Comparison of Applying Different Chromatographic columns for Acrylamide Analysis in Potato Chips by High-Performance Liquid Chromatography

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Acrylamide is a toxic compound in some processed foods. The purpose of this research was to provide an easy and reliable method for measuring acrylamide in potato chips by HPLC-PDA. For this purpose, the effect of 5 columns ODS-H-C18 Optimal, Sphere-Image 80-5 ODS 2, Zorbax Hilic Plus, Lichrosorb-100 NH2, and Shodex NH2P-50 4E were investigated on the separation and measurement of acrylamide in chips. The best results were obtained with the use of the new generation of Shodex NH2P-50 4E amino columns, and acrylamide peak was isolated successfully without the need for solid state purification steps. The standard calibration curve was linear in the range of 100-5000 µg / L (R2 = 0.997). Recycling percentages in the range of 95.9% to 102.2%, the detection limit and the limit value were 9 and 27 µg / kg respectively. The repeatability of this method was appropriate and the standard deviation index was 4.39%.

[English] [نویسندگان]

"Acrylamide", "Measurement Method", "Chromatography Column", "Liquid Chromatography", "Photodiode Array Detector"
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