

hemoglobin 70% satd. with CO) in 10 dogs respiring O under hyperbaric conditions. With 7% CO₂ present in the supplied O, the CO was eliminated nearly twice as fast as when pure O was respired. Of 22 patients with coal gas poisoning, the respiration (O at 2 atm. pressure led to recovery (no fatalities). All patients recovered consciousness 30-90 min. after inhalation of O under pressure began. Of 70 other severely coal-gassed patients, only 3 did not recover. The results demonstrated that hyperbaric O should be administered as soon as possible in CO poisoning. Data are given on 1 patient with barbiturate poisoning who recovered from respiratory and cardiovascular depression under hyperbaric O when other methods failed. Other reports indicate that there are no advantages in giving O at more than 2 atm. pressure. At higher pressures, toxic effects of O appear, perhaps resulting from the presence of CO in the blood.

W. C. Tobie

Diagnosis of salt poisoning in animals. M. Bohosiewicz (Wyzsza Szkoła Rolnicza, Wrocław, Poland). *Zeszyty Nauk. Wyzszej Szkoły Rolniczej Wrocławu, Weterynaryj* 11(42), 3-43 (1962)(Pol). Administration of high NaCl doses (3-4 g./kg.) caused acute intoxication in mice and pigs. NaCl poisoning was noted when Na⁺ values in the brain and liver exceeded 150 mg. % and those of Cl⁻ 180 mg. % in brain, 70 mg. % in muscles, and 250 mg. % in liver. The loss of water in brain, muscles, and liver amounted in mice to 3.8, 7.5, and 9.2%, resp. In pigs this decrease in brain, muscles, and in liver amounted to 4.5, 9.2, and 8.7%.

K. Belzecka

Toxicity of the oleander leaves. Symptoms, pathological anatomical damages, and methods of glucoside identification. C. E. Eliakis, E. C. Eliakis, and A. S. Coutselinis. *Ann. Med. Legale Criminol., Police Sci. Toxicol.* 41(July-Aug.), 367-88(1961)(Fr). Decoctions (10:150) of oleander leaves, contg. 3×10^{-4} g. of neriin and 4.5×10^{-4} g. of oleandrin, were used. R_f values of 0.65-0.70 for neriin and 0.96 for oleandrin were found by means of paper chromatography (Whatman No. 1, ascending, undimensional, 3:1.3 EtOAc-HOAc-H₂O). With the same method, very similar values were found for digitoxin, lanatoside, and other glucosides. No abortive effect could be detected on pregnant rats. Twenty ml. of decoction (concd. to 1/4) resulted in the appearance of toxic symptoms in rats after 20-60 min. The oleander components seem to affect the central nervous system, esp. parts related to the telencephalon and cerebellum, the symptoms resembling those of decerebration paralysis, according to Sherrington, also displaying tendency to total or partial disintegration of cerebellum. In rats, which received 3 ml. of decoction intraperitoneally 9 times every other day, congestion of the parenchymatous organs took place. Damage to kidneys, liver, heart, and peribronchial inflammatory congestion and atelectasis of the lungs was detd. microscopically. From CZ 1963(24), 10175.

MWCR

Use of the chicken embryo in the assay of aflatoxin toxicity. M. Jacqueline Verrett, Jean Pierre Marliac, and Joseph McLaughlin Jr. (Food & Drug Admin., Washington, D.C.). *J. Assoc. Agr. Chemists* 47(6), 1003-6(1964). Preliminary results of an investigation of the general systemic toxicity of aflatoxin (I) in chicken embryos are reported. The studies are not complete enough to verify if any I produces any specific pathol. lesion in the embryo. Injections of test solns., in propylene glycol vehicle, were made, before incubation, in fertile White Leghorn eggs either by way of the yolk or air cell. Development of the embryo was observed for the full 21-day incubation. Injection of solns. of pure I B₁ and G₁, and of exts. of I-producing mold cultures indicated that the chicken embryo was sensitive to these compds. The relation of toxicity of the samples to mortality at time of hatching, exhibited a dose response. Exts. of I-free peanut products were nontoxic to the embryo. Addn. of I B₁ to such uncontaminated exts. produced the expected toxicity. Injection of exts. from contaminated peanut products resulted in a toxic response that correlated well with that obtained by injection of pure I B₁ solns. at same dose levels, and in most instances the chem. analysis was confirmed. The presence of I G₁, B₁, and G₁ had no apparent effect on the toxicity due to I B₁ at the levels at which they occurred in the particular samples tested. Sepn. of I B₁ from contaminated exts. by thin-layer chromatography, and its subsequent elution from the plates and injection into the eggs, confirmed that the toxicity of these exts. was due primarily to their I B₁ content.

H. A. Lepper

Electrophoretic and chemical studies on serums of swine following the feeding of toxic peanut meal. E. Annau, A. H. Corner, J. E. Magwood, and K. Jericho (Animal Diseases Res. Inst., Hull). *Can. J. Comp. Med. Vet. Sci.* 28(11), 264-8(1964)(Eng). The consumption of toxic peanut meal by swine leads to marked alterations in their electrophoretic serum patterns. Expts. carried out by chem. assays, moving boundary electrophoresis, and starch-gel electrophoresis showed a relative decrease in the albumin, α₁, α₂, and β-globulins, while γ-globulin appeared to be considerably increased.

Rudolph Seiden

Goitrogenic activity of allyl isothiocyanate. A widespread natural mustard oil. Pavel Langer and Viktor Stole (Ceskoslav

Akad. Ved., Bratislava). *Endocrinology* 76(1), 151-5(1965) (Eng). Allyl isothiocyanate, administered in single doses of 2 to 4 mg. depressed significantly the radioiodine uptake by rat thyroids. The administration of allyl isothiocyanate to rats for 60 days, in doses corresponding approx. to the total content of mustard oils in cabbage, caused changes in the thyroid similar to those following cabbage feeding.

