

# **ADIABATIC CALORIMETRY METHODS FOR ASSESSING THE STABILITY OF ORGANIC SUBSTANCES**

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Adiabatic and isoperibolic calorimeters are widely used to assess the stability of substances under given conditions. Adiabatic measurement conditions assume no heat loss during the process, which is quite realistic for production processes, storage or operating conditions. Adiabatic reaction calorimeters (ARC) test samples under little or no heat loss and measure the highest temperature increase achieved to establish the worst-case scenario if decomposition occurs. Based on the data obtained, it is possible to evaluate the kinetics of chemical transformations or predict the duration of operation and storage under given conditions. Temperature, ambient pressure and atmospheric composition can be selected as experimental conditions, which significantly expands the applicability of this analytical method.

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