

**Controlling factors in the particle size growth of Ammonium Sulfate in evaporation crystallization**

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This contribution summarizes the various process parameters affecting the growth of Ammonium sulfate particles. The crystallization method used in achieving supersaturation is vacuum evaporation crystallization. Batch, semi-batch, seeded and unseeded processes were experimented. We varied process parameters such as the feed concentration, operating temperature and pressure, slurry concentration, etc. to access the outcome on the initial evaporation rate as a function of induction time and subsequently supersaturation. From earlier studies, we found out that supersaturation was the main factor affecting the nucleation and growth rate of the particles. Our target for this study was to obtain mean particle size of Ammonium sulfate crystals between 2 – 3mm with a narrow particle size distribution. A low supersaturation was necessary to achieve the objectives of this study.