

Enthalpy of Mixing of the PrCl_3 -LiCl and NdCl_3 -LiCl Molten Salt Systems

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The molar enthalpies of mixing ($\Delta_{\text{mix}}H_{\text{m}}$) of liquid PrCl_3 -LiCl and NdCl_3 -LiCl mixtures have been measured at 1044 K. For both systems these enthalpies are negative in the whole composition range, with a minimum at x_{PrCl_3} and $x_{\text{NdCl}_3} \approx 0.4$. The results are compared with existing mixing enthalpy data on lanthanide chloride-alkali metal chloride systems and discussed in terms of complex formation in the melts.

Key words: Praseodymium(III) Chloride; Neodymium(III) Chloride; Alkali Metal Chlorides;
Mixing Enthalpy; Interaction Parameter; Complex Formation.