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RESEARCH NOTES

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摘要 Separation and purification of dodecanedioic acid (DDDA) from its homologous compounds were studied experimentally by falling film crystallization (FFC). The influences of various operation parameters, including crystallizing time, flow rate of melt and temperature of glycerine bath, on purity of DDDA and crystallizing rate were investigated. Over 99% (by mole) DDDA was obtained for a feed composition of 96% (by mole). The main factors affecting the separation efficiency are flow rate of melt and temperature of glycerine bath. The crystallizing layer of DDDA was further purified by sweating and blasting. A set of optimized operation data are provided for better understanding the mechanism of heat and mass transfer in FFC, and for further industrial application of DDDA purification process.

关键词 降膜结晶 降膜结晶 熔 结晶 降膜结晶 DDDA

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Separation and Purification of Homologous Compounds Acid Dodecanedioic Acid from Its Falling Film Crystallization

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Abstract Separation and purification of dodecanedioic acid (DDDA) from its homologous compounds were studied experimentally by falling film crystallization (FFC). The influences of various operation parameters, including crystallizing time, flow rate of melt and temperature of glycerine bath, on purity of DDDA and crystallizing rate were investigated. Over 99% (by mole) DDDA was obtained for a feed composition of 96% (by mole). The main factors affecting the separation efficiency are flow rate of melt and temperature of glycerine bath. The crystallizing layer of DDDA was further purified by sweating and blasting. A set of optimized operation data are provided for better understanding the mechanism of heat and mass transfer in FFC, and for further industrial application of DDDA purification process.

Key words dodecanedioic acid homologous compound falling film crystallization separation and purification

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