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Influence of Mechanical Agitation on the Crystal Growth of Ammonium Sulfate from Aqueous Solution

Akira OHKUBO*

Relationships between the rate of agitation and crystal shape were found. In the crystallization of Ammonium Sulfate from its of solution, it seemed possible to control the shape of the crystal on needle or granular, by changing the condition of agitation and the cooling rate. The influences of mechanical agitation on both the nucleation and the subsequent growth were as follows;

- 1). Crystallographical study of the structural differences between needle and granular crystals by X-ray analysis was performed and it qualitatively agreed with the Kossel-Stranski theory.
- 2). The influences of mechanical agitation on both the nucleus formation and the nucleation rate were studied. The value of the critical supersaturation was markedly dependent on the rate of mechanical agitation.