

Measurement of solubility of alkaline earth metal oxides in LiCl molten salt

김민경, 서호성, 정상문¹, 박병홍[†]

한국교통대학교; ¹충북대학교

For the development of spent fuel management process with reducing the volume, radiotoxicity, and heat load of spent fuel to be disposed of an electrolytic reduction process has been developed to reduce spent fuel oxide into metallic form in a high temperature molten LiCl. The aim of this study is to present the basic solubility data for spent fuel treatment, which contained alkaline earth metal oxides. Alkaline earth metal oxides are converted into chlorides after reacting with molten LiCl and then dissolved in the molten salt. They are expected not to be reduced by electrochemical reactions. Therefore, their behaviors in the electrolytic reduction process can be expected by measuring and analyzing the solubility. We measured the solubility of BaO and SrO in a molten LiCl at 650 °C which is the operation condition of the electrolytic reduction process.