistivity

ρ	$90 \cdot 10^6 \Omega \text{ cm}$	$T = 298$ K	from four-probe resistivity measurements on single crystals	71B
	$0.03 \cdot 10^6 \Omega \text{ cm}$	$T = 425$ K		

refractive index

n	3.1...3.6	$\lambda = 0.2...2 \mu\text{m}$	from periodic variation of transmission with wavelength	71B
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magnetic susceptibility: diamagnetic [71B].

The silvery blade-like crystals of PdPS are stable to about 1070 K, when heated in an argon atmosphere. PdPS is stable also at pressures up to at least 65 kbar. It has no detectable range of homogeneity [71B].

For structure, chemical bond and comparative tables on crystallographic and physical properties of transition metal-V-VI compounds, see documents , , , .

References:

71B Bither, T. A., Donohue, P. C., Young, S.: J. Solid State Chem. 3 (1971) 300.