

Agglomeration of NMC Hydroxide in Continuous Rotation disc Crystallizer

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In present study, a rotating disk (RD) crystallization is designed for generation of Batchelor flow. The agglomeration process is significantly affected by the rotation speed of the inner disk due to the periodic fluid motion of Batchelor flow. So, the agglomerate size and size is reduced and agglomerate size distribution was uniform as increasing the rotation speed. Also, the sphericity and flowability of the agglomerates are improved, which lead to higher tap density. As a result, the spherical agglomerates with a coefficient of variation of 0.33 and tap density of 2.01 g/cm³ are obtained at a high rotation speed of 1500 rpm with only 30 min of mean residence time in the continuous RD crystallizer. These results suggested that a Batchelor flow would be highly applicable for the practical production process of agglomerates of NCM hydroxide