Pd - PB

$PbPdO_2$

1979

15 Б378. Свойства и структура $PbPdO_2$. Лазарев В. Б., Шаплыгин И. С. «Ж. неорган. химии», 1979, 24, № 4, 885—889

Выращены монокристаллы соединения $PbPdO_2$ и показано, что оно кристаллизуется в ромбич. сингонии (ф. гр. *Imma*, $Z=4$) с параметрами решетки: *a* 9,460, *b* 5,463, *c* 4,660 Å, ρ(изм.) 9,58, ρ(выч.) 9,663. Атомы Pd находятся в плоско-квадратной координации, а для атомов Pb идентифицирован координац. полиэдр PbO_4 в виде квадратной пирамиды с атомом Pb в вершине, все расстояния Pb—O равны (2,32 Å). Резюме

15 Б379. Кристаллическая структура новой синте-

Кристалл. структ.

Х. 1979, N 15

$PdPb_2$ (Оп. 30654) 1988

Dutzi J., Pattalwar S.M., et al.,

Cp; Pramana: J. Phys. 1988, 31, N4, 258-262.

$PdPb_2$

1988

109: 217113t Low-temperature specific heat of palladium-lead ($PdPb_2$). Pattalwar, S. M.; Dixit, R. N.; Shete, S. Y.; Basu, B. K. (Tata Inst. Fundam. Res., Bombay, 400005 India). *Phys. Rev. B: Condens. Matter* 1988, 38(10), 7067-9 (Eng). The low-temp. sp. heats were measured of a single crystal of $PdPb_2$ in the normal and superconducting states. The normal-state data allow us to det. the coeff. of the electronic sp. term $\gamma = 1.2$ mJ/g.at.K^2, and the Debye temp. (147 K). The electronic sp. heat in the superconducting state follows exponential behavior $C_{es}/\gamma T_c = 11.53 \exp(-1.42 T_c/T)$ in the temp. range investigated. The data suggest that $PdPb_2$ is a weak-coupling superconductor with a high value of the pairing potential.

(C_p)

C. A: 1988, 109, N 24

$PdPb_2$ (on 32034) 1989

Pattalwar S.M., Dixit R.N. et al.,

Phys. status solidi.

Cp; B 1989, 151, N2, K115-K118.

Измерение низкотемпературной теплоемкости в нескольких составов вблизи $PdPb_2$.

Р.ЖФ N7, 1989, 7Е256

$PdPb_2$

(От 32034) 1989

111: 13284f Low temperature heat capacity measurement in a few alloys near palladium-lead ($PdPb_2$) composition. Pattalwar, S. M.; Dixit, R. N.; Shete, S. Y.; Basu, B. K. (Tata Inst. Fundam. Res., Bombay, 400 005 India). *Phys. Status Solidi B* 1989, 151(2), K115-K118 (Eng). Heat capacities, C_p, of $PdPb_2$ single crystal and of the alloys $Pd_{0.34}Pb_{0.66}$ and $Pd_{0.24}Pb_{0.76}$ were measured by the std. heat pulse method. The values for the electronic contribution γ, for the coeff. β (= $234\ N\ k/\Theta_D^3$; where N = Avogadro no., k = Boltzman const., and Θ_D is Debye temp.) and for Θ_D are tabulated. $C_p = \gamma T + \beta T^3$ (T in °K).

(C_p, θ_D)

C.A. 1989, 111, N2

Pd-Pb сплав 1993

118: 238866a **Thermodynamic investigation of the palladium-lead binary alloys.** Michel, Marie Leone; Bros, Helene; Castanet, Robert (Cent. Thermodyn. Microcalorim., CNRS, F-13003 Marseille, Fr.). *Z. Metallkd.* 1993, 84(3), 174-7 (Eng). The enthalpy of formation, h^f, of the Pd-Pb alloys was measured at 625-1240 K with respect to compn. by direct reaction calorimetry (drop method) with the help of high-temp. Calvet-type calorimeters. Furthermore, some phase boundaries were detd. from the breaks of the $h^f(x)$ curves in agreement with the published phase diagram. The thermodn. behavior of the melts is characterized by strong neg. deviations from ideality suggesting strong chem. short-range order with high thermal stability. According to the location of the min. of the enthalpy of mixing (x_{Pd} = 0.665) the stoichiometry of the assocs. is probably $PbPd_2$. The fact that the intermediate compds. of the system do not crystallize when solid Pd is added to the satd. liq. and that the stoichiometry of the assocs. could be different from those of the solid compds. allows the prediction of high glass-forming abilities by quenching from the melts.

