activity. G. V. Martinyan. *Biol. Zh. Armenii* 19(8), 36–41 (1966)(Armenian). In previous studies it was established that the decompn. of proteins is accelerated by poisoning with chloroprene. This process can be interrupted and the protein contained in cells rapidly restored with hyposulfite soln. by an unknown mechanism. Studies made to elucidate the influence of chloroprene and hyposulfite on cathepsin enzymes were inconclusive, and it is suggested that the most important factor in this modification is related to the transaminases. Expts. were conducted using normal rats (control) and rats poisoned with chloroprene (8 mg./l., 2 hrs. daily, 2–3 months). The activities of glutamic-oxalacetic transaminase and glutamic-pyruvic transaminase were measured by using the Reitman and Frankel method (*CA* 51, 18080h) and are expressed in Vroblevski units. The activities of the enzymes decreased 10–19% in blood, liver, and kidneys and 41–51% in the spleen of poisoned animals. In in vitro expts. the decrease in enzyme activity in normal tissues was 4.7–8.4% and in poisoned animals 2.3–7.1%; in the spleen the decrease was 0.4–0.5%. Hyposulfite also lowers the enzymic activity; however, the combination, hyposulfite–chloroprene restores it to the initial level and in some cases even a higher level is reached. Chloroprene does not affect the activity of pyridoxal phosphate. These results lead to the assumption that the inhibitory action of chloroprene can be explained by its reaction with the protein part of the enzyme. L. B. Bedighian

**1231c** Changes in the esterified fatty acids and cholesterol in serum and liver of rats after application of orotic acid and hepatotoxic substances. F. Musil and J. Sueva (Skoda-Werke-Krankenhauses, Plzen, Czech). *Fette Seifen Anstrichm.* 68(9), 748–50 (1966)(Ger.). Changes in the serum and hepatic levels of cholesterol and esterified fatty acids following oral administration of $CCl_4$ (0.5 ml./kg.) for the intraperitoneal administration of ethionine (250 mg./kg.) to rats were in some cases normalized following oral administration of orotic acid (100–250 mg./kg.) given as either a preventive or as a therapeutic agent. CMJG

**1232k** Acute (mouse and rat) and short-term (rat) toxicity studies on dibutyl(diethylene glycol bisphthalate). D. E. Hall, Patricia Austin, and F. A. Fairweather (British Ind. Biol. Res. Assoc., Carshalton, Engl.). *Food Cosmet. Toxicol.* 4(4), 383–8(1966)(Eng). Acute and short-term feeding studies have been carried out on a sample contg. 80% dibutyl (diethylene glycol bisphthalate) (DDGB). The intraperitoneal $L.D._{50}$ in both mice and rats was approx. 11.2 g./kg. This dose when given orally was tolerated by both species without ill effect. The toxicity by either route in mice was enhanced when DDGB was administered in arachis oil (50% vol./vol.). In a 90-day study in rats given dietary levels of 0.0 (control), 0.25, 1.0, and 2.5% DDGB, significant growth retardation occurred in both sexes at all levels apart from males on 0.25%. This effect was attributable, at least in part, to reduced food intake, although this effect was less marked in females. There were no hematological changes or effects on kidney function. At the 1.0 and 2.5% dietary levels, the relative liver and heart wts. in males and the relative brain wts. in both sexes were significantly increased. No pathol. changes were found that could be attributed to DDGB. In view of the effect on growth at the lowest dietary level of 0.25%, a no-effect level in the diet of rats for 90 days could not be established for the particular batch of DDGB tested. RCTT

**1233t** Reaction of hydroxocobalamin with thiols. Norman Adler, Thomas Medwick, and T. J. Poznanski (Merck Chem. Div., Merck & Co., Inc., Rahway, N.J.). *J. Am. Chem. Soc.* 88(21), 5018–20(1966)(Eng). Hydroxocobalamin reacts with thiol compds., as exemplified by glutathione, to form relatively weak 1:1 inner coordination complexes. Previously reported inconsistencies in the generality of this reaction are explained in terms of the simultaneous role of thiol compds. as complexing and reducing agents. RCJC

**1234a** Neurotoxic effects induced by alkylating agents. M. G. Donelli, R. Rosso, and S. Garattini. *J. Pharm. Pharmacol.* 18(11), 760–2(1966)(Eng). In decreasing order of effectiveness, DL-tryptophan mustard, D-sarcolysine, glycine mustard, L-sarcolysine, DL-sarcolysine, and alanine mustard produced a typical pattern of neurotoxicity when administered intracerebrally to rats. The typical pattern of neurotoxicity included a latency time of about 30–60 min., followed by signs of central stimulation, incoordinate movements, and stereotype behavior, and ending with clonic convulsions and occasional tonic extensions. Mannitol mustard, tetramine, cyclophosphamide, and chlorambucil were not neurotoxic when administered in doses of 100 γ/rat. Intraperitoneal administration of Na phenytoin (100 mg./kg.) was ineffective in preventing the neurotoxic effects induced by the alkylating agents, whereas Na phenobarbitone showed a clear protective effect. Cysteine and thiourea (1 g./kg., intraperitoneally) were also ineffective in preventing the neurotoxic effects. CMJN

