

Purification of Acetic Acid Mixture in Layer Melt Crystallization

이형석, 김광주^{1,*}, 김재경¹, 이상웅¹
우석대학교; ¹한밭대학교 화학공학과
(kjkim@hanbat.ac.kr*)

The issue of water pollution has become more serious in recent years. Development of novel wastewater treatment system contributes to solving the pollution problem. Freeze wastewater treatment can be applied to most wastewater by separating a large amount of water in the form of ice and achieving concentrated wastewater. Herein, we report a layer melt crystallization process to purify the wastewater of the acetic acid-water mixtures, which is a simple eutectic system. The effects of purification and crystal growth rate for growth parameters such as sweating time, coolant temperature, feed concentration, and cooling rate was investigated. We have sought out that purity of the crystalline layers is very dependent on the crystal growth rate, thereby inducing that a lower coolant temperature, higher feed composition, and a much lower cooling rate are more slowly than the growth rate of crystalline layer.