substance: PdO
property: energy gaps

(RT values quoted in the literature)

E_g	0.6 eV	diffuse reflectance	65H
	0.8 eV	Kramers-Kromig analysis	79N
	2.13 eV	extrapolated from optical density	78R
	2.67 eV	extrapolated from photo-conductivity	78R
$E_{g,th}$	1.5 eV	estimated from onset of intrinsic conduction, Fig. 1	67O

Two possibilities have been proposed: (1) The main band gap at ca. 2 eV is the Pd d–d transition with a very long Urbach-tail [78R], (2) the main bandgap is at ca. 0.8 eV and is the Pd d–d transition; it is highly indirect, with the first direct transition at ca. 2 eV [79N].

References:

65H Hulliger, F.: J. Phys. Chem. Solids 26 (1965) 639.
67O Okamoto, H., Aso, T.: Jpn. J. Appl. Phys. 6 (1967) 779.
78R Rey, E., Kamal, M. R., Miles, R. B., Joyce, B. S. H.: J. Mater. Sci. 13 (1978) 812.
79N Nilsson, P. D., Shyaraman, M. S.: J. Phys. C 12 (1979) 1423.

Fig. 1.

PdO. Conductivity vs. reciprocal temperature for polycrystalline films of various thicknesses measured in various atmospheres [67O].