

## THERMAL DECOMPOSITION OF TRIAZOLO- AND TETRAZOLOTERAZINES

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**Abstract:** Thermal decomposition of 6-aminotriazolo[1,5-b]-1,2,4,5-tetrazine (ATrTz) and 6-amino-tetrazolo[1,5-b]-1,2,4,5-tetrazine (ATTz) in isothermal and nonisothermal conditions has been studied. The decomposition of both substances follows the first-order reaction until high extent of decomposition. The kinetic data received are well described by straight lines in wide temperature ranges:  $k = 5.8 \cdot 10^{10} \exp(-17205/T)$  [ $s^{-1}$ ] (230–328 °C) for ATrTz and  $k = 1.3 \cdot 10^{25} \exp(-29750/T)$  [ $s^{-1}$ ] (164–221 °C) for ATTz. A decomposition mechanism of these compounds has been proposed.

**Keywords:** azoloterazines; 6-aminotriazolo[1,5-b]-1,2,4,5-tetrazine; 6-amino-tetrazolo[1,5-b]-1,2,4,5-tetrazine; thermal decomposition; kinetics

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