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ing symptoms of C_4H_6 poisoning had a decreased vitamin C content in the blood, which was more pronounced the more definite were the symptoms. Treatment with vitamin C prepns. greatly improved the condition of an affected worker. Rabbits treated with vitamin C showed greater resistance to C_4H_6 vapor than did normally fed animals. B. C. P. A. 1

The effects of benzine and benzene on the human organism. W. Kretschmer. *Umschau* **43**, 233–4(1939). —A brief description of the patho-biological significance of these common industrial chemicals and discussion of the manner in which they interfere with body chemical functions. H. Kwart 2

Toxicology of dinitrotoluene and pathology in exposed workers. Courtois-Suffit. *Arch. maladies professionnelles* **1**, 294–7(1939).—The principal toxic effect of dinitrotoluene results from the inhalation of its vapors. The rate of absorption in workers who are chronic alcoholics is greatly increased. The principal effect is on the nervous system and the blood. The author reviews his experience with this chemical in powder mills. William G. Fredrick 3

Affections due to organic mercury compounds. F. Koelsch. *Arch. Gewerbepath. Gewerbehyg.* **8**, 113–16 (1937).—Org. Hg compounds such as are used for seed-dressings may, by const. handling, produce (*a*) affections of skin and upper respiratory tract due to the mech. action of the dust, (*b*) affections of the central nervous system due to absorption, coupled with local damage to the organs in which the compds. are decompd. and Hg is deposited. B. C. P. A. 4

The significance of chemical data in the pathology of minerals producing pneumoconioses. A. Policard. *Arch. maladies professionnelles* **1**, 473–88(1938).—A discussion of the significance of analytical data in the study of pneumoconiosis. 26 references. William G. Fredrick 5

A study of asbestosis in the asbestos textile industry. Waldemar C. Dreessen, J. M. Dallavalle, Thomas I. Edwards, J. W. Miller, R. R. Sayers, H. F. Easom and M. F. Trice. *U. S. Pub. Health Bull.* No. **241**, 126 pp. (1938).—Medical examn. of 447 workers in 3 plants exposed to appreciable amts. of asbestos dust showed an estd. asbestosis incidence of 27.5%. Asbestosis rarely appears in workers exposed to less than 5 million particles per cu. ft. of asbestos dust (light field count). Above this value the incidence and severity of the disease is a function of dust concn. and exposure time. Symptoms, case histories, autopsy data, manufg. procedures and many illustrations are given. 70 references. William G. Fredrick 6

A simple respiratory protective device for industrial purposes. E. Eigenberger. *Chem.-Ztg.* **63**, 238(1939).— A simple supplied-air type respirator with a fully transparent face piece is described and illustrated along with an electrically operated device for supplying it with fresh filtered air at a rate of 1–2 l./sec. William G. Fredrick 7

Personalized protection. Edward R. Granniss. *Ind. Eng. Chem.* **31**, 664–72(1939).—A crit. discussion of personal protective equipment suitable for use in the chem. industry. Methods for using, maintaining and storing such devices as respirators, goggles, canister gas masks, protective clothing as well as indications for their use are given. William G. Fredrick 8

Plastic and synthetic materials. J. Jacobs. *Rev. gén. caoutchouc* **16**, 130–6(1939).—A review and discussion dealing with the present-day meaning of plastics and some of the important derivs. of cellulose. C. C. Davis

Pigments, lakes and other coloring materials in plastics. J. H. Clewell and H. W. Paine. *Paint Varnish Production Mgr.* **18**, 312–15(1938).—Methods of pigmentation of cellulose ester plastics and the choice of pigments therefor are discussed. B. C. P. A. 9

