

## عنوان مقاله:

Gallium extraction from Jajarm Bayer process liquor using micro-emulsions

## محل انتشار:

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## خلاصه مقاله:

Gallium extraction from Jajarm Bayer process liquor (Jajarm, Iran) was investigated using microemulsions. Also the behavior of aluminum was studied as an impurity. Kelex100 (4-ethyl, 1-methyl, 7-octyl, 8-hydroxyquinoleine), iso-decanol and n-butanol, and kerosene were used as the surfactant, co-surfactant, and oil phase, respectively. Ternary phase diagrams were produced using various co-surfactants at different C/S ratios. The results obtained show that Winsor II is the predominant region, and the least area was obtained using iso-decanol at C/S = 4. Using n-butanol or iso-decanol at C/S = 2, 100% of gallium was extracted. The equations of the statistical models for the gallium and aluminum extractions using different co-surfactants were calculated. While the highest gallium extraction (100%) was obtained using n-butanol, due to the high co-extraction of aluminum, the lowest separation and enrichment factors were obtained for this system. The highest separation and enrichment factors were obtained using iso-decanol at C/S = 2. The point with the compositions of XAF = 30, XOF = 20, and XC/S = 50 was found to be a suitable choice, and led to 74% and 14% extractions for gallium and aluminum, respectively. An enrichment factor of 5.28 was obtained

## کلمات کلیدی:

Micro-Emulsion, Gallium, Bayer Process, Jajarm, Solvent extraction

## لینک ثابت مقاله در پایگاه سیویلیکا:

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