

**Effect of temperature gradient on growth rate of crystals for n-Vinyl-2-pyrrolidinone + 2-pyrrolidinone mixtures from melt**

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The rate of growth from melts composed of n-Vinyl-2-pyrrolidinone + 2-pyrrolidinone was investigated for the effect of temperature gradient using a new plate-type melt crystallizer. The temperature gradient was set to  $T_{wall}=12^{\circ}\text{C}$ ,  $15^{\circ}\text{C}$  and  $T_{cool}=-5^{\circ}\text{C}$ ,  $0^{\circ}\text{C}$ ,  $5^{\circ}\text{C}$ , respectively. Simplified heat-transfer model for melt crystallization was established and parameters for the mixtures of n-Vinyl-2-pyrrolidinone + 2-pyrrolidinone was obtained. As the difference between wall and cooling plate increased, the crystal growth rate increased, but the purity of n-vinyl-2-pyrrolidinone decreased.