Shewhart type control charts are a widely used quality management tool by testing laboratories for ensuring measurement quality. Shewhart decision rules use 3 $s$ (99.74% confidence interval) for an action limit and 2 $s$ (95% confidence interval) for a warning limit. For a single analyte the likelihood of a Type I inference error (false positive) are 26 in 10,000 for a 3 $s$ action limit and 5 in 100 for a 2 $s$ warning limit. For multianalyte tests such as ICP-OES, ICP-MS, HPLC more than 50 analytes are measured on a single injection of a test solution. The Type I inference error for a 50 analyte test would result in one in eight samples being rejected due to a single analyte exceeding the 3 $s$ action limit. The control chart decision rules to be presented are applicable to multianalyte tests for any number of analytes, they reduce the Type I error to about that of a single element test while evaluating all analytes simultaneously and include trending evaluation.