

Komerova A.A., Merkova T.F. *Gigiena truda i professional'nye zaboлевaniya*. Moskva, USSR, Feb. 1976, p.8-12. 11 ref. (In Russian)

Results of occupational health studies in 580 research workers employing pulsed-power or continuous-power lasers of various wavelengths in the infrared, optical and ultraviolet ranges. Neurological examinations showed increased fatigue at the end of the workshift and symptoms of autonomic asthenia in 30% of them. As there were no pathological nervous or cardiovascular symptoms the disorders were attributed to neurodynamic changes of the higher autonomic centres responsible for homeostasis. These disorders arise out of a combination of harmful factors (noise, radiofrequency radiation, ozone, etc.) in which laser radiation plays an important part. (06791)

CIS 77-408 Occupational medicine and microwaves - Personnel working in the radiation field of a radar aerial (La médecine du travail et les ondes électromagnétiques hyperfréquences - A propos du personnel travaillant dans le champ d'émission d'un "aérien radar"). Saunier G. Université de Bordeaux II, Unités d'enseignement et de recherche des sciences médicales, Bordeaux, France, 1976. 216p. Illus. 169 ref. (In French)

This MD thesis examines the value of clinical and biochemical criteria in the surveillance of personnel exposed to microwave radiation from a radar antenna, and the safety standards in force in the French army, and sets out to determine whether these regulations should be extended to civilians working in the proximity of such emitters. Contents: technical notes on radar and its emission; effects of microwaves on man (thermal and specific effects according to American, Russian and French observations); French and other standards and regulations; workplace studies to determine the efficacy of medical supervision and preventive measures; review of the various types of emitters other than military, with their hazards and conditions of use. (06800)

120 TOXIC AND DANGEROUS SUBSTANCES

CIS 77-410 Petroleum hydrocarbon toxicity studies. IX, X, XI, XII. Animal and human response to vapors of "80 Thinner", "50 Thinner", Deodorized Kerosene, "40 Thinner", and Toluene Concentrate. Carpenter C.P., Kinkead E.R., Geary D.L., Myers R.C., Nachreiner D.J., Sullivan L.J., King J.M. *Toxicology and Applied Pharmacology*, New York, USA, June 1976, Vol.36, No.3, p.409-490. 62 ref. (In English)

The 5 types of solvents studied are commercial mixtures of aliphatic, cycloaliphatic and aromatic hydrocarbons. Suggested "hygienic" standards for inhalation of "80 Thinner" (0.45mg/l or 100ppm), "50 Thinner" (1.7mg/l or 430ppm), Deodorized Kerosene (0.10mg/l or 14ppm), "40 Thinner" (0.15mg/l or 25ppm), and Toluene Concentrate (1.9mg/l or 480ppm) are given. Detailed results of human and animal experiments support the recommended values. (06811)

CIS 77-411 The dose-dependent pharmacokinetic profile of 2,4,5-trichlorophenoxyacetic acid following intravenous administration to rats. Sauerhoff M.W., Braun W.H., Blau G.E., Gehring P.J. *Toxicology and Applied Pharmacology*, New York, USA, June 1976, Vol.36, No.3, p.491-501. 9 ref. (In English)

Clearance rates from plasma, tissue distribution, metabolism and excretion routes and rates of 2,4,5-trichlorophenoxyacetic acid (2,4,5-T) were studied after single 5 or 100mg/kg doses. About 98% of the smaller dose of 2,4,5-T was excreted in the urine; about 88% of the larger dose was excreted. The distribution was also markedly altered; the tissue/plasma ratios for brain, fat and muscle were similar for both doses, but the liver and kidney ratios were significantly different. The statistical projection of experimental results with large doses to predict exposure hazards of small amounts is not justified because the capability of the body to handle the compound is altered. (06812)

CIS 77-412 Chronic toxicologic investigations of phosalone in the dog and rat. Gallo M.A. *Toxicology and Applied Pharmacology*, New York, USA, June 1976, Vol.36, No.3, p.561-568. 5 ref. (In English)

Phosalone was fed to rats at 25, 50 and 250ppm and to dogs at 100, 200 and 1000ppm. There was a dose-dependent inhibition of red blood cells and plasma cholinesterase with an extrapolated level of no observable effect at 25ppm. Long-term exposure (2 years) shows a low order of toxicity for these animals. (06813)

CIS 77-413 Some neurotoxic properties of triethylene glycol dinitrate: A comparison with decamethonium. Andersen M.E., Koppenhaver R.E., Jenkins L.J. *Toxicology and Applied Pharmacology*, New York, USA, June 1976, Vol.36, No.3, p.585-594. 19 ref. (In English)

Triethylene glycol dinitrate (TEGDN) and decamethonium (DM) caused severe tremors and chronic convulsions in rats and in vitro both selectively blocked nerve stimulated contractions of the cholinergic rat phrenic nerve diaphragm (PND) preparation. DM was 60 times more potent than TEGDN, though the LD₅₀ of TEGDN is 720 times that of DM. When TEGDN and DM were applied to PND preparations in combination, the inhibition of the force of contraction occurred more rapidly and was greater than expected from either compound alone. The compounds act at the same site in vivo in the peripheral nervous system to block cholinergic transmission. (06814)

