

**METHOD DEVELOPMENT AND ASSESSMENT
OF BENZOIC ACID AND SORBIC ACID IN
LOCAL MANUFACTURED YOGURT
USING HPLC**

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ABSTRACT

A reversed-phased HPLC method that allows separation and simultaneous determination of the preservatives such as benzoic acid and sorbic acid described in this dissertation. A total of five brands of yogurts (n=10) with two most popular flavour, natural and strawberry, which are available in Malaysia were analyzed for benzoic and sorbic acid levels. The aim of this study was to determine whether the preservatives levels in yogurt comply with Malaysian Food Act and Regulations and Joint FAO/WHO Expert Committee on Food Additives (JECFA). The chromatographic separation was achieved with a C-18 column (4.6 x 150 mm) and a buffered mobile phase, methanol-acetate buffer (40:60, v/v) at pH 4.4. The effluent was monitored at 235 nm. The separation of the preservatives was achieved in 10 minutes. Analytical characteristics of the separation such as limit of detection, limit of quantitation and linearity were evaluated. All ten yogurt samples were found to contain low levels of benzoic acid which were expected to be the indigenous constituent of milk which were used to produce yogurt. Low levels of sorbic acid were detected in three yogurt samples which were strawberry flavoured due to the carried over of preservatives when processed fruits were added into the yogurt. Sorbic acids were not detected in all the natural yogurt samples. Overall, the low levels of benzoic and sorbic acids detectable in yogurt are not considered to pose a health risk. Therefore, consumers' interests are safeguard as all samples were in compliance with Malaysia Food Regulations 1985 and the Joint FAO/WHO Expert Committee on Food Additives (JECFA).