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Distribution Kinetics of Plastics Decomposition

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Distribution kinetics is a method to analyze polymer reactions kinetically in terms of the molecular-weight (or chain-length) distributions (MWDs) of components in a macromolecular mixture. Governing equations for temporal and spatial dependence of the MWDs are based on population balance equations (PBEs) for the distinguishable species. Moments of the MWDs are related to observable properties, such as average MW and polydispersity, and can be measured for polymeric systems by procedures such as size-exclusion chromatography. The moments are related mathematically to rate parameters in the PBEs. The distribution kinetics approach is thus a method for interpreting experimental observations of MWD dynamics in terms of chemical reaction mechanisms.

Keywords: [Polymer degradation](#), [Pyrolysis](#), [Reaction mechanism](#), [Radical reaction](#)

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