

Jeol MStation Mass Spectroscopy Capability at Sandia Applied to Polymer Degradation

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As weapons age, understanding the degradation mechanisms of polymers becomes more important. Sandia received and installed a Jeol MStation mass spectrometer this year to perform sensitive high-resolution, magnetic sector spectroscopy. Resolutions up to 60,000 (mass/ Δ mass) allow for the determination of very accurate mass values, which provide, in most cases, unambiguous empirical molecular formulae. A wide range of sample inlet options provides great flexibility for sample introduction and ease of operation. Gas chromatography (GC) and direct probe inlet methods will be discussed with their application to the determination of products outgassed from various polymers. Comparisons to data obtained from the Jeol GCMate II will also be presented.