57.0 Vinyl chloride

CIS 77-414 Some carbamates, thiocarbamates and carbazides. Bates R.R., Boyland E., Van Esch G.J., Hathway D.E., Ujinsky W., Mohr U., Murphy S.D., Okulov V.B., Ramel C., Teichman B., Terracini B. IARC monographs on the evaluation of carcinogenic risk of chemicals to man, Vol.12. International Agency for Research on Cancer, 150 Cours Albert-Thomas, 69372 Lyon Cedex 2, France, 1976. 282p. Illus. 775 ref. Price: SF.34.00. (In English)

A series of 24 monographs consisting of data reviewed and evaluated by an international group of experts (Lyon, 9-15 June 1976). Individual monographs are devoted to: carbaryl; chlorophoram; diallate; dimethylcarbamoyl chloride; disulfiram; dulcin; ethyl selenac; ethyl tellurac; ferbam; ledate; maneb; methyl carbamate; methyl selenac; monuron; phenicarbazine; potassium bis(2-hydroxyethyl)dithiocarbamate; prophan; n-propyl carbamate; semicarbazide (hydrochloride); sodium diethyldithiocarbamate; thiram; zectran; zin-eb; ziram. Supplementary corrigenda and a substance cumulative index to IARC monographs (Volumes 1-12) are appended. (06822)

CIS 77-415 Determination of lead in biological fluids by anodic stripping voltammetry (La determinazione del piombo nei liquidi biologici mediante voltammetria di stripping anodico). Gagliano-Candela R., Napoli S., Gagliardi T. *Lavoro umano*, Napoli, Italy, May 1976, Vol.28, No.3, p.82-88. 10 ref. (In Italian)

Anodic stripping voltammetry is compared with the dithizone method for determination of lead in blood and urine. The former has the following advantages: smaller quantity of urine (0.3ml) or blood (0.1ml) necessary; more rapid (10min at most); cheaper; more accurate; safer for operators, since the harmful reagents employed in the dithizone method are not necessary. (06823)

CIS 77-416 Fate of [¹⁴C] vinyl chloride following inhalation exposure in rats. Watanabe P.G., McGowan G.R., Madrid E.O., Gehring P.J. *Toxicology and Applied Pharmacology*, New York, USA, July 1976, Vol.37, No.1, p.49-60. Illus. 13 ref. (In English)

Rats were exposed to 10 or 1,000ppm [¹⁴C] VC for 6h. With the 10ppm dose, 68% was excreted in the urine and 2% in the expired air, with the 1,000ppm dose 56% and 12% respectively. The kinetics of pulmonary excretion of VC itself were linear with both doses (half-lives 20.4 and 22.4min respectively). Urinary elimination of ¹⁴C activity followed a biphasic pattern: half-lives for the initial linear phase were 4.6 and 4.1h respectively, 14 and 15%, respectively, of the ¹⁴C activity remained in the carcass after 72h. No VC was found in the tissues. N-Acetyl-S-(2-hydroxyethyl)cysteine, thiodiglycolic acid, and a third unidentified metabolite were detected in the urine. Their proportions were not affected by the size of the dose, whereas the fate of [¹⁴C] VC generally was dose-dependent. (06824)

CIS 77-417 The pathology of vinyl chloride exposed mice. Holmberg B., Kronevi T., Winell M. *Acta Veterinaria Scandinavica*, København, Denmark, 1976, Vol.17, p.328-342. Illus. 25 ref. (In English)

Mice were exposed to 50 and 500ppm vinyl chloride by inhalation for 52 and 26 weeks respectively. 100% of the 500ppm group and 71% of the 50ppm group developed tumours (histologically benign alveolar lung adenomas, haemangiosarcomas in fat tissue, various benign and malignant tumours). Only one (500ppm) developed haemangiosarcoma of the liver. The frequency, number of foci, and size of tumours suggested a dose-dependent effect. The role of fat tissue and of blood vessel involvement is discussed. (06825)

CIS 77-418 The significance of Seveso: checkmate in the protection of workers' life and health (Il significato di Seveso: scacco matto alla tutela della salute e dell'integrità fisica dei lavoratori). Penza E. Quaderni del "Notiziario SIAS", N.1. Edizioni del Patronato SIAS, Piazza B. Cairoli, Roma, Italy, 1976. 24p. 14 ref. (In Italian)

This booklet points out the lesson to be learnt from catastrophes such as the Seveso disaster, and from the hazards to which workers are exposed in working with dangerous substances, namely more stringent enforcement of the law and elimination of certain loopholes in the legislation as it stands (laxity in observance of statutory provisions, obscure or ambiguous law, lack of proper legal protection of the rural population as regards occupational accidents and diseases). A critical review of present Italian legislation concerning in-plant medical services and the duties of the plant physician (reference to the functions of occupational health services set out in ILO Recommendation No.112) is followed by comments on the Federal German Act of 12 Dec. 1973 on the subject, which the author gives as an example to be followed, emphasising the necessity for the collaboration of workers and workers' organisations in the field of occupational safety and health (Article 9 of the 1970 Italian Worker's Statute). (06826)

CIS 77-419 Continuous monitoring of vinyl chloride monomer with an instrument using a paper tape impregnated with a reactant (Détection en continu du chlorure de vinyle monomère au moyen d'un appareil fonctionnant avec une bande de papier imprégnée d'un réactif). Miller R.W., Kriesel R.S., Denenberg B.A. Traduction INRS 29 B-76, Institut national de recherche et de sécurité, 30 rue Olivier-Noyer, 75680 Paris Cedex 14, France, 1976. 26p. Illus. (In French)

Translation of: Vinyl chloride monomer - A continuous monitor based upon impregnated paper tape. *National Safety News*, Chicago, USA, Aug. 1975. Vol.11, No.8, p.11.