

IN RE: ABRAMS
November 1992

- 352 Long-Term Effects of Sulfur Dioxide Exposure in Pulp Mills. I. O. Skalpe.
Brit. J. Ind. Med. 21, 69-73 (Jan. 1964).

This work is concerned with the problem of the chronic toxicity of sulfur dioxide in pulp mills. Fifty-four workers at 4 different pulp mills working in the acid towers and digester plants have been investigated with special regard to symptoms and signs of respiratory disease. Vital capacity has been measured with a "Kifa" apparatus and maximal expiratory flow with a Wright peak flow meter. The concentration of sulfur dioxide in the working atmosphere has been measured during general working conditions on a single day, and the values were found to range between 2 and 36 ppm. The control group consisted of 56 paper industry workers from the same district with similar working conditions but working in an atmosphere free from objectionable gases. No significant difference in age or smoking habits was found between the groups. A significantly higher frequency of cough, expectoration, and dyspnea on exertion was found in the exposed group, the difference being greatest in age groups under 50 years. The average maximal expiratory flow rate was significantly lower ($P = 0.05$) in the exposed group than in those not exposed for men under 50 years. Over this age there was no significant difference between the two groups. Vital capacity values showed no significant difference between the groups.

-- Author's abst.

- 353 Arsine Poisoning in a Slag-Washing Plant. M.D. Kipling and R. Fothergill.
Brit. J. Ind. Med. 21, 74-77 (Jan. 1964).

An investigation was carried out in an aluminum recovery works after the simultaneous occurrence of hemolytic anemia in two workers in the slag disposal plant. The first worker was admitted to the hospital suffering from nausea, backache, and hematuria. Jaundice developed on the next day. His urine contained protein, urobilin, hemoglobin and methemoglobin but no red cells. During the course of his illness the hemoglobin was reduced to 6.8g./100 ml. There was no abnormality of the blood film and red cell fragility was normal. A fellow worker was affected the same time and was treated at home for the same symptoms. Ten years previously another worker had been admitted to the hospital with anemia, jaundice, and hemoglobinuria. At this works scrap aluminum is melted with sodium chloride and fluorspar as a flux. The slag from the furnace is later broken up and dissolved in a rotating drum by a stream of water. The soluble portion is carried into a lagoon, while the 3% aluminum is retained in the drum and discharged weekly. Two men are employed at a time and another six have been employed in the past 10 years. Five parts per million of arsine were found to be present in the atmosphere during slag washing, but higher levels would have occurred on the occasions when slag from the making of an aluminum copper alloy from copper with an arsenic content was similarly treated. The mechanism of arsenic production is discussed and the literature on the role of aluminum reviewed.

-- Authors' abst.

- 354 The Metabolism of Antimony. D. Djuric
Pracovni Lekar, 15, 329-334 (Oct. 1963). Czech.

A study was made of the distribution and excretion of trivalent antimony after inhalation in rats. In this study $\text{Sb}^{125}\text{Cl}_3$ was used. Results of the inhalation exposures show the typical rapid early loss from lung with a somewhat exponential loss of longer biological half life (approximately 100 days) after the 20th day. Serial sacrifice and tissue distribution indicated primary sites of Sb concentration, other than lung, to be whole blood, spleen, heart, and other highly vascularized tissue. On a long range or a continuous exposure basis, the critical organ based strictly upon an Sb concentration would be the circulating blood, and primarily the red blood cells. Excretion and whole-body counting data are included. Although Sb localizes greatly in red blood cells of the rat, this is not evident in the rabbit or dog.

-- Nuclear Sci. Absts.

- 355 Agrosan Poisoning in Man. I. U. Haq. Brit. Med. J. 1, 1579 (1963).

Of recent years outbreaks of chronic food poisoning with organic chemicals have taken a considerable toll of human life in different parts of the world. An outbreak of poisoning

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