

of the year that it was not possible to obtain sufficient data to establish reliably the patterns and trends in the concentrations of oxidant and nitrogen dioxide in the air of these cities. For this reason a program for monitoring the air continuously for a variety of pollutants was carried out in Cincinnati over a period extending from January 1, 1957 to December 31, 1959. The purpose of this paper is to describe the observations concerning the concentrations of oxidant, nitrogen dioxide, and nitric oxide. The subject is discussed under the following headings: sampling sites, procedures, results and discussion. Data are presented in the form of graphs and tables.

- 180 Benzo (a)Pyrene Content of the Air of American Communities. E. Sawicki, et al. Am. Ind. Hyg. Assn. J. 21, 443-451 (Dec. 1960).

Examination of the benzpyrene content in the air of 131 urban and non-urban areas in various parts of the country has disclosed that benzpyrene is universally present. Samples from sites in urban areas yielded higher concentrations of benzpyrene in the air and in air-borne particulates than those from non-urban areas. The concentration of benzpyrene at these sites was found to vary from 0.01 to 61 micrograms per 1000 cu.m. of air. A 12-month study of the atmospheric benzpyrene concentration in 9 large, widely separated American cities has shown that, for the majority, the concentration of benzpyrene in air-borne particulates and in the air is at the highest level during the winter months and at the lowest level during the summer months. A map of the different concentrations of benzpyrene found in the air shows a geographic variation which needs a more thorough study. The lower concentration of benzpyrene in the particulates and in the air of California communities may be attributed to less winter heating, use of liquid and gaseous fuels, and in addition may be due to the action of California sunshine and oxidizing atmosphere. If annual inhalation of benzpyrene may be considered a measure of lung cancer exposure, this exposure is about 100 times greater for an urban resident than a non-urban one, and the exposure is greater for a non-smoker in many large American cities than for a pack-a-day smoker in a non-urban American community. In many American cities the exposure to benzpyrene of the urban dweller who smokes a pack a day is double that of the non-smoking urban resident.

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- 181 Monitoring Sulfur Dioxide with Lead Peroxide Cylinders. F. W. Thomas and C. M. Davidson. J. Air Pollution Control Assn. 11, 24-27 (Jan. 1961).

The field experience in the use of lead peroxide cylinders for evaluating sulfur dioxide reactivity in the vicinity of large coal-burning steam plants has been described. The cylinders are considered to provide a useful and economical means of estimating integrated sulfur dioxide exposure. In an area of moderate or average concentration, a high degree of correlation was noted between sulfur dioxide exposure and lead peroxide sulfation. No deterioration in the rate of reactivity of lead peroxide with sulfur dioxide was noted in periods as long as 4 months. This technique might be even more useful in certain urban and industrial areas or in remote areas where power operated instruments cannot be used. Data from lead peroxide cylinders are useful in providing an estimate of corrosion potential as well as a measure of air pollution control. The higher average sulfur dioxide concentrations in urban or industrial areas should enhance effectiveness and largely eliminate analytical problems associated with low sulfation rates. Increased sensitivity may now be obtained by advanced analytical techniques, one being the colorimetric procedure described by S. Kanno (Intern. J. Air Pollution 1, No. 3, Jan. 1959).

-- Authors' summary

- 182 A Field Method for the Determination of Sulfur Dioxide in Air. G. C. Hands and A. F. F. Bartlett. Analyst 85, 147-148 (Feb. 1960).

Strips of filter paper are impregnated with an ammoniacal solution of zinc nitroprusside, dried at a temperature not exceeding 40°C and stored in the dark. The paper is moistened with water by means of an insufflator and fixed in a holder. A 360 ml. sample of air is drawn through the paper at a rate not more than 6 ml./sec., and the brick-red stain