

### **ANALYSIS OF CAFFEINE IN COFFEE AND TEA RETAILED IN KOREA**

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Caffeine is one of the world's most widely consumed food ingredients. It is naturally found in coffee beans, cacao beans, kola nuts, guarana berries, and tea leaves including yerba mate. According to Korea Food Additives Code, caffeine should only be used for cola-type beverages and added at levels not to exceed 0.015%. The total amount of caffeine should be labeled on liquid products containing more than 0.015% of caffeine according to Ministry of Food and Drug Safety (MFDS) labeling regulations. In this study, we analyzed the caffeine content of coffees (instant/formulated) and teas (leached/solid). The analysis of caffeine was performed by reverse phase high performance liquid chromatography with a photodiode array detector (280 nm) using a C<sub>18</sub> column and methanol-acetic acid-water (20: 1: 79) as mobile phase. The clean-up and extraction of caffeine in samples were based on a simple treatment using a Sep-Pak C<sub>18</sub> cartridge. The assay was validated for linearity, limit of detection (LOD), limit of quantification (LOQ) and recovery. These results may be used as a basic data for the assessment of caffeine intake in Korea.

Keywords: Caffeine, food additive, high performance liquid chromatography

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