BRITISH AND FOREIGN OFFICIAL PUBLICATIONS

Tetryl Dermatitis. MURRAY, H. M. L., PRUNSTER, R. W., and Anderson, R. D. (1944). Department of Labour and National Service, Commonwealth of Australia, Industrial Welfare Division. Technical Report No. 2.

Data are given resulting from the survey of C.E. rash in two Australian fuse-filling factories. The highest risks of dermatitis are in occupations where tetryl comes in contact with the skin: airborne tetryl plays a very small part in causation. The natural reflex action of touching the face is not readily overcome, and it provides a real source of tetryl contact with the areas of skin usually affected by the rash. The concentration in the atmosphere of jobs such as stemming and pelleting, which have the highest risk as well as the closest contact, was in the region of 0·62 mg. per cu. ft. The major risk of contracting the rash occurred between the fourteenth and twenty-fourth day of service; the greatest risk was in the spring months, while the smallest was in midsummer. Reduced care in personal hygiene during the colder months, and a higher sweat-flow in summer flushing the tetryl from the skin, may be the explanation of this incidence. Tetryl has no effect on menstrual mechanization, and the enforcement of strict observance of the approved routines for washing before meals and bathing before leaving work are the best prophylactics.

Toxicity and Potential Dangers of Aerosols, Mists, and Dusting Powders containing DDT. Various Authors. U.S. Publ. Hlth. Rep., Supp. No. 177.

Acute toxicity of DDT aerosols was assessed by subjecting guinea-pigs, rats and mice to a concentration in air of 12·44 mg. per litre for 45 minutes; only the mice were affected, but they had licked their contaminated fur. The toxicity for mice is increased by increasing the percentage of fatty oil in the aerosol mixture. They died with increased excitability, tremors and clonic-tonic convulsions after a latent period, and the 90 per cent. of Freon in the aerosol was excluded as the cause of these signs. Dogs, rats and guinea-pigs will withstand a concentration of up to 54·4 mg. per litre of DDT, but if 10 per cent. cyclohexanone is used in the aerosol it causes narcosis. Dogs repeatedly exposed to 12·2 mg. per litre of air survived, but mice in the same conditions died unless contamination of their fur was prevented; they showed histological changes in the liver, kidneys, spleen and anterior horn cells. Repeated intermittent exposure of monkeys to 0·183 mg. per litre caused no toxic manifestations, though again it affects mice. Human subjects are unaffected by exposure in a sealed chamber to repeated doses of 10·4 g. of a 5 per cent. DDT aerosol in 10 per cent. cyclohexanone and 85 per cent. Freon, when this is applied for five consecutive days; but the sustained concentration of DDT only reaches about 6 per cent. of that calculated, as most of it settles out of the air within 5 minutes.

Toxicity of DDT dusts was tested by exposure in a chamber or by nasal insufflation. By the former method 10 per cent. DDT dust at 12·13 mg. per 100 litres of air was harmless for dogs even when repeatedly used. By insufflation into the nostrils in daily doses of 100 mg. of pure DDT per kilo over a period of 7 weeks, or by feeding the same quantity by mouth, it was found that dogs were little affected, but if larger doses are given by insufflation, signs of poisoning appear and are preceded by laboratory signs of renal and hepatic insufficiency. Rabbits were then exposed to a heavy mist of 1 per cent. DDT in Deobase for 48 minutes daily over a period of 4 weeks, but they suffered no ill effects beyond irritation of the mucosae and skin caused by the solvent, which is a petroleum derivative.

The solubility of DDT in water was about 1 p.p.m. A volumetric and another chemical method are described for its estimation. Methods for sampling DDT in atmospheres and an alternative method for its estimation by spectrophotometry are both outlined; its x-ray diffraction pattern is shown and described. Apparently 1–5 per cent. of DDT in an aerosol used as an insecticide should offer no serious health hazard, though it is toxic in solution in fatty oils. It should be harmless as a 10 per cent. dusting powder against lice, or as an intermittent mist spray against flies.

The Biological, Hygienic and Medical Properties of Zinc and Zinc Compounds. HEGSTED, D. M., MCKIBBIN, J. M., and DRINKER, C. K. (1944). *U.S. Publ. Hlth. Rep., Supp. No.* 179.

This is a full review of the effect of zinc: (*a*) the role of zinc in biology; (*b*) the zinc content of foods and tissues; (*c*) the effect of zinc on animals other than man, and upon plants and micro-organisms; (*d*) the contamination of foods and water supplies by zinc; and (*e*) the toxicity of zinc to man. With regard to the last heading, there are no new facts about metal fume fever or zinc chills. This annoyance is readily prevented by adequate ventilation, and it is estimated that the chills will not occur if the amount of zinc in the atmosphere is not allowed to get above 15μg./cu. metre of air. There is no good evidence of lung damage from zinc. Zinc chromate produces a very troublesome dermatitis, and zinc chloride and sulphate, being caustic, produce skin irritation. There is some evidence that the continuous ingestion of soluble zinc compounds, swallowed with the saliva, produce a chronic gastritis with vomiting, which does not improve until the man is given work in an atmosphere which does not contain zinc.