Effect of Crystallization Kinetics on Defect Formation of RDX

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The growth kinetics of crystal of RDX was studied from different binary solutions. The relationship between surface roughness and growth kinetics was presented and discussed. A growth mechanism was identified by comparing the results with SEM and calculating the α-factors. The low heat of solution from solution depress the α-value, leading in certain cases to a rough interface with direct integration. Conversely the high heat of solution increase the α-value relative to an ideal solution, making a BCF mechanism on a smooth, The α-value calculated for the growth of RDX crystals correctly predicted a surface roughness and growth mechanism. Furthermore, the data of the growth kinetics were examined by applying the theoretical equations of the BCF and NaN models. The growth kinetics of RDX crystals were investigated from Focussed Beam Reflectance Measurement(FBRM) in- situ, in-real time.