**1235h** Effect of chronic nortriptyline pretreatment on the acute toxicity of various medicinal agents in rats. D. B. Meyers, D. O. Kanyuck, and R. C. Anderson (Eli Lilly & Co., Greenfield, Indiana). *J. Pharm. Sci.* 55(11), 1317–18(1966)(Eng). A method using rats that c e of value in predicting the effects of chronic treatment with psychotherapeutics on the acute toxicity of other medicinal agents is described. Results obtained by this method show t hat nortriptyline, like amitriptyline, enhanced the toxicity of most cerebral depressants in an additive manner. Both of the antidepressive compds. markedly potentiated the toxicity of physostigmine and to a lesser degree pilocarpine. Ephedrine toxicity was significantly antagonized by thymoleptic pretreatment. The test failed to verify reports that the tricyclic antidepressives dangerously potentiate the toxicity of alc. or monoamine oxidase inhibitors. Results indicated that a variety of medicinal agents can be used in the nortriptyline treated patient without any problem of significant drug interaction. RCYG

**1236r** Chlorinated anilines and their sanitary-toxicological characteristics. G. D. Khamuev. *Khim. Faktory Vneshn. Sredy i ikh Gigien. Znachenie, Sb., Moscow* 1965, 108–10(Russ). Monochloroaniline is used in the production of insecticides and dyes. *m*-Monochloroaniline (I) and *p*-monochloroaniline (II) dissolve in $H_2O$ (5 g./l.), in which they cause an unpleasant taste and odor. The odor and taste perception thresholds were 2.6 and 7.2 for I and 1.5 and 3–6 mg./l. for II, resp. In a concn. of 150 mg./l., I and II lowered the B.O.D. of water. Threshold concns. are 1.5 mg./l. for I and 0.75 mg./l. for II. The $L.D._{50}$ values (stomach administration) for I and II, resp., were 1104 and 401 for white mice, 1104 and 368 for white rats, and 750 and 350 mg./kg. for guinea pigs. A 3-month sub-acute expt., conducted on white rats with stomach administration of 0.1 $L.D._{50}$ levels, caused the formation of methemoglobin and reduced the hemoglobin level and the erythrocyte count. From *Ref. Zh., Khim.* 1966(8), Pt. II, Abstr. No. 8I414. MVRK

**1237y** Toxicity of thioacetamide. Z. Hruban, W. Gradman, A. Slesers, and M. Lubran (Univ. of Chicago). *Lab. Invest.* 15 (11), 1748–60(1966)(Eng). Thioacetamide (I), fed to rats in a diet contg. 50 mg./kg. body wt./day for 5 days, produced high serum lactic dehydrogenase levels and centrolobular necrosis of the livers within 24 hrs.; the enzyme levels decreased and the necrotic areas were resorbed within 3 days of feeding the diet. Severe degenerative changes in the kidneys, hematuria, and increased serum urea N and serum creatinine levels occurred within 48 hrs. of treatment. The lethal effects of the above level of I were correlated with the renal damage. Excess dietary casein hydrolyzate, methionine, or guanosine reduced the mortality and renal toxicity of I, although these compds. did not prevent the nuclear and nucleolar enlargement of hepatic cells and of the cells of the proximal convoluted tubules of the kidney occurring in treated rats. 67 references. BPJN

**1238f** Poisoning by grass. C. H. Gallagher, J. H. Koch, and H. Hoffmann (Univ. Sydney). *New Scientist* 31(510), 412–14(1966)(Eng). Acute and chronic neuromuscular disorders occur in sheep feeding on the pasture grass *Phalaris tuberosa*. This grass contained 0.3% (dry wt.) tryptamine alkaloids. Tissues from sheep undergoing acute poisoning showed no histol. alterations, whereas the brain and kidneys of chronically poisoned animals showed deposits of green pigment. The pigment was noted in the mitochondria cells of the mid-brain, brain stem, and spinal cord. It is suggested that these changes are related to the oxidative deamination of *N,N*-dimethyltryptamine and 5-methoxy-*N,N*-dimethyltryptamine. The protective action of Co against the chronic form of the disease, reported by others, may be related to the prevention of degenerative changes in nerve tissue or to the acceleration of alkaloid metabolism. W. L. Downs

**1239p** Vinyl chloride; industrial toxicologic aspects. I. Grigorescu and Gh. Toba. *Rev. Chim.* (Bucharest) 17(8), 499–501(1966)(Rom). A hypothesis was put forward, claiming that $CH_2{:}CHCl$ (I) could react with $H_2O$ at the level of the hepatic cell, yielding ethylene monochlorohydrin, which could be oxidized to chloral and chloroacetic acid (II). II could be eliminated as such in the urine or be metabolized further through amination to glycocol. An anal. method was developed for detection of II in urine, assuming that the only other source of II could be massive ingestion of wine yeast or inhalation of trichloroethylene. An aliquot (200 cc.) of urine, acidified with 50% $H_2SO_4$ (2 cc.) is extd. with $Et_2O$ (200 cc.), shaking vigorously, and settling for 24 hrs. The ext. is dried (anhyd. $Na_2SO_4$), evapd. to dryness under reduced pressure, and the residue is dissolved in 50% aq. alc. soln. (0.5 cc.). One drop of the soln. (25–30 μl.) is placed on Whatman No. 1 paper strips (25 × 3 cm.), dried, and chromatographed by ascending method, using as eluant the mixt. $NH_4OH$–EtOH $H_2O$ (1:20:4) for a period of 6 hrs. The strips, dried in air, are kept 24 hrs. in a concd. $NH_3$ atm., heated for 5 min. at 80°, sprayed with 0.1% ninhydrin in MeOH, and dried. The II is indicated by reddish-violet spots. For distinct development, the strips are sprayed finally with 10% $Cu(NO_3)_2$ (carmine red spots). The $R_f$ at 24° was established with a soln. of 20–30 μg. II/cc., as 0.80. The limit of sensitivity is 0.1 μg. II, and is improved by the use of Cu $(NO_3)_2$. The extn. of II from urine was demonstrated by treating a soln. of 25 μg. II/cc. in urine as above, cutting the corre-