中国有色金属学报
中国有色金属学报(英文版)
中国科学技术协会 主管
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论文摘要

中国有色金属学报
ZHONGGUO YOUSEJINSHUXUEBAO XUEBAO
第19卷 第6期 (总第123期) 2009年6月

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文章编号：1004-0609(2009)06-1148-07

以L113B为表面活性剂制备W/O/W液膜分离废水中的Cr(Ⅵ)

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摘 要： 以双烯基丁二酰亚胺(L113B)作为表面活性剂，磷酸三丁酯(TBP)作为载体，煤油作为稀释剂，NaOH溶液作为内水相，制备W/O/W型双重乳液，考察乳化搅拌速度、乳化时间、载体和表面活性剂含量、内相溶液浓度、萃取时间、油内比以及乳水比等因素对该体系稳定性及Cr(Ⅵ)萃取率的影响。通过比较不同的破乳方法对乳液回收的影响，对液膜萃取机理进行分析。结果表明：在1.0 mol/L的硫酸含铬废液中，该体系具有良好的稳定性，液膜的溶胀率以及破损率明显降低，Cr(Ⅵ)的萃取率高达99.4%。

关键字： 双重乳液；铬；分离；富集

W/O/W emulsion liquid membrane prepared using L113B as surfactant for separation of Cr(Ⅵ) from waste water

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Abstract: The water in oil in water (W/O/W) double emulsion was prepared using L113B as surfactant, tributyl phosphate (TBP) as extractant, kerosene as diluent and NaOH solution as internal aqueous phase. The effects of various parameters on the stability of emulsion liquid membrane and extraction efficiency of Cr(Ⅵ) were discussed, which include the speed and time of emulsification, extractant and surfactant concentrations, internal phase concentration, extraction time, volume ratio of the membrane phase to internal stripping phase and that of the emulsions to the aqueous external phase. The effects of different demulsification methods on the recovery of emulsion were compared, and the extraction mechanism was studied. The results show that in the 1.0 mol/L sulphuric acid solution, the rates of swelling and breakage of emulsion liquid membrane decline and the extraction efficiency is 99.4%.

Key words: double emulsion; chromium; separation; enrichment

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