

substance: OsP₄

property: physical properties

OsP₄ (r) (CdP₄-type modification)

energy gap

E_g	0.40 eV		given as $E_A = 0.20$ eV, from $\log \rho \propto E_A/kT$, $T = 300...500$ K	82F
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electrical resistivity

ρ	$\approx 500 \Omega \text{ cm}$	RT	pressed powder from tin flux; two-probe method (correct to within a factor of 3). Data from graphical representation	82F
	$\approx 80 \Omega \text{ cm}$	$T = 400 \text{ K}$		
	$\approx 28 \Omega \text{ cm}$	$T = 500 \text{ K}$		

magnetic susceptibility

χ_m	$-87.6 \cdot 10^{-6}$ $\text{cm}^3 \text{ mol}^{-1}$	RT	Faraday method; no field dependence; χ in CGS-emu	82F
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OsP₄ (h)

energy gap

E_g	0.60 eV		given as $E_A = 0.30$ eV, from $\log \rho \propto E_A/kT$, $T = 40...500$ K	82F
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electrical resistivity

ρ	$\approx 40 \cdot 10^4 \Omega \text{ cm}$	$T = 400 \text{ K}$	pressed powder from tin flux; two-probe method; data from graphical representation	82F
	$\approx 5 \cdot 10^4 \Omega \text{ cm}$	$T = 500 \text{ K}$		

magnetic susceptibility

χ_m	$-81.3 \cdot 10^{-6}$ $\text{cm}^3 \text{ mol}^{-1}$	RT	Faraday method; no field dependence; χ in CGS-emu	82F
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For structure, chemical bond and comparative tables of crystallographic properties of transition metal tetraphosphides, see documents , , .

References:

82F Flörke, U., Jeitschko, W.: J. Less-Common Met. 86 (1982) 247.