Application of an Empirical Internal Mobility Equation to the Molten Binary Bromide System (Li,K)Br Studied by Chemla's Group

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The empirical equation previously presented for the internal mobilities of molten salts is found to be valid for the data obtained by Chemla's group on the binary system (Li,K)Br containing a trace amount of Na^+ [Chemla et al., Electrochim. Acta **14**, 505 (1969)]. The value of $u_M(V_m - V_{0M})$ (u_M denotes the internal mobility of Li^+, Na^+ and K^+, and V_{0M} is the correction of V_m) is constant independently of the molar volume V_m in the whole investigated concentration range at given temperatures 823 K, 923 K, and 1023 K, except for K^+ in pure LiBr at 1023 K, which may be attributed to the agitation effect by Li^+ ions. The values of V_{0M} are evaluated and their physical meaning is discussed.

Key words: Empirical Equation; Internal Mobility; Molten (Li,K)Br; Molar Volume Dependence.