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Published: July 2003

Electroreduction of Yttrium Trifluoride in Molten Potassium Chloride

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Russian Journal of Electrochemistry **39**, 793–795 (2003)

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Abstract

Electroreduction of Y^{3+} in molten $KCl–YF_3$ is studied at 1053 to 1123 K using a voltammetry method. The discharge of Y^{3+} to the metal with the attachment of all three electrons proceeds in a single stage ($Y^{3+} + 3e \rightarrow Y$), in the range of mixed kinetics. The diffusion coefficients, activation energy, and transfer coefficients are determined.

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References

1. Delimarskii, Yu.K. and Gorodyskii, A.V., *Dokl. Akad. Nauk SSSR*, 1959, vol. 123, p. 610.

2. Sevčik, A., *Collect. Czech. Chem. Commun.*, 1948, vol. 13, p. 249.

3. Randles, I.B., *Trans. Farad. Soc.*, 1948, vol. 44, p. 327.

4. Matsuda, H. and Ayabe, Y., *Z. Elektrochem.*, 1956, vol. 59, p. 494.

5. Golovin, V.A. and Dobren'kov, G.A., *Tr. Kazan. Khim.-Tehknol. Inst.*, 1965, vol. 34, p. 202.

6. Kuznetsova, S.V., Kuznetsov, S.A., and Stangrit, P.T., *Elektrokhimiya*, 1990, vol. 26, p. 102.

7. Delahay, P., *J. Am. Chem. Soc.*, 1953, vol. 75, p. 1190.

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About this article

Cite this article

Gasviani, N.A., Dzhaparidze, D.I., Kipiani, G.N. *et al.* Electroreduction of Yttrium Trifluoride in Molten Potassium Chloride. *Russian Journal of Electrochemistry* **39**, 793–795 (2003). https://doi.org/10.1023/A:1024890405707

Issue Date

July 2003

DOI

https://doi.org/10.1023/A:1024890405707

Keywords

Chloride **Potassium** **Physical Chemistry** **Activation Energy** **Diffusion Coefficient**

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