

- 498 Gas Chromatographic Analysis of Polynuclear Aromatic Hydrocarbons With Packed Columns. Application to Air Pollution Studies. L. DeMaio and M. Corn. Anal. Chem. 38, 131-133 (Jan. 1966).

A method utilizing gas chromatography for the analysis of polynuclear aromatic hydrocarbons has been suggested for general use. The method was developed for use in analyzing polycyclic hydrocarbons associated with particulate matter in air. The primary advantages of this method, when compared to methods now used, are ease of performance and time differential. A table shows the arithmetic mean air concentrations of four polycyclics analyzed by gas chromatography in Pittsburgh, also of the same four polycyclics in other cities where analyses were by ultraviolet spectrophotometric procedures. -- Cond. from APCA Absts.

- 499 Determination of Phosphine in Air. R. Dechant, G. Sanders, and R. Graul. Am. Ind. Hyg. Assn. J. 27, 75-79 (Jan.-Feb. 1966).

Phosphine generated from aluminum phosphide tablets is used extensively in granaries and warehouses as a fumigant. In connection with some field studies done in the San Francisco area, a simple, sensitive and accurate method was needed for rapid determination of phosphine in the range of 0.1 to 1 ppm. The method consists in collecting air in a fritted-glass bubbler containing silver diethyldithiocarbamate reagent. The generation of phosphine, the preparation of dilute phosphine in air mixtures, and the calibration of silver diethyldithiocarbamate reagent with a primary phosphate standard are described. At a sampling rate of 0.5 liter/min. in the range of 0.6 to 4.1 ppm phosphine, the average collection efficiency is 86%. Sensitivity of 0.05 ppm can be achieved. Nine references are listed.

- 500 An Evaluation of Selected Methods of Collection and Analysis of Low Concentrations of Ozone. R.H. Hendricks and L.B. Larsen. Am. Ind. Hyg. Assn. J. 27, 80-84 (Jan.-Feb. 1966).

The recent position statement of the U.S. Public Health Service, Division of Occupational Health, stated that ozone in its health effects is radiomimetic and recommended that unnecessary exposure to ozone in any concentration, however small, be avoided. Thus the analysis of low ozone concentrations becomes important. The industrial hygienist faces a dilemma in the selection of a procedure for the collection and analysis of ozone. A literature survey of analytical procedure for ozone gives a confused picture of methods that are either nonspecific, lack sufficient sensitivity, are of uncertain stoichiometry, are unsatisfactory in calibration, or are suitable primarily for research purposes under controlled conditions. This study was undertaken to assist the investigator with limited resources in his selection of methods for use in the industrial environment. Seven analytical methods for ozone are evaluated. Equipment used for generating the ozone is discussed. Information concerning methods of collection of ozone is presented. Potassium iodide, phenolphthalein, sodium diphenylamine sulfonate, and fluorescein methods are either nonspecific for ozone or lack sensitivity. The dimethoxystilbene method, in the hands of the authors, lacked sensitivity and posed reagent difficulties. The nitrogen dioxide-equivalent method is an excellent research procedure and is the method of choice for field investigations where fluctuating nitrogen dioxide concentrations are not encountered. The rubber-cracking procedure is empirical, but, as an indicator method, its speed, specificity, and simplicity make this procedure attractive to the industrial hygienist, especially for preliminary surveys. There are 17 references.

- 501 The Metal Content of Urban Air. L. Dubois, T. Teichman, J.M. Airth, and J.L. Monkman. J. Air Poll. Control Assn. 16, 77-78 (Feb. 1966).

Previous attempts to measure heavy metals in air are discussed with particular reference to lead. A polarographic method was developed for lead in air samples taken on glass fiber sheet. Using this method, the distribution of lead across the glass fiber sheet was investigated, and within experimental error, found to be uniform. Air samples from 18 Ontario cities, previously analyzed for benzo(a)pyrene content were analyzed. -- Authors' abst.

- 502 Continuous Monitoring of Methane and Other Hydrocarbons in Urban Atmospheres. A.P. Altshuller, G.C. Ortman, B.E. Saltzman, and R.E. Neligan. J. Air Poll. Control Assn. 16, 87-91 (Feb. 1966).

Continuous measurements of total hydrocarbons (and other organic substances) and of methane were made in Cincinnati and Los Angeles for three-month periods. Some of the measurements were made during episodes of photochemical air pollution. Two instruments, one for measurement of total hydrocarbons and the other for methane, were operated in parallel. Both incorporated flame ionization detectors having greater sensitivity than commercial flame ionization instruments. The flame ionization analysis for methane was made specific by use of an adsorbent carbon column