STUDY OF METHANOL LEVELS IN SOME ALCOHOLIC BEVERAGES OF KOSOVO MARKET

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Abstract

The objective of this study was evaluation of the levels of methanol in alcoholic beverages using capillary gas chromatography technique. In this study were taken 24 samples of various alcoholic beverages of Kosovo market, selected as representative types, by their production and origin. Grape Rakia samples that were the main group was classified into two subgroups: "home" produced grape Rakia and grape Rakia produced in industrial way. Other types of Rakia (apple, plumb, ect,) were seen separately. Rakia is one of the most popular and traditional products in Kosovo. Other alcoholic drinks (vodka, ouzo, brandy, etc.) were grouped together. Alcoholic beverages are defined as drinks, whose main ingredient (except water) is ethyl alcohol. Other components of alcoholic beverages are other alcohols, acids, aldehydes, esters, etc. Particular interest had the determination of methanol in alcoholic beverages. Presence of methanol in alcoholic beverages over the allowed limit, indicating high risk and can lead to death. Gas chromatography technique with capillary or packed column is recommended for the analysis of alcohols and volatile components in alcoholic beverages. Capillary columns provide highly efficient separation in connection with the separation of ingredients of alcoholic beverages, but high-capacity system gas chromatographic packed column sometimes makes it easier to detect traces of alcohol scales and short sequences. Flame ionization detectors or mass spectrometer detector can be used in qualitative and quantitative identification. Various combinations about the type of column, detector and other parameters can be used in gas chromatographic techniques. Gas chromatographic analyses of alcoholic beverage samples of Kosova markets were performed with a Varian 3900 instrument equipped with a flame ionization detector and split/splittles injector. VF-1ms capillary column (30m x 0.25mm x 0.25um) was used for isolation and determination of alcohol mixture. Analyzed compound for this study were: etanal, acetyl aldehyde, ethyl acetate, methanol, ethanol, butanol-1, butanol-2, propanol-1, izo-buatnol, izo-propanol, methyl-4-pentanol, methyl-2-butanol and methyl-3-butanol. Methanol levels were lower than allowed limit for all studied samples of alcoholic beverages of Kosovo markets.

Keywords: *Methanol, capillary gas chromatography, alcoholic beverages*