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results have also established that the semiautomated method is a satisfactory alternative to t Willard-Winter method for determining the F content of plant tissues. Investigations of the sources of error in F determinations by the semiautomated method were carried out, and the results indicated a number of ways of reducing errors. Determinations of the F content of ai by three methods were compared and studied to estimate the magnitude and locate the source error. Here, too, the results indicated that present estimates of the reliability of determina of the F content of air may be overrated, and they have suggested that improvement in the me of collection of hydrofluoric acid is the best way of improving reproducibility. There are 1 references. -- Authors' abst.

977 Acute Selenium Poisoning. R.F. Carter. Med. J. Australia 1, 525-528 (March 26, 1966).

A case report is presented of acute selenium poisoning that was caused by ingesting selenious acid contained in a proprietary preparation of gun-blueing compound. There are 20 reference -- Public Health Eng. Absts.

978 Photochemistry of Ozone in a Moist Atmosphere. B.G. Hunt. J. Geophys. Res. 71, 1385-1398 (March 1, 1966).

A detailed investigation has been made into the photochemistry of ozone in an atmosphere containin hydrogen. The results illustrate the variations of the gas concentrations at night and indicate that t tude range 70 to 80 km. appears to be very active photochemically at this time. The rate of formation of hydroxyl is analyzed to obtain an estimate of the diurnal variation of the hydroxyl airglow emission, as well as the vertical distribution of this emission. The theoretical result are shown to agree satisfactorily with observation, and it is concluded that the hydrogen-ozone reaction can adequately account for most of the observed features of the hydroxyl emission. There are 49 references. -- Public Health Eng. Absts.

979 Effects of Sulfur Dioxide on Surface Properties of the Lung. L.M. Kahana and M. Aronovitch. Am. Rev. Resp. Dis. 94, 201-207 (Aug. 1966).

The effects of sulfur dioxide on the surface properties of the lungs were studied in rats using volume pressure determinations during fluid and air filling of excised lungs to separate tissue and surface forces. In a single exposure study involving ten rats that were exposed to a mean concentration of 688.8 ppm of sulfur dioxide for three hours, a reduction in surface forces was clearly demonstrated. No significant changes were observed during saline filling as compared with control values, but a marked decrease in mean transpulmonary pressures was evident during air filling. Similar results appear to have been obtained in a multiple exposure study in which five rats were submitted repeatedly to a mean concentration of 358.9 ppm of sulfur dioxide over a three-week interval. Changes in surface properties were, however, obscured by a number of accessory factors such as a difference in lung size between the control and exposed groups and other effects of sulfur dioxide, including airway obstruction and, possibly, pulmonary edema. The findings suggested a reduction in surface tension; it was speculated tha this might have been caused by increased secretion at the alveolar surface producing an increas concentration of surfactant in the alveolar lining film. It was further suggested that a similar mecha that is, a reduction in surface forces associated with an increase in lung compliance resulting from a inhaled pollutant, might be an important factor in the development of emphysema. --Authors' summ

980 The Toxic Effects of High Oxygen Concentration on Dog Lung: Pathogenetic Considerations. R.S. Totten, et al. Ann. Mtg. Absts. Intern. Acad. Pathol. Cleveland, March 5, 1966. Lab. Invest. 15, 1104-1105 (June, 1966).

Although there are numerous papers concerning the toxic effects of prolonged breathing of 100% oxygen on the lungs, the pathogenesis of the lesions remains obscure. These experiments were designed to trace the development of such changes under varying conditions of controlled ventilation. In two groups of dogs (11 animals) differential bronchial intubation provided one lung wi 100% oxygen and one lung with air. Biopsy specimens were obtained at intervals and autopsy specimens at 24 and 48 hours. An additional two groups of dogs (17) were exposed to air and oxygen in pairs and sacrificed when respiratory distress became severe. This ranged from 36 to 78 hours with a mean of 54 hours. In one group the lungs were periodically over-inflated eve 10 minutes to 30 cm. of water pressure. All animals were anesthetized and ventilation was con trolled with a synchronized double piston ventilator. Detailed gross and histologic observations including electron microscopy failed to reveal significant differences between the lungs exposed to air or oxygen, with one exception. A striking degree of interstitial edema, particularly perivascular, was noted in both, but was consistantly more severe in those lungs which receive 100% oxygen. Evidence will be presented to suggest that the pathogenesis of these lesions involves a qualitative (oxygen) factor and a quantitative (pressure) factor. Indirect evidence has been accumulated to indicate that these lesions contribute significantly to the development of the well recognized toxic effects of prolonged breathing of 100% oxygen on the lungs.