

Y-Sc

LaScS<sub>3</sub>, YScS<sub>3</sub>, ErScS<sub>3</sub> (Тм, крив. ср.) 1969

Rodier N., Lazuelles P., Flohant J. VII 3601  
C. r. Acad. sci., 1969, C269, 122, 1391-  
1393 (франц.)

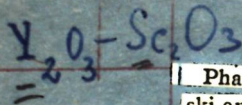
Новая серия соединений полуторных  
сульфидов редкоземельных элементов  
и иттрия с сульфидом скандия

РИИХиЛ, 1970

12 В 2 У

8 Б, Мл (90)

1965



Chetana

Phase equilibrium in the  $\text{Y}_2\text{O}_3$ - $\text{Sc}_2\text{O}_3$  system. W. Trzebiatowski and R. Horyn (Tech. Univ., Wroclaw). *Bull. Acad. Polon. Sci., Ser. Sci. Chim.* 13(5), 311-14(1965)(Eng). Sintered  $\text{Y}_2\text{O}_3$ - $\text{Sc}_2\text{O}_3$  mixts. were melted and studied by x-ray powder analysis. A complete range of solid solns. formed with a temp. min. at 45 mole %  $\text{Y}_2\text{O}_3$  and  $2100^\circ$ ; the m.p. of  $\text{Y}_2\text{O}_3$  is  $2400^\circ$ . Solid solns. had the  $\text{Mn}_2\text{O}_3$  structure. Samples with 40-60%  $\text{Y}_2\text{O}_3$  when annealed between 900 and  $1730^\circ$  exhibited a rhombic phase  $a = 5.451$ ,  $b = 5.718$ ,  $c = 7.909$  A., with all reflections of  $D_{2h}^{16}$ - $\text{Pbnm}$  found. This phase could never be obtained pure, and changed over to solid soln. upon sintering above  $1730^\circ$ .

D. Rudd

C.A. 1965.63.11

141180

1949

Sc + Y

Sc + Nd

Sc + Gd

op azob.  
guacp.

91: 163738q Application of the Kaufman approach to the calculation of intra-rare earth phase diagrams. Shih, C. J.; Lee, J. K.; Aaronson, H. I. (Dep. Metall. Eng., Michigan Technol. Univ., Houghton, MI 49931 USA). *CALPHAD: Comput. Coupling Phase Diagrams Thermochem.* 1979, 3(2), 129-37 (Eng). Values published by K. F. Michaels et al. (1975) for  $\Delta H^\circ$  and  $\Delta S^\circ$  for solid-solid transformations in pure rare earths are combined with the L. Kaufman and R. Bernstein (1970) approach for calcg. regular soln. consts. in order to compute phase equil. for some simple intra-rare earth binary systems, mostly among 6th long-period elements. For the Dy-Er, Dy-Ho, To-Ho, and Tb-Er peritectics, the computed paths of many of the phase boundaries agree with those found exptl. Good agreement is obtained for the liq. + bcc. and bcc. + hcp. (hcp.)(dhcp, double hcp.) regions in the Nd-Pr and Gd-Y

CA 1949, 41, 120

double isomorphous systems. The calcd. widths of the liq. + solid and solid + solid regions in the latter systems are appreciably smaller than the exptl. ones, probably because the alloys used in the exptl. studies contained as much as 5 at.% of impurities. A thermodyn. interpretation of this effect is proposed. Phase diagrams for Sc and Y, Nd, or Gd are less successful, perhaps because the molar vols. of the phases of Sc at high temps. are not well known. The compns. of the congruent points in the liq. + bcc. regions of Sc-Y and Gd-Sc are predicted accurately, but the calcd. temps. are  $\geq 150^\circ$  too low. Congruent points in the bcc. + hcp. regions of Sc-Y, Nd-Sc, and Gd-Sc were not predicted since, on the Kaufman approach, the regular soln. consts. of the various solid rare earth phases are identical.

Yt-x Sr Mn<sub>2</sub> (Om. 28356) 1987

Wada H., Nakamura H.,  
Fukami E., et al.,

Cp; J. Magn. and Magn. Mater.,  
1987, 70, N1-3, 17-19.