Effect of N-Octane Migration on the Quality of Soft Drink Emulsion in HDPE Packaging

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Mass transfer between packaging and its contents during the storage mainly affects physical and chemical properties of foods. Possible interaction between HDPE container and soft drink basis was studied in this work. GC-HS analysis was applied to identify the possible reactants of HDPE. Basis packaged in HDPE containers was stored at different storage temperatures; 4, 25 and 48˚C. Specific migration of n-Octane as possible reactant was determined by headspace chromatography coupled with mass spectrometer. Quality parameters of basis were measured during storage time at different temperatures. N-Octane was not detected in the samples stored at 4 and 25˚C, and at 48˚C was 0.7ppb, which is much smaller than permitted level of FDA (300ppm). The best storage condition was recognized at HDPE container and darkness condition in 4˚C. So the temperature was recognized as an important attribute in basis storage.

Keywords :N-Octane, Soft drink emulsion, HDPE, Specific migration

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