

Ga-Pd (Gallium-Palladium)

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The Ga-Pd phase diagram in [Massalski2] was drawn by combining [1959Sch] (0-50 at.% Pd) and [1974Kha] (50-100 at.% Pd).

[2001Wan] refined the palladium-rich part (65-77 at.% Pd) of the phase diagram by means of powder x-ray

diffraction and thermochemical analyses. Figure 1 shows the Ga-Pd phase diagram shown by [Massalski2] with modifications made in this range.

Ga-Pd crystal structure data are shown in Table 1. The new information for Ga₃Pd₇ was obtained by [2001Wan].

Table 1 Ga-Pd crystal structure data

Phase	Composition, at.% Pd	Pearson symbol	Space group	Strukturbericht designation	Prototype
(Ga)	0	<i>oC8</i>	<i>Cmca</i>	<i>A11</i>	Ga
Ga ₅ Pd	16-17	<i>tI24</i>	<i>I4/mcm</i>
Ga ₇ Pd ₃	29-30	<i>cI40</i>	<i>Im$\bar{3}m$</i>	<i>D8_r</i>	Ge ₇ Ir ₃
GaPd	49.5-50.5	<i>cF8</i>	<i>P2₁3</i>	<i>B20</i>	FeSi
Ga ₄ Pd ₅	55-56	<i>cP2</i>	<i>Pm$\bar{3}m$</i>	<i>B2</i>	CsCl
Ga ₃ Pd ₅	62-63	<i>oP16</i>	<i>Pbam</i>
GaPd ₂	64-73	<i>oP12</i>	<i>Pbnm</i>
Ga ₃ Pd ₇	70	<i>oC20</i>	<i>C2/m</i>
Ga ₂ Pd ₅	71.4	<i>oP28</i>	<i>Pnma</i>
Ga ₅ Pd ₁₃	72.2	<i>o**</i>
(Pd)	89-100	<i>cF4</i>	<i>Fm$\bar{3}m$</i>	<i>A1</i>	Cu

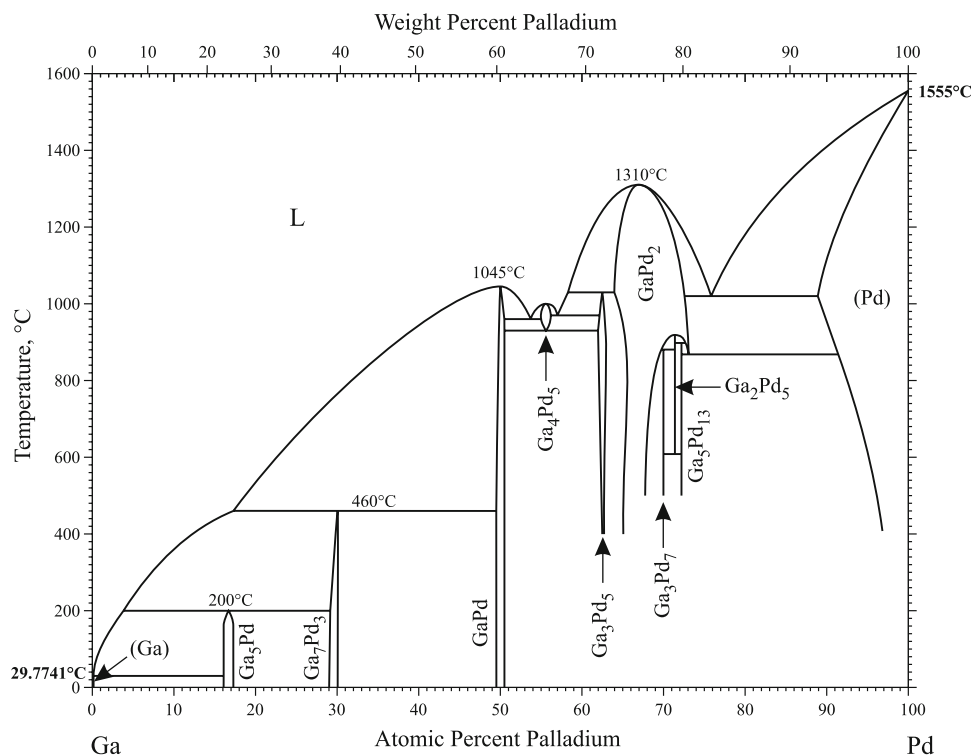


Fig. 1 Ga-Pd phase diagram

References

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