

Investigating the Rate of Migration of Plasticizers from PET Bottles into Salad Oil during Storage

Authors : Simin Asadollahi, Amir H. Soruri, Ali Moghimi

Abstract : Nowadays, salad oils are used in many countries around the world. Therefore, it is of great importance to ensure the safety of these food products which are usually packaged in Polyethylene terephthalate (PET) bottles and come on the market. This study investigated the effects of storage time and temperature on the migration rate of phthalate compounds from PET bottle to salad oil. In more detail, migration rate of bis (2-ethylhexyl) phthalate from bottles to salad oil samples was measured in 1st, the 30th, and the 60th days of storage at a temperature of either 20 or 40 °C. At both storage temperatures, an increase in the storage time led to a statistically significant increase in the migration rate of phthalate compounds ($p < .01$). Regarding this, the highest migration rate occurred after 60 days of storage in to the samples. Furthermore, it was revealed bis (2-ethylhexyl) phthalate had a higher migration rate at 40 °C than at 20 °C which showed that an increase in the storage temperature would lead to an increase in the migration rate. The highest migration rate occurred in relation to salad oil stored at 40 °C and after 60 days of storage.

Keywords : salad oil, migration rate, polyethylene terephthalate, bis (2-ethylhexyl) phthalate

Conference Title : ICAFSB 2015 : International Conference on AgriFood, Food Science and Bioprocessing

Conference Location : Rome, Italy

Conference Dates : September 17-18, 2015