

that for the hamsters was calculated to be of the order of 112 days, a fivefold difference. Because this difference in elimination was found to correlate with the toxic response of a number of species, it is suggested that this capacity to eliminate beryllium may determine in some degree the susceptibility of species to beryllium. No experiments of sufficient duration have yet been made to determine the BR_{50} of bone; it would appear to be greater than one year.

It was found that the distribution of inhaled soluble beryllium salts differed strikingly, depending on the concentration to which the animals were exposed. At 10 mg./m.³, 25 to 45 per cent of that in the lung resided in the reticuloendothelial tissues at 1 mg./m.³, 1 per cent. Thus the mode of transport appears to differ according to the amount of beryllium inhaled.

Moreover, it was discovered that the rate of elimination of beryllium could be influenced by modification of dietary intake. Rats on a diet restricted to half normal intake eliminated 35 per cent of the beryllium stored in the body in a five week period as against 17 per cent in a similar rat group on an unrestricted intake. In the former group, the greatest contribution to the increased elimination appeared to come from the lung.

FROM NUCLEAR SC. ABST.

HEALTH HAZARDS IN THE MANUFACTURE OF ALKALINE ACCUMULATORS WITH SPECIAL REFERENCE TO CHRONIC CADMIUM POISONING: A CLINICAL AND EXPERIMENTAL STUDY. LARS FRIBERG, *Acta med. scandinav.* 138 Supp. 240, 124 pp., 1950.

The air in the factory contained cadmium-iron dust (Cd 65 per cent, Fe 20 per cent) and nickel-graphite dust (50 per cent Ni) in amounts of 3 to 15 mg. Cd and 10 to 150 mg. Ni per cubic meter of air, and 95 and 85 per cent respectively, of the particles of the two kinds of dust were less than 5 μ . Two groups of workers were studied: I, average age 44 years, average employment 20 years; II, average age 35 and employment two years. In group I a large proportion showed an increased residual capacity of lungs (emphysema), and a remarkably large number of tuberculous changes. Proteinuria occurred in about 67 per cent of group I but probably not in group II, and the protein is of a molecular weight of 20,000 to 30,000. Also in group I there is an increased sedimentation rate of more than 20 mm. per hour in about half the cases. There is evidence of some liver damage with a slight rise in γ -globulin of blood plasma in 80 per cent of the people in group I. Kidney injury was of a relatively mild kind, the concentrating capacity in group I alone being somewhat lowered. There was slight anemia in about 33 per cent of group I, and a yellow staining of teeth (groups I and II). Experimental studies on rabbits brought out the following points: lung injury, proteinuria, cirrhosis of the liver and pronounced anemia, indicating that long exposure to Cd dust is largely responsible for the clinical changes. The accepted limit of 0.1 mg. Cd per cubic meter of air is thought to provide a satisfactory safety margin.

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COMPARATIVE ANIMAL EXPERIMENTS ON THE EFFECT OF FRESHLY BROKEN AND SO-CALLED "OLD" QUARTZ FROM SILICOTIC LUNGS. J. R. RÜTTNER, *Ztschr. Unfallmed. u. Berufskrankh.* 43:66-73 (March 15) 1950.

It results from morphological investigations in the field of silicosis that even after having remained for decades in the human tissue, quartz does not lose its specific silicogenic effect. This statement can be ascertained by animal experiment, as it is easily possible to produce small silicotic nodules with quartz from silicotic lungs. Such silicotic nodules experimentally set are not to be differentiated from those produced by pure, recently broken quartz under the same experimental conditions. There is, therefore, no difference in efficacy between so-called old quartz and that freshly broken.

ENGLISH SUMMARY.

EXPERIMENTS ON THE TOXICITY OF 2,3,5,6-TETRACHLORONITROBENZENE. G. A. H. BUTTLE and F. J. DYER, *J. Pharmacol.* 2:371, 1950.

A daily dose of 215 mg./Kg. for mice and 57 mg./Kg. for rats produced no ill effects. Doses of 1,750 mg./Kg. in mice and 400 mg./Kg. in rats cause an inhibition of growth.

CHEM. ABST.