in an essentially closed system. When tests, at or near the threshold concentration, indicated that the sensitivity and reproducibility were essentially the same with and without the nose-piece, it was discarded. Since polyethylene bottles often have a characteristic odor which might interfere with threshold determinations, many methods of removing the odor and cleaning the bottles were tried. The most satisfactory method found to date involves washing thoroughly with a non-odorous detergent, rinsing carefully in boiled water, and boiling the washed bottles in water 1-2 hours. Bottles made of teflon have now become available and limited tests indicate that essentially the same results are obtained as with the polyethylene bottles cleaned as above. Olfactory thresholds for a number of pure compounds, several of which were identified in potatoes, indicated that, in general, sulfur compounds and short-chained unsaturated aldehydes gave the lowest and highest thresholds, respectively. The thresholds of a homologous series of saturated aliphatic aldehydes decreased progressively with increase in chain length from C_5 to C_{10}. Similar results were obtained with a series of unsaturated aldehydes. Thresholds of some of the more potent compounds were less than 0.1 of a part /10^9 parts of water. -- APCA Absts.

390 Improved Techniques for Environmental Sample Analysis. A.L. Boni. Health Physics 9, 1035-1046 (Nov. 1963).

The need for reducing the handling and preparations of samples, and achieving greater sensitivity and more specific data led to the development of improved analytical techniques. When simplified sample preparation techniques are combined with gamma-spectrometry using a large-well crystal detector, sample processing time is reduced, lower detection limits are achieved, and more accurate specific analyses are obtained. Sample collection preparation, field and laboratory equipment, and data processing are discussed in detail. -- APCA Absts.

391 Analysis of Toxic Gaseous Combustion Products. A. Fish, N.H. Franklin, and R.T. Pollard. J. Appl. Chem. (London) 13, 506-509 (Nov. 1963).

A rapid and accurate gas chromatographic method of analysis of toxic gases produced during the burning of solids containing chlorine has been developed. This technique enables chlorine, hydrogen chloride, phosgene, carbon dioxide, and simple hydrocarbons to be estimated from a single sample, a further sample affords determination of carbon monoxide also. The method was applied to the combustion under a variety of conditions of temperature, oxygen availability and reaction time of a fire-retardant building paper containing approximately 20% of chlorine. Large quantities of carbon dioxide and hydrogen chloride were produced, chlorine, carbon monoxide, and phosgene being minor products. The results are compared with maximum permissible concentrations and their application to actual fires is discussed. -- APCA Absts.

392 Sulfate Particulates: Size Distribution in Pittsburgh Air. M. Corn and L. DeMaio Science 143, 803-804 (Feb. 21, 1964).

Sulfate particles with diameters of less than 1.7 microns contribute approximately 40% by weight to total sulfate particulate in Pittsburgh air. The irritant nature of these particles and their small size and associated long atmospheric residence time, as well as the short half-life of sulfur dioxide in the atmosphere, suggest that particulate sulfate may be a better indicator of atmospheric pollution than sulfur dioxide. -- Authors' abst.

393 Study of Air Pollution by Analysis of Particulate Material Collected from Air Filtration Plants. IV. Determination of Germanium in Total Air Solids. A.J. Lindsey and J.R. Stanbury. Intern. J. Air and Water Poll. 7, 1-3 (Jan. 1963).

The method previously used was modified to suit germanium determinations in the ash from air solids collected from air filtration plants. The object of this investigation is to continue the study of total air solids, and the variation of the amounts of germanium is shown as

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