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neatly nonexposed controls, 98.7% of the leukocytes showed a green fluorescence in I₂ light according to the method of Meisel and Sondak (C.A. 50, 16928a). This value dropped to 89.6% in 27 persons exposed to C₆H₆ for 3 months to 2 years and to 86.1% in 29 persons exposed for 2-21 years. The above change, attributed to altered nuclear DNA, is produced also by other hematopoiesis-affecting toxic agents, esp. ionizing radiation. Although nonspecific, the fluorescence method is markedly earlier in the detection of harmful C₆H₆ exposure than the PhOH test of Teisinger and Bergerova-Fiserova (C.A. 49, 5566g) or the clin. methods, and therefore has diagnostic value.

L. J. Urbanek

Skin disease from color developers. Lionel Fry. *Brit. J. Dermatol.* 77, 456-61(1956)(Eng); cf. Knudsen *Arch. Dermatol.* 89(3), 357-9(1964). Studies were conducted on 20 patients with skin reactions presumably attributable to contact with photographic color developers (2-amino-5-(diethylamino)toluene-HCl, 4-amino-N-ethyl-N-(8-methylsulfamidoethyl)-m-toluidine sesquisulfate-H₂O, 4-amino-N,N-diethylaniline sulfate, and N-ethyl-N-(5-hydroxyamyl)-p-phenylenediamine-H₂SO₄). Thirteen of the patients showed eczematous eruptions, and all but 1 showed a pos. reaction to patch tests with 1 or more of the compds. Seven patients had lichenoid eruptions, and 4 of these gave pos. patch-test responses. Only one patient reacted to p-phenylenediamine itself. F. postulates a combination of toxic and allergic mechanisms to account for the lichenoid manifestation.

Fred H. Snyder

Sensitization of skin by chromium. Z. Mikulecky (Kozni Oddeleni, Kolin, Czech.). *Cesk. Dermatol.* 40(5), 318-21(1965)(Czech.). A review of the mechanism and pathogenic significance. 16 references.

L. J. Urbanek

Hygienic aspects of arc welding with basic electrodes. L. Hanslian (Okresni Hyg. Epidemiol. Stanice, Olomouc, Czech.). *Cesk. Hyg.* 10(8), 490-6(1965)(Czech.). F compds., nitrous gas, CO, H₂O₂, and O₂ are the most noxious products arising in the work with rutile-coated electrodes contg. alk. fluorides. Temps. of 5000-6000° and radiation produced by the arc favor the formation of oxides and irritating aerosols.

L. J. Urbanek

Blood antibody titer as an indicator of chronic effect exercised by chemicals encountered in the plastics industry. M. M. Kochanov (Inst. Polymerization Plastic Materials, Leningrad). *Gigiena Truda i Prof. Zabollevaniya* 9(8), 27-31(1965)(Russ.). The action of trifluoroethylene (I) and of products of thermooxidn. destruction of pentaplast (a polymeric material, (II)) was examd. by detn. of the antibody titer in rabbits. I (0.05 mg./l.) was administered by 4-hrs.-daily inhalation for 4 months, the 47th day a vaccine of typhus abdominalis was injected subcutaneously, and the titers of O- and H-agglutinins was followed. II, contg. CO 0.03, chloroanhydrides, including COCl₂, 0.001, and aldehydes 0.001 mg./l. were administered 4 hrs. daily for 5 months, the 43rd and 112th day the tetravaccine (typhus, paratyphus, *Shigella flexneri*, and *S. sonnei*) was applied, and the antibody titer was followed by macroagglutination reaction. The I chronic action increased the O-agglutinin titer and decreased the H titer. Under the latter expt. the antibody titers were lowered. This technique may be used for diagnosis of chronic poisoning in the plastic industry.

Ivo Hynic

Functional condition of the stomach and external secretory activity of the pancreas in workers exposed to the effects of nitro derivatives of benzene. A. I. Kleiner, E. V. Krylova, and A. M. Levendyuk. *Gigiena Truda i Prof. Zabollevaniya* 9(9), 40-7(1965)(Russ.). Under examn. were 70 persons who had worked with the title compds. more than 3 years. Clin. hepatomegaly, astheno-vegetative syndrome, pigmentation of skin and hair, and special bilateral cataracts connected with unchanged vision were observed in most cases. By further examn., hypochromic anemia was found in 10%, reticulocytosis in 15, leukocytosis in 20, pain in the epigastrium in 77, hyposecretion of gastric juice in 33, hypersecretion in 12, hypo- or acidity in 33, hyperacidity in 20, decreased enzymic function of stomach in 10-14, changes in motor function of the stomach in 10-45, roentgenological changes of the stomach in 15, a lowering of trypsin, amylase, and lipase activities in duodenal juice in 35, 15, and 7, resp., no increase of those enzymes activities after intraduodenal 0.25% HCl administration in 40, 35, and 15, and pathol. changes in serum amylase after double administration of glucose in 72% of the people examd. The intensity of pathol. changes is related to the time of exposure. The functions mentioned must be considered in periodic examns. of workers in the nitro compds. industry just as in treatment of chronic occupational poisonings.

Ivo Hynic

Determination of atmospheric lacrimatory potential by instrumental methods. Kenneth F. Lampe (Univ. of Miami, School of Med., Coral Gables, Fla.). *Ind. Med. Surg.* 34(10), 797-9(1965)(Eng). Three methods involving the reaction of the lacrimator with compds. contg. SH groups were studied. One method, which involved the amperometric titrn. of mercaptans with AgNO₃, was unsatisfactory. A method involving the polarographic detn. of unreacted mercaptan by anodic oxidn. was unacceptable because of inadequate sensitivity. A 2nd

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polarographic method involving the Brdicka reaction was useful. The anal. method was adapted from Mueller (C.A. 59, 5456h.) using a dropping mercury electrode. Polarograms were recorded between -0.8 and -1.9 v.

