

Surface and Density Control of HMX Crystals by Supersaturation

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HMX was produced as a by-product in the RDX synthesis process developed by Bachmann in 1940 and later used and developed as a high explosive.

After its value as an explosive substance, HMX is a crystalline high explosive substance widely used for military purposes.

In this study, a batch cooling crystallizer was used and the stirring impeller was a marine type with four circular vanes.

Using propylene carbonate as a solvent, the crystallization was performed from 80 °C to 0 °C, and the supersaturation was controlled by the cooling rate.