CALIBRATION CURVES AND ANALYTICAL AREAS OF MEASUREMENT FOR A WIDE AREA OF THE ANIONIC DETERGENT CONCENTRATIONS

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ABSTRACT

SDS is mainly used in detergents for laundry with many cleaning applications.[3] *SDS is a highly effective surfactant and is used in any task requiring the removal of oily stains and residues. For example, it is found in higher concentrations with industrial products including engine degreasers, floor cleaners, and car wash soaps. It is found in toothpastes, shampoos, shaving creams, and bubble bath formulations in part for its thickening effect and its ability to create a lather.*[4] *Pepsodent toothpaste at one time used the name "Irium" for its sodium laurel sulfate ingredient. For the time being there is no surfactant which is 80% biodegradable and has these properties. The methods used for the determination of AD can be divided into two major groups: a) Methods for the determination of the total content of AD. These methods are mainly used for the evaluation of the environmental pollution) Methods for the determination of the specific components of AD. They are mainly new and expensive methods as GC-MS, HPLC, IR-Spectroscopy, ionic chromatography, etc., and they are used mainly in scientific research. We are interested in the first group of methods, in particular in those that use common analytical techniques, as UV-VIS spectroscopy, SAA and electro analytical techniques, ion-selective potentiometer, etc. The difficulty of determination of AD in environmental samples is due to the wide range of the concentrations, insufficient selectivity and sensitivity of the analytical procedures and the lack of the standard samples.*

Keywords: Anionic Detergent, Standard Samples, Spectroscopy, Ion-Selective

I. INTRODUCTION

Studies conducted before the Section of Analytical Chemistry for the determination of total content detergenteve anionic (DA) in waters have been concentrating on previous extraction methods (the DA complexes with ketone) in organic solvents and subsequent measurements with the spectrophotometer or spektometer atomic absorption. These methods, which usually recommended in the literature, provide high sensitivity, but they are relatively complex; takes time and health danger (since used organic solvents, such as klorofrom, izobutimetilketon, toluene, etc.).

Following this work, we set ourselves to order:

- *To experiment some direct method of determining the DA (which do not require prior extraction); The main advantages of these methods are simple procedure, short time and removal of the use of organic solvents.*

- To experiment the possibility of using these methods in the determination of DA in seawater. It is known that almost all urban and industrial discharges to DA terminate in marine waters, especially near the coast, causing pollution and affecting marine ecosystems. Analytical methods of determining the DA in marine waters do not provide satisfactory results.

II.MATERIALS AND METHODS

2.1 Apparatus Used

Measurements turbidimetrik (photometric) are performed with UV-VIS spektophotometer type Pye-UNICAM SP6-550, we wavelengths 700nm and using glass container 1 = 1,0 cm. Time measurement is calculated from the moment of casting the last jet (PVA). Results are reported in absorbance A (which in this case is equivalent to perturbation).

2.2 Cleaning of Glass Vessels

A special care was devoted to glass containers cleaning. The glass containers that are going to be used for the AD determination should not be cleaned with powdered or liquid detergent. In our work we have followed this procedure to improve cleaning before we use these glass containers:

- water-washing
- washing with hypochlorite solution
- rinse out water and distilled water
- washing with HNO_3
- rinse out distilled water
- sponge the mixture HCl + alcohol (ethyl or methyl) 1: 1
- rinse out distilled water.

In some cases we have made rinses with acetone.

2.3 Results and Discussion

Experiment.1 *Lakoret e kalibrimit dhe zona analitike e matjeve.*

Eshte perseritur ndertimi I lakoreve te kalibrimit per 1=1,0cm dhe 1=2,5cm, por ne ndryshim nga matjet e eksperimentit 4/1 eshte perdorur zone me e gjere e perqendrimeve te DA: deri 7,5mg/liter SDS per 1=1,0cm dhe deri ne 5,0mg/liter per 1=2,5cm.

Pasqyra 1 Rezultatet e lakoreve te kalibrimit per 1=1,0cm.

Mg/1 SDS	**0**	**0,5**	**1,0**	**2,5**	**5,0**	**7,5**
A 30'	**0,030**	**0.046**	**0.062**	**0,163**	**0,410**	**0,677**
(A-A_{PB}) 30'	**0,000**	**0.016**	**0,032**	**0,133**	**0,380**	**0,647**
A 45'	**0,029**	**0.043**	**0,056**	**0,157**	**0,408**	**0,662**
(A-A_{PB}) 45'	**0,000**	**0.014**	**0,027**	**0,128**	**0,379**	**0,633**
log C	**-**	**-0,301**	**0**	**0,397**	**0,698**	**0,875**

log *($A-A_{PB}$)30'*	**-**	**1,204**	**1,505**	**2,1238**	**22,579**	**2,810**

Pasqyra 2: Rezultatet e lakoreve te kalibrimit per 1=2,5cm.

Mg/1 SDS	**0**	**0,2**	**0,5**	**1,0**	**2,0**	**5,0**
A 30'	**0,056**	**0.075**	**0.099**	**0,165**	**0,379**	**1,169**
($A-A_{PB}$) 30'	**0,000**	**0.019**	**0,043**	**0,109**	**0,323**	**1,113**
log C	**-**	**-0,698**	**-0,301**	**0**	**0,301**	**0,698**
log *($A-A_{PB}$)30'*	**-**	**1,7212**	**-1,366**	**-0,962**	**0,490**	**0,0464**

III.CONCLUSIONS

It is noted that measured Absorbance changes with time and this influence is more noticeable at high concentrations of SDS solution. The change of Absorbance with time scan be explained by changing the size of DA-EV associate; It may be accepted that measured absorbance varies a little in the range of 15(20)min to 45 minutes, for this reason we have choose as optimal measured time 30 minutes .

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