$\Delta_f H$,
термодинам
св-ва

C.A. 1993, 118, N24

Pd-Pb

$Pb_{\bar{x}}Pd_{\bar{y}}$

1996

124: 295923f **The binary system Pb−Pd.** Durussel, Ph.; Feschotte, P. (Institut de Chimie Minerale et Analytique, Universite de Lausanne, BCH, CH−1015 Lausanne−Dorigny, Switz.). *J. Alloys Compd.* **1996**, 236, 195−202 (Eng). The Pb−Pd system was completely revised by using DTA, XRD and EMPA on alloys annealed 60 days at 1000° to several months at lower temps. The soly. of Pb in Pd decreases from 16.6 at.% Pb at 1188° to 11.5 at.% at 300°. The obsd. intermetallic compds. are stoichiometric $PbPd_3$, Pb_3Pd_5 (low−temp. form, ≤444°), Pb_9Pd_{13}, PbPd and Pb_2Pd. The high−temp. form of Pb_3Pd_5 is stable between 437 and 835°, has a max. compn. range of 61.2 at.% at 614° to 63.2 at.% Pd at 835−437°.

C.A. 1996, 124, N 22

PdPb$_x$
(ΔG_f,
ΔH_f)

1998

Vassiliev V., Voronin G.F. et al.

J. Alloys and Comp.

1998, 269, 123 – 132

Термодинамика системы Pb – Pd,

1999

F: Pd-Pb
P: 1

131:162061 Thermodynamic modeling of the palladium-lead system. Ghosh, G. (Department of Materials Science and Engineering, Robert R. McCormick Sch Engineering and Applied Science, Northwestern University, Evanston, IL 60 3108, USA). J. Phase Equilib., 20(3), 309-315 (English) 1999 A set of self-consistent thermodn. model parameters is presented to describe the phase equil. of Pd-Pb system. Sublattice description was us thermodn. modeling of the intermediate phases. The phases of invariant stoichiometry are described by a 2-sublattice model and .beta.-Pd5Pb3 and .gamma.-Pd5Pb3 phases with ranges of stoichiometry are described by a 3- sublattice model. The calcd. values with optimized model parameters agre well with various exptl. data.

Pb – Pd

2001

фаз. диаг,
Δ G
теор. расчет
+
эксперим

135: 127767s Thermodynamic calculations of the phase diagram of the Pb–Pd system. Mamontov, M. N. (Khim. Fak., Mosk. Gos. Univ. im. M. V. Lomonosova, Moscow, Russia). *Zh. Fiz. Khim.* 2001, 75(5), 800–806 (Russ), MAIK Nauka. Thermodn. simulation of the title system was performed using the corresponding literature data. The melt and primary solid soln. were described based on polynomial model. The phase diagram was constructed for the temp. interval from 500 to 1800 K. The Gibbs energy values were also calcd. for the intermetallic compds. formed in the system. The calcn. and exptl. data are in a good agreement.

С. А. 2001, 135, N9.

Pd-Pb

2001

134: 168903f Heat capacity measurements by differential scanning calorimetry in the Pd–Pb, Pd–Sn and Pd–In systems. Perring, L.; Kuntz, J. J.; Bussy, F.; Gachon, J. C. (Institut de Chimie Minerale et Analytique, BCH, Universite de Lausanne, CH–1015 Lausanne, Switz.). *Thermochim. Acta* **2001**, 366(1), 31–36 (Eng), Elsevier Science B.V. Molar heat capacities at const. pressure of six solid solns. and 11 intermediate phases in the Pd–Pb, Pd–Sn and Pd–In systems were detd. every 10 K by differential scanning calorimetry from 310 to 1000 K. The exptl. values have been fitted by polynomials of the form $C_p = a + bT + cT^2 + d/T^2$. Results are given, discussed and compared with available literature data.

6тв. р-ров и 11 промежут. фаз

△ (+2)

С.А. 2001, 134, N12