

Co-O (Cobalt-Oxygen)

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The partial Co-O phase diagram (0 to 3.5 at.% O) in [Massalski2] was redrawn from [Hansen]. [2004Zab] obtained the Co-O phase diagram in a wider composition range from 0 to 60 at.% O by thermodynamic modeling, as shown in Fig. 1. Figure 2 shows the detail of the eutectic reaction that occurs near the melting point of α Co.

Table 1 shows Co-O crystal structure data.

References

2004Zab: L.A. Zabdyr and O.B. Fabrichnaya, Phase Equilibria in the Co-Cu-O-Si System, *Calphad*, 2004, **28**, p 293-298

Table 1 Co-O crystal structure data

Phase	Composition, at.% O	Pearson symbol	Space group	Strukturbericht designation	Prototype
(α Co)	0	<i>cF4</i>	<i>Fm$\bar{3}m$</i>	<i>A1</i>	Cu
CoO	50	<i>cF8</i>	<i>Fm$\bar{3}m$</i>	<i>B1</i>	NaCl
Co ₃ O ₄	57.1	<i>cF56</i>	<i>Fd$\bar{3}m$</i>

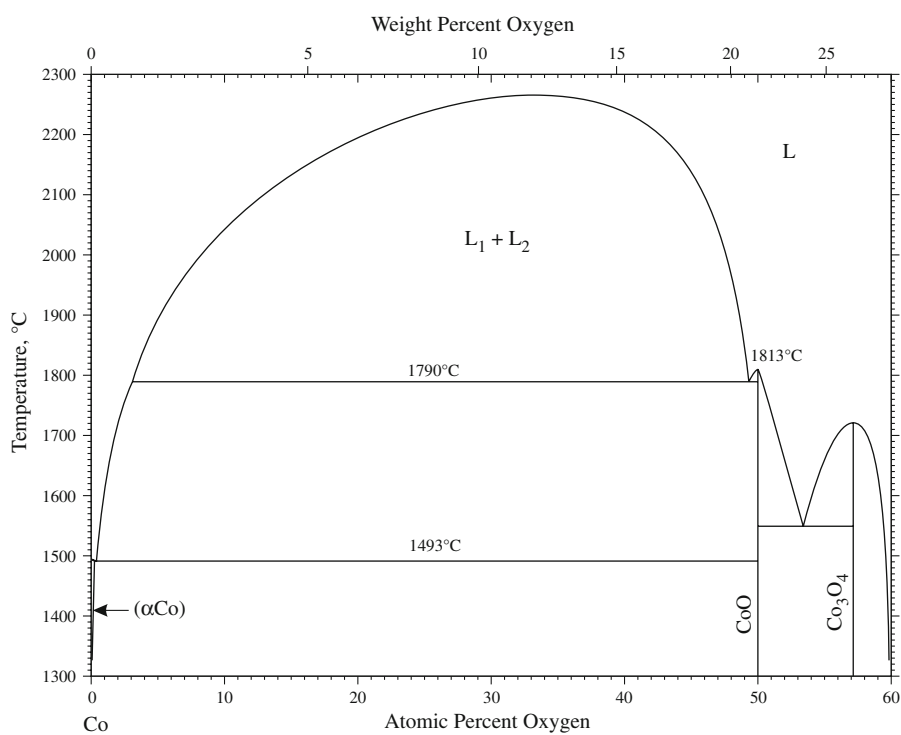


Fig. 1 Co-O phase diagram

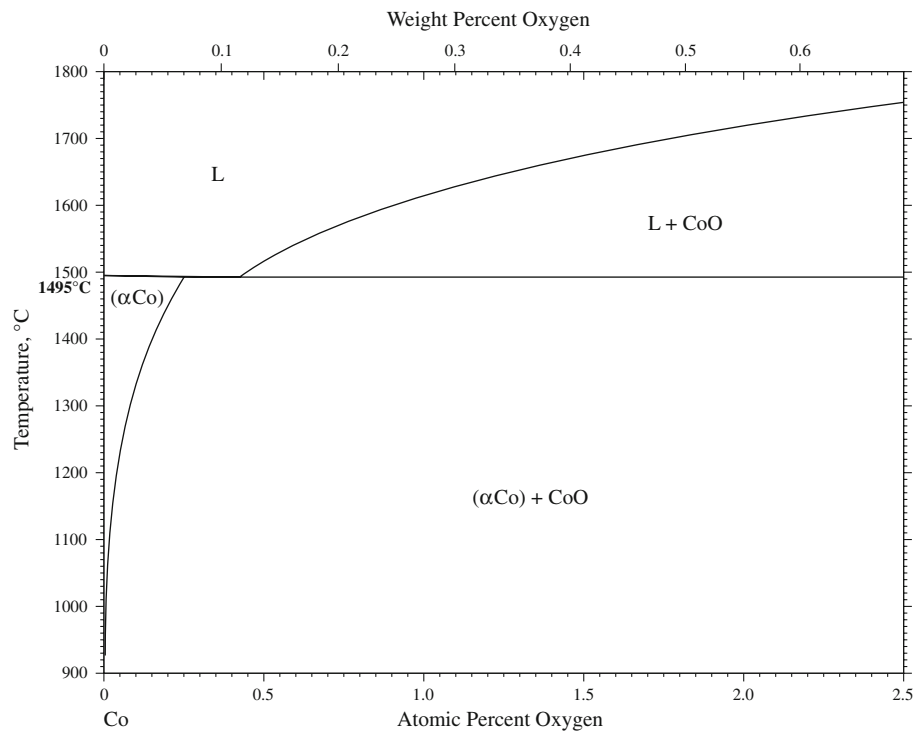


Fig. 2 Enlarged Co-rich corner of the Co-O phase diagram