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Effective removal of rare earth metals using surface-active agent

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The investigation consists in applying the methods of removal rare earth metals from low concentrated solutions by adsorption and extraction methods. The benefits of these methods before the existing analogues are being able to selectively target component removal from dilute solutions and use common surfactants. For the decision of tasks of scientific research is proposed as a surfactant, sodium dodecyl sulfate. Salt dodecyl sulfate acid has the following advantages in comparison with other surfactants: non-toxic (4th class); cheapness; the process requires a NaDS, the stoichiometry of chemical reactions; the NaDS in the wide ranges of pH of the liquid phase; possibility of regeneration of the products; compared with similar surfactant extract rare metals of sodium dodecyl sulfate are maximum values. The pilot objects of scientific research were fully explored using modern instrument base, original techniques and modern instrumental methods of analysis such as photometry, infrared spectroscopy, complexometric titration, potentiometry, conductivity. The scientific research ensured new data on termodinamics description of the adsorption-bubble process on the surface of the liquid-gas phase and results for effective recovery of rare earth metals with a composition of sublates.

Biography

Dr. Dzhevaga Natalia Vladimirovna completed her PhD in physical chemistry in 2012 from National mineral resources university. Since then, successfully engaged in scientific research in the field of removal of rare earth metals from dilute solutions by flotation and extraction methods. Published more than 70 papers on this topic, including more than 15 articles in journals indexed in international databases. received eight patents on inventions.

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