

Ga-N (Gallium-Nitrogen)

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A Ga-N phase diagram has not previously been reported, but the existence of GaN was reported in [Massalski2]. [2003Unl] studied the decomposition of GaN using ther-

mogravimetric methods and calculated the Ga-N phase diagram. Figure 1 shows the Ga-N phase diagram at 1 bar pressure. Figure 2 shows the Ga-N phase diagram for condensed phases. Figure 3 is an enlargement of Fig. 2 at the Ga-rich end.

Ga-N crystal structure data in Table 1 were quoted from [Massalski2].

Table 1 Ga-N crystal structure data

Phase	Composition, at.% N	Pearson symbol	Space group	Strukturbericht designation	Prototype
(Ga)	0	<i>oC8</i>	<i>Cmca</i>	A11	Ga
GaN	50	<i>hP4</i>	<i>P6₃mc</i>	B4	ZnS (wurtzite)

Reference

2003Unl: J. Unland, B. Onderka, A. Davydov, and R. Schmid-Fetzer, Thermodynamics and Phase Stability in the Ga-N System, *J. Crystal Growth*, **256**, 2003, p 33-51

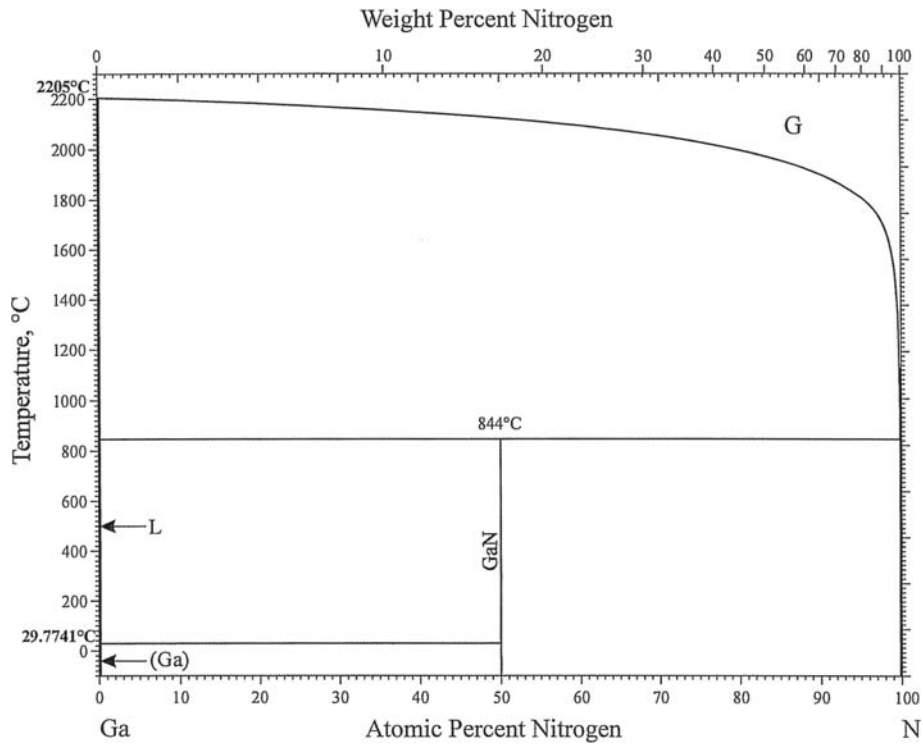


Fig. 1 Ga-N phase diagram at 1 bar pressure

Section III: Supplemental Literature Review

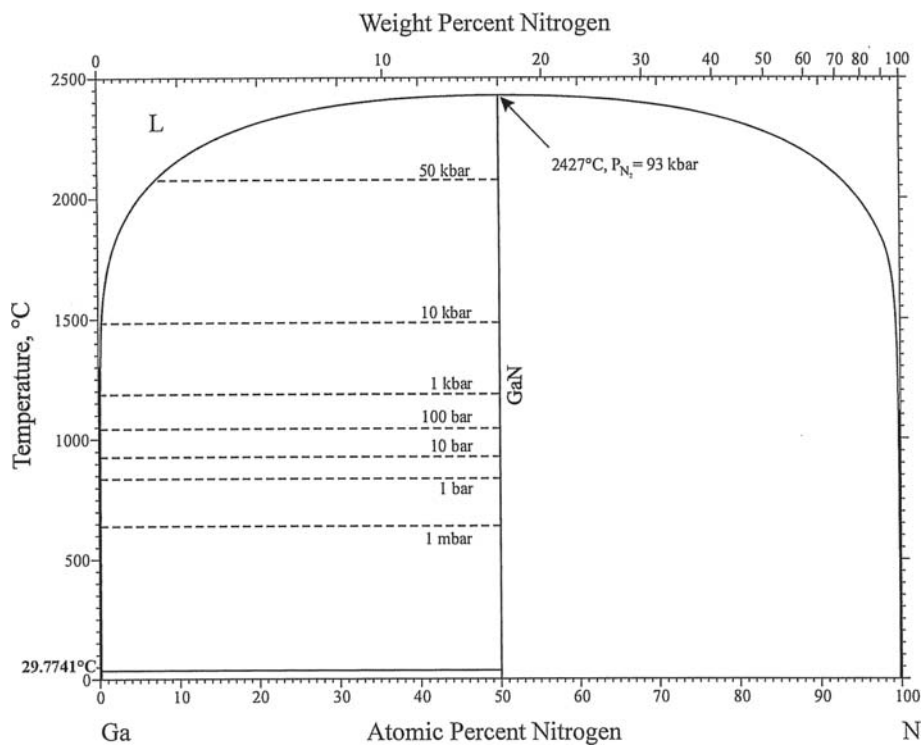


Fig. 2 Ga-N phase diagram for condensed phases

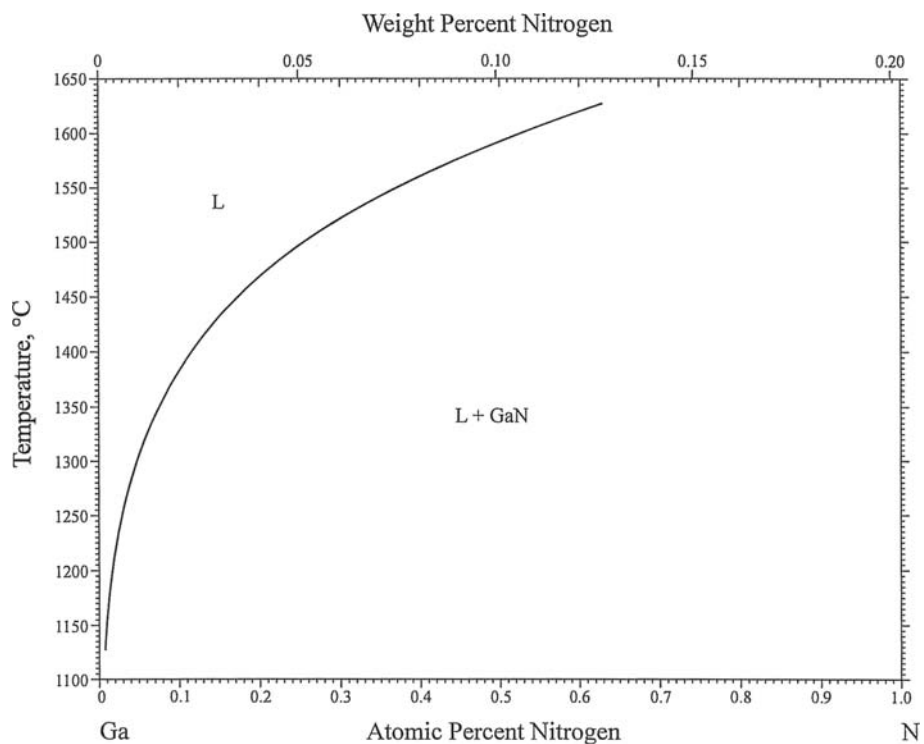


Fig. 3 Enlargement of Fig. 2 at the Ga-rich end