ABSTRACT

Method validation of gas chromatography with flame ionization detector for organochlorine residue analysis in galangal rhizome using QuEChERS kit

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The purpose of this research is obtaining validated method of gas chromatography for organochlorine residue analysis in galangal rhizome using QuEChERS kit. Sample preparation was conducted using QuEChERs kit as an extraction method and a combination of primary secondary amine (PSA) and graphitized carbon black to clean up the sample. Method validation parameters were determined in this study such as selectivity, linearity, limit of detection, limit of quantitation, accuracy, and precision. This method gave a good selectivity, represent as resolution value greater than 1,5 and a good linearity, with correlation coefficient (r^2) > 0,995. Limit of detection and limit of quantitation values were in the range 0,08 – 0,29 ppm and 0,21 – 0,96 ppm. The average recoveries of analyte were in the range 61,79 – 119,03 % with precision (as relative standard deviation or variation coefficient) less than 15%.

Keywords : Method validation, galangal rhizome, organochlorine, gas chromatography, QuEChERS kit