William L. Downs

Sudden death in explosive manufacturing workers [exposed to nitroglycerol and ethylene dinitroglycerol]. P. Carmichael and J. Lieben. *Intern. Congr. Occupational Health, 14th, Madrid 1963(2)*, 514-16(Pub. 1964)(Eng); cf. C.A. 60, 2245d. Old and new data on chronic toxic effects of the 2 title compds., (I) and (II) resp., are given. In 4 new cases of sudden death from coronary arteriosclerosis in men under 45 years of age, exposure to I or II appeared to be involved. Possible chronic toxic mechanisms of action of I and II (with and without a fatal result) are considered.

W. C. Tobie

A pathological-radiological correlation in 108 cases of asbestosis proved post mortem. G. K. Sluis-Cremer and J. C. Wagner (Miners' Med. Bur., Johannesburg, So. Africa). *Intern. Congr. Occupational Health, 14th, Madrid 1963(2)*, 608-10(Pub. 1964)(Eng). Cases resulting from work in the crocidolite (blue asbestos) or amosite mines in South Africa are described. These minerals occur in banded ironstone contg. up to 40% free SiO₂. Mill dust may contain as much as 20% SiO₂. Important amts. of Fe minerals (discussed) are also present. Asbestosis resulting from the inhalation of such dusts is frequently atypical, and nearly 33% of the cases with moderate asbestosis cannot be demonstrated by x-ray.

W. C. Tobie

Odor control at a 2,4-D production plant. T. B. Henshaw (Chipman Chem. Co., Portland, Ore.). *J. Air Pollution Control Assoc.* 15(11), 516-18(1965)(Eng). Chlorinated phenolic hydrocarbons used as intermediates in the manuf. of 2,4-D and related herbicides have an unusual odor with a low threshold of detection. This odor-control problem was solved by fume collection and scrubbing with 5-8% caustic soda soln. The scrubbing has removed the phenolic compds. from the plant exhaust air to an acceptable level from the odor release standpoint. A no. of kinds of ducting material, such as rubber-lined steel, transite, and stainless steel, were tried and found unsatisfactory. The system finally designed and installed uses heavy-walled transite pipe (class 2400 sewer pipe) with the pipe itself serving as a gasket surface. Clamped-on flanges and asbestos gaskets are used. Recent tests on fiberglass pipe reinforced with furan resin indicate this to be a superior material. Operating experience and flow diagrams are given.

Russel H. Hendricks

Instructions of the chief hygiene officer in Czechoslovakia regarding the evaluation of atmospheric contamination in workshops [handling trichloroethylene and formaldehyde]. Pavel Pinta (Okresna Hyg. Epidemiol. Stanice, Nitra, Czech.). *Pracovni Lekar.* 17(6), 253-6(1965)(Slo). The values detd. in 7 dry-cleaning establishments and 5 plywood manuf. plants using urea-HCHO glues are tabulated and the results of exposure tests correlated.

L. J. Urbanek

Phthalic acid esters in the atmosphere in the processing of poly(vinyl chloride). Josef Zdravil and Frantisek Picha (Okresna Hyg. Epidemiol. Stanice, Gottwaldov, Czech.). *Pracovni Lekar.* 17(6), 257-60(1965)(Czech). The concn. of phthalates was detd. by sucking the atm. through membrane ultrafilters, dissolving the retained particles in 75% EtOH, and estg. polarographically in 0.5M Et₄NBr. The highest values were 2.86-5.84 mg./m.³ in the rolling of sheets and up to 44.0 mg./m.³ air in the production of floor covers, and caused marked irritation of the conjunctiva and upper respiratory passage, esp. at temps. >30°.

L. J. Urbanek

Toxicity of kukersol and a bitumen-kukersol mastic. Kh. E. Kyunamyag. *Vopr. Gigieny Truda v Slants. Prom. Est. SSR, Tallin, Sb.* 1964(5), 129-43(Estonian). The varnish, kukersol (I), is used in house painting and in the compn. of a bitumen-kukersol mastic (II) for gluing floors and plastic coverings. It is the product of copolymerization of HCHO with unsatd. hydrocarbons and phenols of high-boiling fractions of tunnel shale tar and is used in soln. of rectified low-boiling fractions of shale tar (b. range 154-225°). The volatility of I at 20° is about half that of the high-boiling fraction of tunnel shale tar; at 50° the volatilities of these 2 substances is approx. the same, while at 100 and 150° the volatility of I is higher. Median lethal concn. for mice was 44.6 for I and 57 mg./l. for the II (2-hr. exposure). The intoxication picture showed narcotic, convulsive, and irritant effects. Exposure to 4 mg. of I and II/l. resulted in growth arrest, and increase in the wt. coeffs. of lungs and liver in mice. I also caused lymphocytosis and neutropenia. I and to a lesser extent the II irritated the skin of rabbits and mice. No sensitization to I was observed. The II can be used for gluing floors but not linoleum and similar materials, since in the latter case volatile fractions continue to be given off for a long period. Health examns. should be periodically made of workers working with II. From *Ref. Zh., Farmakol., Toksikol.* 1965, Abstr. No. 20.54.353.

MVRW

Urinary excretion of 5-hydroxyindoleacetic acid by smokers and nonsmokers. V. K. Hopsu, V. V. E. Leppanen, M. Oka, and T. Vanha-Perttula (Univ. Turku, Finland). *Experientia* 21(12), 724-5(1965)(Eng). 5-Hydroxyindoleacetic acid levels