

## Static Headspace GC Method for Aldehydes Determination in Different Food Matrices

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**Abstract :** Aldehydes as secondary lipid oxidation products are highly specific to the oxidative degradation of particular polyunsaturated fatty acids present in foods. Gas chromatographic analysis of those volatile compounds has been widely used for monitoring of the deterioration of food products. Developed static headspace gas chromatography method using flame ionization detector (SHS GC FID) was applied to monitor the aldehydes present in processed foods such as bakery, meat and confectionary products. Five selected aldehydes were determined in samples without any sample preparation, except grinding for bakery and meat products. SHS-GC analysis allows the separation of propanal, pentanal, hexanal, heptanal and octanal, within 15min. Aldehydes were quantified in fresh and stored samples, and the obtained range of aldehydes in crackers was  $1.62\pm 0.05$ - $9.95\pm 0.05$ mg/kg, in sausages  $6.62\pm 0.46$ - $39.16\pm 0.39$ mg/kg; and in cocoa spread cream  $0.48\pm 0.01$ - $1.13\pm 0.02$ mg/kg. Referring to the obtained results, the following can be concluded, proposed method is suitable for different types of samples, content of aldehydes varies depending on the type of a sample, and differs in fresh and stored samples of the same type.

**Keywords :** lipid oxidation, aldehydes, crackers, sausage, cocoa cream spread

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