Desalination and Water Treatment
www.deswater.com

doi: 10.1080/19443994.2014.929035

54 (2015) 1452–1456
April

Taylor & Francis
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Separation of gallium and copper from hydrochloric acid by D_2EHPA

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Received 17 December 2013; Accepted 13 May 2014

ABSTRACT

Solvent extraction offers a better option for gallium recovery among many techniques. The liquid–liquid extraction of gallium(III)–copper(II) solution from hydrochloric acid medium using di-2-ethyl-hexylphosphoric acid (D_2EHPA) in kerosene was studied. The effect of the reagent concentration and other parameters on the extraction of gallium(III)–copper(II) was also studied. The stoichiometry of the extracted species of gallium(III) was determined based on the slope analysis method. The maximum extraction efficiency of gallium was 99.9%. The gallium that contained organic phase could be stripped completely by 1 M HCl.

Keywords: Gallium(III); Liquid–liquid extraction; Copper(II); Strip; D_2EHPA

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Presented at the 6th International Conference on the "Challenges in Environmental Science and Engineering" (CESE-2013), 29 October – 2 November 2013, Daegu, Korea