

**Reaction Kinetics and Phase Segregation in the
 $3\text{NiO} + 2\text{Al} \rightarrow 3\text{Ni} + \text{Al}_2\text{O}_3$ Thermite System**

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We present the study of the $3\text{NiO} + 2\text{Al} \rightarrow 3\text{Ni} + \text{Al}_2\text{O}_3$ thermite reaction, with various amounts of diluent to better control the reaction propagation. The reaction propagation is studied by infrared thermography, and, for one sample where the propagation was stable and its shape preserved during the reaction. Time Resolved X-ray Diffraction was used to determine the reaction kinetics. Products are analyzed by SEM observations, together with EDX analysis.