RCFN

The physiological properties of aerosol propellants. Hans Kuebler (Spruhtechnik G.m.b.H., Remfelden, Ger.). *Aerosol Age* 9(4), 44, 47-8, 50, 90-1(1964)(Eng). A discussion of the physiol. limits for many aerosol propellants was presented. Rats, mice, and guinea pigs were exposed for 2 hrs. daily for 100 days to 0.5, 1.5, and 5.0% vol. of the propellants, vinyl chloride (I), and mixts. of trichlorofluoromethane (II) and dichlorodifluoromethane (III) (50:50 and 10:90). The animals showed no reactions to the mixts. at any concn. or with pure I to 1.5%. With 5% I the animals first showed increased mobility which was then gradually reduced. Upon autopsy no histol. damage was seen. Mice under a plastic cover were sprayed with a shellac-based hairspray with I, II, and III propellants for 30 sec. daily for 5 weeks at a distance of 20-25 cm. There were no histol. changes in the lungs. The thermal decomposition was detd. at 1000°. One g. I yielded 39.5 mg. CO, 11 mg. COCl₂, and 102 mg. HCl; 1 g. II (1.5, 7.0, and 94); 1 g. III (1.5, 2.4, 79); 1 g. sym. dichlorotetrafluoroethane (0.8, 12.0, 59); and 1 g. methylene chloride (15.2, 18.0, 81).

BKJN

Concentration on molecular sieves as preliminary determination of trace components of mine air. Jerzy Muzyczuk (Główny Inst. Górniczy, Katowice, Poland). *Chem. Anal. (Warsaw)* 9(4), 671-82(1964). Trace components of mine air, such as C₂H₆, C₃H₈, and n-C₄H₁₀, were concd. on a mol. sieve of 5 Å. type at 0° and 30° and retention times were measured. Products of desorption at 300° were analyzed in a gas chromatograph with a conductometric detector. In some cases addnl. concn. was used. The method makes it possible to increase the sensitivity of the detn. of C₂H₆, C₃H₈, and C₄H₁₀ 10-100 times. The results of the detn. of traces of gases in a sample of mine air are given. The effect of concn. can be estd. from the retention vols.

Z. Kurtyka

Permeability of newborn rat skin to a volatile hydrocarbon, ¹⁴C-labeled p-cymene. Guillaume Valette, Yves Cohen, and Jacques Weppierre (Fac. Pharm., Paris). *Compt. Rend. Soc. Biol.* 158(5), 950-4(1964)(Fr). The compd. readily diffused through the hairless skin and was detected in various organs. A special app. was used to prevent any inhalation of the vapor which might invalidate the findings. Since the hair follicles had not yet been formed, they are not indispensable for penetration of a volatile hydrocarbon.

L. E. Gilson

Flue gas from plants manufacturing synthetic fatty acids and alcohols. F. I. Dubrovskaya (F. F. Erisman Sci.-Res. Inst. Hyg., Moscow). *Gigiena i Sanit.* 26(1), 7-10(1961)(Russ). Results are reported on the investigation of 1252 air samples (580 in March/April and 672 in June/July) collected 250-5000 m. from factories manufg. fatty acids and fatty alcs. In all samples in the spring, hydrocarbons (max. 56 mg./m.³) were detected; fatty acids, in 54% of the samples (same max.); and unsatd. hydrocarbons, in half the samples (max. 13 mg./m.³). In the summer, 70% of the samples contained hydrocarbons (max. 63-90 mg./m.³), 52% contained fatty acids, and 56% contained unsatd. hydrocarbons. Acetone and formaldehyde were found in only a few samples. From CZ 1962(47), 17163.

MRCR

Maximum permissible concentration of chloroprene in the atmosphere. A. V. Mnatsakanyan (N. B. Akopyan Inst. Epidemiol. and Hyg., Erevan). *Gigiena i Sanit.* 29(9), 13-18 (1964)(Russ). A concn. of 0.22 mg. chloroprene/m.³ was the threshold concn. for decreasing the sulphydryl concn. in brain homogenates and increasing adenosinetriphosphatase activity in the livers of rats exposed constantly for 60 days; 0.08 mg./m.³ is considered a proper max.

John Howe Scott

Effect of dichlorobutene on the olfactory organs and ocular analyzers. G. V. Deroyan (Med. Inst., Erevan). *Izv. Akad. Nauk Arm. SSR, Biol. Nauki* 17(7), 101-4(1964)(Russ). The threshold concn. for a dichlorobutene (I) effect on the olfactory analyzers was investigated with 15 patients and was equal to 0.34 mg./m.³. Effect of I on the visual center was examd. on 3 patients. The results indicated that in some cases 0.34 mg./m.³ of I produced harmful effects on dark adaptation. A concn. of 0.34 mg./m.³ of I in air was considered harmful.

M. Charmandarian

Effects of inorganic fluorides on animals. J. W. Suttie (Univ. of Wisconsin, Madison). *J. Air Pollution Control Assoc.* 14(11), 461-4, 480(1964)(Eng). F⁻ toxicity in cattle can result from the ingestion of forage contaminated by industrial processes. Cattle are affected when F⁻ levels in the compact bone exceed 5500 ppm. Marginal toxic effects are noted in animals with F⁻ concns. in these bones of 4500-5500 ppm. The concn. of F⁻ on forage that can produce these concns. in the skeleton depends on a no. of factors. Air quality standards based on atm. F⁻ levels are not feasible for protecting livestock