The investigation of the thermohydrolysis process of plant materials. M. N. Plungyanskaya and M. G. Gan. *Trudy Nauch.-Issledovatel. Lab. i Op. Stantsii Barkalaitu* **1937**, 33–47; *Khim. Referat. Zhur.* **1**, No. 7, 85(1938).— The dependence of the physicochem. properties of Barkalite on the autoclave conditions (with a pressure of 14, 12, 10, 8 and 6 atm.; the max. pressure kept for 1 hr.) and on the amt. and manner of the water added (with a 5 and 7 atm. pressure the added water for each variant was 50, 100, 150% of the abs. dry wt. of the raw material) was investigated. Analyses of the vapor phases and of the resulting products were performed for each case. All substances contained in the steam-gas mixt. obtained during the thermohydrolysis, in the dry powder obtained after the autoclave reaction, and in the steam-gas mixt. obtained after the pressure reaction were detd. Conclusions: CO_2 is the main gas component of both phases; no traces of CO, CH_4 or of any unsatd. hydrocarbons were found in the gas phase; the main component of the condensate was AcOH whose content was increased with an increase of the temp. and pressure; the amt. of lignin in the powder is increased; and the cellulose in the autoclave reaction process is only slightly decompd. W. R. Henn

The investigation of the physical factors in the pressure reaction of Barkalite powder. A. G. Natradze. *Trudy Nauch.-Issledovatel. Lab. i Op. Stantsii Barkalaitu* **1937**, 61–79; *Khim. Referat. Zhur.* **1**, No. 7, 85–6(1938).— Pine sawdust was used in most cases to investigate the influence of the size of the particles in the raw material and of the temp. and pressure on the plasticization process. The sawdust was treated thermohydrolytically at 7 atm. for 2 hrs. with an amt. of water equa to 150% of the abs. dry wt. The powder obtained was dried to a 0.95% moisture content, and was sifted through sieves having 289, 110, 72 and 48 meshes/sq. cm. The final distribution of the particles depends more on the properties of the initial material than on the applied pressure. The heat phenomena occurring during the compressing were studied in a specially constructed app. The substances investigated were either raw or autoclave-treated sawdust (pine, birch) and other materials (straw, rice husks, corn cobs). The autoclave conditions were: temp. 180°, pressure 10 atm., time 2 hrs. A specific pressure of 300 kg./sq. cm. was used. The raw sawdust was pressed at a temp. below or near the critical point of the exothermic reaction. The temp.-time diagrams for different places of the samples are represented in 8 diagrams. Two pictures of the app. used are given. W. R. H.

The influence of plasticizers and of softeners on the plastic properties of Barkalite. A. M. Bogdanov. *Trudy Nauch.-Issledovatel. Lab. i Op. Stantsii Barkalaitu* **1937**, 110–35; *Khim. Referat. Zhur.* **1**, No. 7, 85(1938).—A series of expts. was performed with pine sawdust to obtain Barkalite powder and to investigate the action on this powder of phenol, furfural, a mixt. of phenol and glucose, hexamethylenetetramine, H_2SO_4, H_3PO_4 and of wood and artificial resins. Powders which were acted upon under pressure and plasticized with phenol and with furfural showed less water and acid resistance in the final product. The phenol and glucose mixt. greatly increases the viscosity, permitting the manuf. of figured articles with fewer defects. A 0.3% H_2SO_4 soln. or a 0.9% H_3PO_4 soln. improves the mech. properties, and has a smaller water and acid resistance. Samples of articles made from the Barkalite powder prepd. in the presence of sedimental resin were compared with those made of the pure Barkalite powder. They showed worse mech. properties and a greater stability to water, to acids and to alkalies. The addn. of different resins produced products with different compns., some of which were suitable for insulating purposes. W. R. Henn 10

Mechanism of drying technical casein. V. D. Surkov. *Colloid J.* (U. S. S. R.) **4**, 705–9(1938).—The rate of evapn. of H_2O from casein and of contraction of casein grains was detd. It is slightly increased by an air current. J. J. Bikerman

Silica aerogel—effect of variables on its thermal conductivity. J. F. White. *Ind. Eng. Chem.* **31**, 827–31 (1939).—The structure, prepn. and previous data on the cond. of silica aerogel are reviewed. At higher temps. the material transmits radiation. The addn. of opacifying agents was investigated. Red transparent admixts., opaque nonreflective substances and materials exhibiting