

论文摘要

中国有色金属学报

ZHONGGUO YOUSEJINSHUXUEBAO XUEBAO

第18卷 专辑1 2008年6月

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文章编号: 1004-0609(2008)S1-0015-06

小分子一元酸及硅酸对铝酸钠溶液种分过程的影响

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摘要: 分别研究甲酸、乙酸和丙酸与硅酸的共同作用对铝酸钠溶液种分过程的影响。结果表明: 这3种小分子一元酸与硅酸共同存在时均能对铝酸钠溶液的分解产生抑制作用, 且温度越低, 对铝酸钠溶液分解的抑制作用越强。3种一元酸与硅共同存在时均能使种分过程出现成核现象, 细化产品氢氧化铝, 细化作用介于单一硅酸的细化作用与单一一元酸的细化作用。

关键字: 铝酸钠溶液; 一元酸杂质; 硅; 分解率; 粒度分布

Effects of carboxylic acids and silicon dioxide on seeded precipitation of sodium aluminate solutions

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Abstract: The effects of formic acid, acetic acid, propionic acid with silicon dioxide on decomposition ratio of sodium aluminate solutions and particle size distribution(PSD) of gibbsite were investigated respectively. The results show that the coexistence between the three carboxylic acids and silicon dioxide all have inhibitory effects on the precipitation, and the lower the temperature is, the stronger the inhibitory action. The second nucleation happens and the particle size of gibbsite product is decreased when the three carboxylic acids exist with silicon dioxide respectively, and the decreasing extent is between that with silicon dioxide and that with carboxylic acid separately.

Key words: sodium aluminate solution; carboxylic acids; silicon dioxide; decomposition rate; particle size distribution

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