



TREATMENT OF THE BY-PRODUCTS RESULTED IN THE ANALYSIS OF ANIONIC SURFACTANTS IN WASTEWATER

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Abstract

The concentration of anionic detergents in wastewater is evaluated by spectrophotometry, analyzing the blue complex formed with methyl blue at 650nm. The complex is extracted in chloroform and in time the laboratories have a significant quantity of by-products mainly consisting in mixtures of chloroform, methyl blue and water. These wastes require a special degradation procedure, which can be performed in just a few laboratories in Romania (ex. Timisoara). So, besides the degradation costs, there are supplementary transport costs (very high considering the product's toxicity) and of course it is more effective to recuperate the chloroform out of the wastes.

The regular procedure may be a primary liquid-liquid separation of water and chloroform, based on their lack of miscibility, followed by a distillation of the organic layer.

Chloroform is volatile and has a low distillation temperature (59-60°C) but considering the effect on human health, special precaution has to be taken during the process. Therefore, alternative processes have been studied.

The paper presents the results of drying chloroform by adsorbing the water traces from the organic layer using different adsorbents. The results are compared with those obtained after distilling the organic layer. The purity of the products is tested using I.R. analysis.

Keywords: chloroform, methyl blue, wastewater, adsorption
