

Thermal Decomposition Study of Hydroxylamine

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Abstract

Information is critically needed about the behavior of widely used, highly reactive, and potentially hazardous chemicals such as hydroxylamine. This paper presents thermal decomposition studies of hydroxylamine/water alone, and with other materials using the Adiabatic Pressure Tracking Calorimeter (APTAC). Presented is kinetic behavior including onset temperatures in test cells of various materials such as titanium, glass, stainless steel, and cells coated with silica. Presented also are results of thermal stability tests to determine safe storage temperatures for various materials and containment sizes. The results of this study provide a basis for safer handling, use, and storage of hydroxylamine.