

# *Continuous Melt Crystallization*

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## **11.1 Introduction**

### **11.1.1 Definitions for Melt Crystallization**

The crystallization process, as one of the most important separation unit operations, could be divided into two subcategories: crystallization from solution and crystallization from melt.<sup>1-4</sup> Normally, a solution is a homogeneous mixture of different species, while a melt refers to a pure molten solid. As for melt crystallization, the melt is used in a more general way to describe mixtures of melt materials that are usually solid state at room temperature.

Thermodynamically, both solution crystallization and melt crystallization processes happen from the deviation of the system from a phase equilibrium state. Generally, for solution crystallization, the concentration of target products is relatively low. Also, it is driven by supersaturation and is usually operated at a temperature which is much lower than the melting