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阳离子聚丙烯酰胺强化铝酸钠溶液 种分附聚过程的机理

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摘要: 为了揭示阳离子聚丙烯酰胺强化铝酸钠溶液种分附聚过程的机理, 采用硝酸钠作为外标物, 用红外光谱法半定量检测种分附聚过程中各种铝酸根离子浓度的变化。结果表明: 在种分附聚过程的前期, 添加阳离子聚丙烯酰胺的铝酸钠溶液的峰值比 / 高于空白, 但是在后期, 其比值低于空白。在种分附聚过程的前期, 添加阳离子聚丙烯酰胺的铝酸钠溶液的分解率一直低于空白, 而在后期, 其分解率一直高于空白。结合种分实验及红外光谱的结果, 认为阳离子聚丙烯酰胺促进了铝酸钠溶液中 \rightarrow \rightarrow Al(OH)₃转化, 从而强化了种分附聚过程。

关键字: 铝酸钠溶液; 聚丙烯酰胺; 种分过程; 强化; 机理

Mechanism of cationic polyacrylamide enhancing seeded agglomeration of sodium aluminate liquors

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Abstract: Using sodium nitrate as external standard substance, the semi-quantitative method of infrared spectrum was used to determine the change of aluminate anions in order to study the enhancing mechanism of cationic polyacrylamide (PAM) on the seeded agglomeration of sodium aluminate liquors. It is shown that the peak value ratio of to of sodium aluminate liquors with the addition of cationic PAM is larger than that of the blank in the early seeded agglomeration process, and is lower than that of the blank in the late process. The precipitation ratio of sodium aluminate liquors with the addition of cationic PAM is always lower than that of the blank in the early stage, and it is opposite in the late stage yet. From the results of the seeded agglomeration and infrared spectrum, it can be inferred that cationic PAM may accelerate the transformation of \rightarrow \rightarrow Al(OH)₃ in sodium aluminate liquors, thus enhances the seeded agglomeration process of the liquors.

Key words: sodium aluminate liquors; polyacrylamide; seeded precipitation process; enhancement; mechanism

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