

Oral Presentation

Kinetic Determination of Bromate in Bread

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Abstract

In this study a new, rapid, simple, precise and accurate method was created to determine the level of bromate in bread. Bromate is used in bread as a maturation agent, and classified as a potential carcinogen.

This method is based on bromate reaction with iodide ion in acidic medium. The absorbance was measured at 352 nm. Bromate reacted with iodide during the first 3 min after initiation of the reaction. The calibration curve showed a linear correlation over the range 50 ppm -300 ppm of bromate in bread. The proposed method has been successfully applied for determination of bromate in commercial bread. In this study we found that the use of a two grams of potassium bromate per bag flour (60 kg) is safe. Bromate usually degrades at about 600 °C alone but in bread it degrades at 200 °C due to the presence of other metals which act as a catalyst.