

- 44 Histopathology of Exposure to Phosgene. An Attempt to Produce Pulmonary Emphysema Experimentally. J.R. Clay and R.G. Rossing. Arch. Pathol. 78, 544-551 (Nov. 1964).

Repeated exposure to phosgene produced pulmonary emphysema in dogs. Severe acute or chronic respiratory bronchiolitis was produced in all animals exposed one or more times. The changes found by conventional histologic methods and in macrosections are described. These findings are related briefly to several popular concepts of the pathogenesis of human pulmonary emphysema. There are 15 references. -- Authors' summary

- 45 Effects of Inorganic Fluorides on Animals. J.W. Suttie. J. Air Poll. Control 14, 461-464 (Nov. 1964).

Damage to animals by atmospheric fluoride pollution involves only those animals which subsequently graze on contaminated forages. The chronic disease which results has been most extensively studied in cattle, where the general symptoms are: An interference with normal dentition, development of osseous lesions, and a diminished appetite which may lead to weight loss or decreased milk production. Studies completed to date would indicate that depending on the conditions of exposure the tolerance level for dairy cattle is about 1.3 mg. fluoride/kg. (40 ppm fluoride in diet). Because the route of exposure is via the forage, it would seem unreasonable to base any control standard on atmospheric fluoride levels. The forage fluoride levels, analytical evidence from the animal, or even some early sign of fluoride ingestion on the animal might form a more logical basis for a standard. -- Author's abst.

- 46 Volatilization of Mercury by Bacteria. L. Magos, A.A. Tuffery, and T.W. Clarkson. Brit. J. Ind. Med. 21, 294-298 (Oct. 1964).

Volatilization of mercury has been observed from various biological media (tissue homogenates, infusion broth, plasma, urine) containing mercuric chloride. That micro-organisms were responsible was indicated by the finding that the rates of volatilization were highly variable, that a latent period often preceded volatilization, that toluene inhibited the process, and that the capacity to volatilize mercury could be transferred from one biological medium to another. Two species of bacteria when isolated and cultured from these homogenates were able to volatilize mercury. Two other bacteria, one of which was isolated from the local water supply, were also highly active. The volatile mercury was identified as mercury vapour. The importance of these findings in relation to the storage of urine samples prior to mercury analysis is discussed. -- Authors' abst.

- 47 Mercury Poisoning from an Unsuspected Source. M. Tamir, et al. Brit. J. Ind. Med. 21, 299-303 (Oct. 1964).

In the manufacture of zinc oxide the raw material normally used is zinc metal plates. In a factory in which old aeroplane batteries containing zinc mercury amalgam were substituted, it was not realized that mercury vapor was being produced. Of 25 workers exposed, 7 developed serious chronic mercury poisoning and were admitted to the hospital. The clinical findings in the affected workers are described. They were first treated with penicillamine D, but in all but one case this had to be stopped because of rashes. Little improvement followed a switch to BAL (British Anti-Lewisite). It is suggested that if penicillamine D is used in the treatment of mercury poisoning, steroid cover should be given from the start. -- Authors' abst.

- 48 Zinc Concentrations in Rivers of the Chesapeake Bay Region. J.T. O'Connor, C.E. Renn, and Irmgard Wintner. J. Am. Water Works Assn. 56, 280-286 (March, 1964).

Samples of stream water were collected from 33 stream sampling points on 20 streams in the Chesapeake Bay region for zinc analysis. At some locations, samples were taken of muds and silts from the surface of the river bed in an accessible backwater. The location of sampling sites, date of sampling, zinc content of the water, pH, alkalinity, total hardness, and calcium hardness for water in the Chesapeake Bay region are given. The results of analyses performed on water collected from streams in the southeastern United States and the zinc concentration of the bottom solids collected are given. -- Public Health Eng. Absts.

03121780