IN RE: ABRAMS November 1992

ENVIRONMENTAL MEASUREMENTS

1013 Enhanced Desorption of Atmospheric Samples From Activated Carbon. A. Turk, et al. J. Air Poll. Control Assn. 16, 383-385 (July, 1966).

It has been previously shown that the desorption of either a chemisorbed or a physically adsorbed gas can be enhanced by the subsequent introduction of a foreign gas. Under the conditions in which desorption recovery of butane from activated carbon was 50 to 65%, subsequent adsorption of carbon tetrachloride enhanced the recovery of butane to 100%. Recovery of diflurodichloromethane (CCl_2F_2), originally 79%, was enhanced to 99% by the same method. The method of enhanced desorption was applied to the recovery of samples from activated carbons exposed to atmospheres in Chicago, New Orleans, Philadelphia, Washington, D.C., and Cincinnati. Three different types of carbons, characterized by different distributions of pore diameters, were used simultaneously in the Cincinnati sampling. In general, the enhanced desorption technique was advantageous in providing analytical information on adsorbed samples recovered from carbon media. The enhancement effect is especially marked with hydrocarbon material. The effects of these structural attributes of the carbon media are evaluated by detailed consideration of infrared absorptions. -- Authors' abst.

1014 Hygienic Standard of Ammonium Content in the Atmosphere. M.M. Saifutdinov. Gigiena i Sanit. 31, 7-11 (May, 1966).

Atmospheric pollution with ammonium gas was evaluated in areas around metal works and plants producing coke and nitrogenous mineral fertilizers. On the basis of findings of the threshold of smell, light sensitivity of eyes adapted to darkness, and electroencephalographic tests, the maximum one-time permissible concentration (MPC) of ammonium in the air is set at 0.2 mg./cu.m. The daily average permissible concentration recommended is the same as the one-time MPC. -- J. Am. Med. Assn. References & Reviews

1015 Monitoring Methane in Atmosphere With a Flame Ionization Detector. G.C. Ortman. Anal. Chem. 38, 644-646 (April, 1966).

An instrument system for selective monitoring of trace hydrocarbons is described. It is comprised of sample pump, treated column of adsorbent material, hydrogen flame ionization detector, electrometer amplifier, and recorder. In operation, a continuous flow of sample air is pumped through the column to the detector. The column removes unwanted hydrocarbons while the one of interest passed unaltered. A prototype field instrument for monitoring atmospheric methane is detailed, and typical results characterizing its operation are reported. Response is linear and independent of the direction of change of the measured variable. Principles, design factors, application, and performance of the system are discussed and experimental data presented.
-- Public Health Eng. Absts.

1016 Toxicity of Small Concentrations of Hydrolyzed Alcohol in the Atmosphere. R. Ubaidullaev. Gigiena i Sanit. 31, 3-7 (May, 1966).

To estimate the maximum permissible concentration (MPC) of hydrolyzed ethyl alcohol in the air determinations were made of the threshold value of the smell of ethanol, its reflex action on the light sensitivity of the eyes and the electric activity of the cerebral cortex. A 24-hour test of the chronaxy of muscle antagonists, whole blood cholinesterase, coproporphyrine excretion in the urine, and total protein composition in the blood were studied in albino rats. As a result the daily permissible average MPC of hydrolyzed ethyl alcohol in the air has been set at 5 mg./cu.m. -- J. Am. Med. Assn. References & Reviews

1017 The Usefulness of the Nephelometric Method for Benzene and Oil Determination in Air. W. Stanilewicz and E. Mirowska. Med. Pracy (Lodz) 16, (3) 223-229 (1965).

The usefulness of nephelometric methods for the determination of benzene and oil vapor concentrations in the air has been studied. The investigations include the detection of the method, range of scale standards, effect of added water on the turbidity intensity, and the durability of oil and benzene solutions in glacial acetic acid. It was stated that Zapolsky's and Vorochobina's method, as well as the Pieregud's method, are not useful for the determination of benzene vapor concentrations in the air, because they result in decidedly lower values. -- APCA Absts.

03122286