HPLC - DETERMINATION OF CINNARIZINE IN THE AIR OF WORKING ENVIRONMENT

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Cinnarizine is a pharmaceutical drug, used in the treatment of cerebral and peripheral vascular diseases. It has possibility for air contamination of the workplace with its aerosols by the production of cinnarizine.

A reversed-phase HPLC method for the determination of cinnarizine in the air of working environment is developed. Air sampling at workplace is made by means of perchlorovinyl filters (FPP). A methanol extraction for 40 minutes from FPP-filters is used. Aliquot (50 µl) of extract is separated on a reversed phase C8 Perkin Elmer column (5 µm, 250 mm x 4.6 mm i.d.). The mobil phase is 1% ammonium acetate (pH 4.5; adjusted with glacial acid) : acetonitrile = 1 : 4 (v/v) with flow rate 1.0 ml/min. The fluorescence detector is used. The excitation and the emission wavelengths are 272 nm and 309 nm, respectively. The retention time of cinnarizine is 7.25 min.

The parameters of the method are, as follows: linear calibration graph in the range from 0.2 to 36 µg/cm³ (R² = 0.9997); the recoveries by this method are 80.27% at a concentration of 20 µg/cm³ and 90.79% at 25 µg/cm³.

The presented method is precise, reproducible and available for control in the air of workplace.

BIODEGRADABILITY OF AZO DYES AND TEXTILE WASTE WATER AFTER PHOTOCATALYTIC OXIDATION

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Keywords: textile wastewater, azo dyes, photo-catalytic oxidation.

Biological treatment is the most frequent process used in textile wastewater treatment. Because of toxic features of dyes to microorganisms, the treatment process cannot be completely achieved. In this case, chemical treatment processes can be used. Subsequently one of the solutions of this problem is to use UV-photochemical oxidation before the biological treatment of textile wastewater.
Photo-degradation products of dyes and biodegradability have been investigated for two non-biodegradable commercial of dyes, such as Reactive Yellow 84, Reactive Blue 160. Besides this real textile wastewater was also studied, using TiO₂ suspensions irradiated with a mercury lamp. The colour of dyes and wastewater were removed after 60 min. of photocatalytic treatment. Biological oxygen demand (BOD) was found to increase, while chemical oxygen demand (COD) decreased, so that the ratio of BOD/COD of the wastewater increased.

CONSIDERATIONS ON CHROMATOGRAPHIC SEPARATION FOR A ECHIMOLAR MIXTURE OF 2,4-DINITROPHENYLHYDRAZONES OF ACETALDEHYDE AND DIACETIL

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The acetaldehyde and the diacetyl are carbonyl compounds, which, near to another organic compounds, have a very important contribution to the flavor and the fragrance, for any foods obtained by natural fermentation. To measure their concentrations, it is necessary the separation by distillation from foods, torn into a mixture of 2,4-dinitrophenylhydrazones, followed by chromatographic analyze through HPLC [1-3]. Because the lower polarity of 2,4-dinitrophenylhydrazones, on may be separate by HPLC, using the reverse phase mechanism. In this paper are presented theoretical and practical considerations obtained to separation by HPLC for an echimolar mixture of 2,4-DNPHAA and 2,4-DNPHD [4-5].

Reference