

A review of recent advances in melamine detection techniques

Abstract

Melamine is a nitrogen-rich chemical that has received much attention in recent years owing to a series of highly publicized food safety incidents. It is purposely added to foods by unethical manufacturers in order to elevate the organic nitrogen content, thus increasing the price and the profit made from such products. Recently, several methods have been established to determine melamine content. Unfortunately, most of these methods require complicated pre-concentration and costly instruments, and are time-consuming. Analytical procedures based on biosensors have emerged in scientific literature as a very promising alternative method due to their simplicity, speed and sensitivity. This review discusses current advances in detection techniques for melamine and its compounds. Current and past melamine contamination incidents, as well as modern instruments and analytical methods for determining the presence of melamine and its analogues are presented, and the characteristics of melamine and related compounds are also described.