

# Spectroelectrochemical Study of Neptunium in Molten LiCl-KCl Eutectic

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Neptunium behaviour in an LiCl-KCl eutectic melt at 723 K was studied using spectroelectrochemistry. Cathodic reduction of neptunium(IV)-containing melts led to the formation of Np(III) ions and then neptunium metal. Electronic absorption spectra of Np(IV) and Np(III) chloro species in LiCl-KCl melt were recorded and resolved into individual Gaussian bands. The nature of neptunium complex ions in the melt is discussed.

*Key words:* Neptunium; Chloride Melts; Spectroscopy; Electrochemistry; Spectroelectrochemistry.