

Homogeneity Region of the  $\gamma$ - and  $\delta$ -Phases," *Zh. Fiz. Khim.*, 56(6), 1374-1377 (1982 in Russian; TR: *Russ. J. Phys. Chem.*, 56(6), 837-839 (1982). (Thermo; Experimental)

83Vas: I.A. Vasil'eva and A.N. Seregin, "Thermodynamic Formation Functions of Oxides in the V-VO System," *Zh. Fiz.*

*Khim.*, 57(7), 1624-1627 (1983) in Russian; TR: *Russ. J. Phys. Chem.*, 57(7), 987-988 (1983). (Thermo; Theory)  
86Fer: M.J. Ferrante and R.V. Mrazek, "High-Temperature Relative Enthalpies of  $V_2O_5$ ," U.S. Bur. Mines Rep. Inv. RI9039 (1986). (Thermo; Experimental)

#Indicates presence of a phase diagram.

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# The Al-Am (Aluminum-Americium) System

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A phase diagram is not available for this system, which was reviewed by [Moffatt]. Two intermediate phases have been verified—AmAl<sub>2</sub> by [76Ald] and AmAl<sub>4</sub> by [82Con]. Crystal structures for Am-Al phases are listed in Table 1, and lattice parameters are given in Table 2.

## Cited References

76Ald: A.T. Aldred, B.D. Dunlap, D.J. Lam, and G.K. Shinoy, "Crystal Structure and Magnetic Properties of Americium Laves Phases," *Transplutonium 1975*, W. Müller and R. Lindner, Ed., North-Holland, Amsterdam, 191-195 (1976). (Experimental)  
82Con: W.V. Conner, "Investigation of Americium - 421 Metal Alloys for Target Applications," *Nucl. Inst. Methods*, 200, 55-66 (1982). (Experimental)

Table 1 Am-Al Crystal Structure Data

Phase	Composition, at.% Al	Pearson symbol	Space group	Strukturbericht designation	Prototype	Reference
$\alpha$ Am(a)	0	<i>hP4</i>	<i>P6<sub>3</sub>mmc</i>	A3'	$\alpha$ La	[Massalski]
$\beta$ Am(b)	0	<i>cF4</i>	<i>Fm<math>\bar{3}m</math></i>	A1	Cu	[Massalski]
$\gamma$ Am(c)	0	<i>cI2</i>	<i>Im<math>\bar{3}m</math></i>	A2	W	[Massalski]
AmAl <sub>2</sub>	66.7	<i>cF24</i>	<i>Fd<math>\bar{3}m</math></i>	C15	Cu <sub>2</sub> Mg	[76Ald]
AmAl <sub>4</sub>	80	(d)	...	...	...	[82Con]
Al	100	<i>cF4</i>	<i>Fm<math>\bar{3}m</math></i>	A1	Cu	[Massalski]

(a) Up to <769 °C. (b) From 769 to <1077 °C. (c) From 1077 to 1176 °C. (d) Orthorhombic.

Table 2 Am-Al Lattice Parameter Data

Phase	Composition, at.% Al	Lattice parameters, nm			Comment	Reference
		<i>a</i>	<i>b</i>	<i>c</i>		
$\alpha$ Am	0	0.34681	...	1.1241	At 25 °C	[Massalski]
$\beta$ Am	0	0.4894	...	...	At > 769 °C	[Massalski]
$\gamma$ Am	0	...	...	...	At > 1074 °C	[Massalski]
AmAl <sub>2</sub>	66.7	0.7861	...	...	At 21 °C	[76Ald]
AmAl <sub>4</sub>	80	0.442	0.626	1.366	At 21 °C	[82Con]
Al	100	0.40496	...	...	At 25 °C	[Massalski]

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