

substance: MnO

property: melting point, free energy

melting point

T_m	1815°C	in purified He	62S
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standard free energy

ΔF^0	$-54.56 + 0.0277(2) T \quad T < 1433 \text{ K}$	for reaction:	70F
	$-49.41 + 0.0241(2) T \quad T > 1433 \text{ K}$	$(3/(1-4x))\text{Mn}_{1-x}\text{O} + 1/2 \text{ O}_2$	
		$\rightarrow ((1-x)/(4-x)) \text{ Mn}_3\text{O}_4$	

Second-order transformations in Mn_{1-x}O have been reported [70F]. The extent of non-stoichiometry in Mn_{1-x}O is $0 < x < 0.12$ at 1773 K as $\log_{10} p_{\text{O}_2}$ changes from -14.7 to -1.4 [74N].

References:

- 62S Singleton, E. L., Carpenter, L., Lundquist, R. V.: U. S. Bur. Mines, Rep. Invest. 1962, No. 5938.
- 70F Fender, B. E. F., Riley, F. D.: "Chemistry of Extended Defects in Nonmetallic Solids", Eyring, L., O'Keeffe, M. (eds.), Amsterdam: North-Holland Publ. Comp., 1970, p. 54.
- 74N Navrotsky, A.: MTP International Review of Science, Inorganic Chemistry, Series 2, volume 5, D. W. A. Sharp (ed.) (Butterworths, 1974, U. K.).