

over 24-hour periods for storing synthetic and atmospheric samples of aliphatic hydrocarbons and acrolein, but not for storing formaldehyde, ozone, nitrogen dioxide, and sulfur dioxide. Bags of Millar are satisfactory for storing aliphatic hydrocarbons and acrolein; also for synthetic mixtures containing formaldehyde over 24-hour periods, and ozone, nitrogen dioxide, and sulfur dioxide for at least several hour periods. Formaldehyde in atmospheric gases can be stored for several hours.

-- APCA Abate,

- 763 Loss of Fluorescent Particles in Atmospheric Diffusion Experiments by Comparison with Radon-xenon Tracer. A. E. J. Eggleston and N. Thompson. *Nature* 192, 935-936 (Dec. 9, 1961).

Zinc cadmium sulfide, dispersed as a fine powder, has been widely used as a tracer in studies of air movement because the particles are easily identified by their fluorescence. Recently, however, there has been reason to suspect that particles were gradually lost, and the experiment described in this paper was intended to find out whether the results obtained were consistent with those given by a radon-xenon tracer. Zinc cadmium sulfide and xenon-133 were released simultaneously from a 20-meter stack over a period of 2 hours, and were sampled at points 15 and 60 km. downwind. Comparison of the ratios of fluorescent particles to xenon at the two sampling points showed that about 50% of the particles appeared to have been lost between them; increase in the brightness of the light used in detecting the fluorescent particles increased the number of particles found by about 25% but did not appreciably alter the ratio of the numbers of particles at the two sampling points and therefore did not actually reduce the apparent loss of particles. The loss is so far not explained.

-- Bull. Hyg.

- 764 "Tokyo-Yokohama Asthma". The Rapid Development of Respiratory Distress Presumably Due to Air Pollution. H. W. Phelps and S. Koike. *Am. Rev. Resp. Dis.* 86, 55-63 (July 1962).

A disease entity has been presented which is presumed to be caused by air pollution, but the exact etiology is still unknown. Early in its course this disease behaves much like acute bronchitis. Later it is impossible to differentiate from classic asthma. As the disease progresses over weeks or months, it becomes a form of asthmatic bronchitis. The patient receives little symptomatic relief from the usual treatment for asthma. The lack of response to nebulization with bronchodilators is documented by external spirometric studies. Patients with histories of asthma prior to coming to Japan who continue to have asthma in the Kanto Plain (Tokyo-Yokohama area) usually show good response to bronchodilators. The patients with this asthmatic bronchitis have more trouble in the winter months during periods of increased smog concentration. Coughing and wheezing are the most common complaints. Unrelenting shortness of breath is experienced throughout the year. Although the study is by no means complete, it is believed that there is evidence that air pollution, of unknown content, is the cause of much disability which, under certain conditions, may progress rapidly to emphysema.

-- Cond. from authors' summary

- 765 Polynuclear Aromatic Hydrocarbon Composition of the Atmosphere in Some Large American Cities. E. Sawicki, et al. *Am. Ind. Hyg. Assn. J.* 23, 137-144 (Mar.-Apr. 1962).

The air of 14 American cities was examined for the following polycyclic hydrocarbons: pyrene, benzo(a)pyrene, benzo(e)pyrene, benzo(k)fluoranthene, perylene, benzo(g,h,i)perylene, anthanthrene, and coronene. Occasionally, fluoranthene, chrysene, and benzo(a)anthracene were also found in ambient air samples. Of these compounds, chrysene, benzo(a)anthracene, benzo(a)pyrene, benzo(e)pyrene, and benzo(g,h,i)perylene have been stated to have some carcinogenic activity. A fairly complete list of polycyclic compounds that have been identified in air, tobacco smoke, and gasoline or diesel exhaust is presented. Both winter and summer measurements were made in 7 of the 14 cities. In all urban samples the concentration of the polycyclic aromatic hydrocarbons was generally greater in winter than in summer. The ratios of benzo(a)pyrene to benzo(g,h,i)perylene and to coronene are introduced as possible indicators of air pollution due to automobile exhaust fumes or coal combustion pollution. Correlation coefficients are given for each of the reported 8 polycyclic hydrocarbons with respect to the other 7. These data show that analysis of any one hydrocarbon except coronene may indicate roughly the total amount of other hydrocarbons present.

-- Authors' summary

- 766 Air Pollution and Health: New Facts from New York State. L. S. Brigham, A. Rihm, Jr. and S. W. Samuels. *J. Air Poll. Control Assn.* 12, 275-277, 281 (June 1962).

The subject is discussed under the following subheadings: Air Pollution as a Public Health Problem, Chronic Disease and Air Pollution, and Need for Further Research. The