ABSTRACT

A simple spectrophotometric method has been developed for the determination of aspartame in powdered / instant drink based on ion exchange solid phase extraction. The accuracy and precision of the method was improved through cationic exchange solid phase extraction with citrate buffer 1,0 M and anionic exchange solid phase extraction with phosphate buffer 1,0 M. The method was applied to the determination of the aspartame content of various synthetic (mixed with citric acid, sodium citrate, sodium carboxymethylcellulose, calcium phosphate, ascorbic acid and sucrose) and real sample, and the result obtained for the samples were compared with both of cationic exchanger and anionic exchanger, the absorbance measurements were made at 258 nm.

On cationic exchanger, the accuracy was checked by calculating the variation coeffisient of six replicates determination on aspartame containing 80 mg/100ml of aspartame, 100 mg/100 ml of aspartame, 120 mg/100 ml of aspartame, and the average of accuracy was found 97,57 %.

On anionic exchanger, the accuracy was checked by calculating the variation coeffisient of six replicates determination on aspartame containing 80 mg/100ml of aspartame, 100 mg/100 ml of aspartame, 120 mg/100 ml of aspartame, and the average of accuracy was found 85,16 %.

The results of aspartame content from cationic exchange solid phase extraction were compared with anionic exchange solid phase extraction by

calculating the statistic measurements. The accuracy was checked by 2 sample t test student and the precision was checked by F test on the $\alpha = 0,05$. The statistic analysis showed that there was a significantly difference for the accuracy, that the result of cationic exchanger was better than the anionic exchanger, and unsignificantly difference for the precision.

Keywords : Aspartame, Instant Drink, Solid Phase Extraction, Ion Exchange and Spectrophotometry uv-vis Analysis.