

**MEASUREMENT OF FLAVOR DIFFUSIVITY FROM SOFT DRINKS INTO  
POLYETHYLENE TEREPHTHALATE BY HEADSPACE SOLID-PHASE  
MICROEXTRACTION-GAS CHROMATOGRAPHY**

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**ABSTRACT**

The first and foremost function of food packaging is to protect the product and to preserve its inherent quality. Most serious problem with plastic packaging material is flavor scalping. The aim of this project was to study flavor absorption into PET from soft drinks. Three different soft drinks chosen for experiments were: Lemon, Cola and Orange. Also three different temperatures (4, 25 and 40°C) were chosen. In all three soft drinks the absorption behavior of D-limonene, Myrcene and Pinene were monitored until equilibrium was reached. Headspace solid-phase microextraction was used as a technique for extracting the absorbed flavors from PET. The influence of the extraction time on the amount of extracted was studied. To measure the amount of flavor absorption by PET gas chromatography with FID detector was applied. It was seen that temperature and the kind of soft drink in use have an effect on the diffusion of flavors in PET.