

FILE NAME: Chemical Abstracts (CHAB)

DATE: 1940

DOC#: CHAB019

DOCUMENT DESCRIPTION: Abstract Originally Published in 1940 by Wolff

a sign of regeneration and is not specific. Together with other signs and under definite conditions it is a useful method for the recognition of Pb poisoning.

Dangers connected with the delivery of industrial poisons. Zimmermann. *Zentr. Gewerbehyg. Unfallverhüt.* 27, 191(1940).—A workman was showered with acid when the bottle of pickling acid (a mixt. of inorg. acids, mostly HNO_3), which he was carrying, exploded. He died of blood poisoning from mineral acid burns, exhaustion, severe kidney damage and double pneumonia 12 days after the accident. The explosion may have been caused either by the interaction of the acid with residues of unknown nature in the bottle which may have had a fine, scarcely visible crack or, more probably, by the formation of NO_2 from the interaction of the acid with particles of rubber from the stopper.

Medical investigation on the subterranean black-marble quarries. Langelez and Uytendhoef. *Ber. 8 intern. Kongr. Unfallmed. u. Berufskrankh.* 2, 989(1939); *Zentr. Gewerbehyg. Unfallverhüt.* 27, 40(1940).—Both the marble and the adjacent stone were entirely free from silicic acid. Work in the black-marble quarries entails no danger from silicosis.

Some investigations in the slate quarries. Observations on the lungs of slate workers. A. Feil. *Ber. 8 intern. Kongr. Unfallmed. u. Berufskrankh.* 2, 986(1939); *Zentr. Gewerbehyg. Unfallverhüt.* 27, 40(1940).—The French slate contains 84% combined silicates (alumina, lime, Mg, potash, etc.) and only 6-7% silicic acid. Examination of 251 slate workers who had been exposed to the dust under varying hygienic conditions revealed no signs of silicosis. The tendency to emphysema and chronic bronchitis is increased. Since the slate contains much sericite, these findings do not indicate that sericite is the chief cause of silicosis. In spite of the relative harmlessness of the dust, prophylactic measures are necessary.

Asbestosis. A. Wolff. *Nord. Hyg. Tid.* 21, 1, 33(1940) (in Norwegian); *Zentr. Gewerbehyg. Unfallverhüt.* 27, 193-4(1940).—Three cases are described of asbestosis which occurred in Norway in factories where asbestos was used as packing material for acid containers. In one case asbestos particles were present in the expectoration. This disease has not hitherto been observed in Scandinavia.

An important raw material for chemical industry: skim milk. G. Genin. *Industrie chimique* 27, 10-14(1940).—Skim milk contains considerable quantities of casein, lactose, lactalbumin and riboflavin. The industrial uses of casein in the preparation of (1) artificial wool or textile fibers, (2) plastics and (3) films are reviewed. 86 references.

Plastics from bagasse and other agricultural residues. S. I. Aronovsky and T. F. Clark. *Mfrs. Record* 110, No. 3, 22-5, 59(1941).—Acid and alk. digestions are discussed and plastic-manufg. operations are described. Tabulations show the av. of certain phys. characteristics of plastics from sugar-cane bagasse, production data and proximate analyses of certain agricultural by-products (various straws, hulls, etc.), and the estd. cost of raw materials for the production of bagasse molding powders.

Films and plastics from starch. J. Seiberlich. *Modern Plastics* 18, No. 7, 64-5, 98(1941).—A report and discussion, with reference to several patents, of the progress made to date on the utilization of starch as the raw material for the manuf. of plastics.

Influence of synthetic rubbers on plastics—widening the commercial field. Harry Barron. *Chem. Age* (London) 44, 107-9(1941); cf. C. A. 35, 16673.—A review and discussion of the com. importance of copolymerization of bivalent derivs. in the development of synthetic-rubber compds.

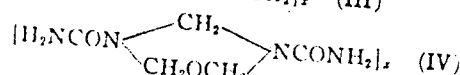
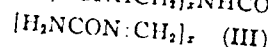
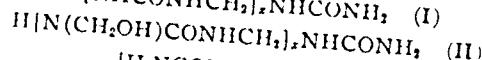
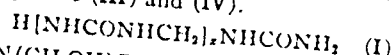
New mica-resin molding compounds developed by TVA. Lynn L. McMurray. *Modern Plastics* 18, No. 7, 61-3, 98(1941).—Mica obtained from schist ore by the froth flotation process has inherently higher dielec. strength

than ground mica scrap. This beneficiated mica, ground fine for best flow and elec. properties, was incorporated as filler in phenolic-resin molding powders by dry-mixing in a pebble mill. Proportions up to 80% mica gave best elec. properties, but a 70% compn. was used because of its desirable mold flow. The resulting compn. when molded under 2000 lb. per sq. in. pressure at 150° to 160° was characterized by high dielec. strength, and good resistance to corrosive acids and to water absorption. Addns. of higher percentages of schist mica to phenolic resins did not reduce the power losses.

Synthetics. C. P. Kidder. *Mech. Eng.* 63, 287-93 (1941).—A review, with 12 references, on synthetic rubberlike substances, nylon, Cordura rayon for tires, chromated zinc chloride for wood preservation, and Lucite.

Methacrylic resins. I. Polymerization of methyl methacrylate. R. Inoue. *J. Soc. Chem. Ind., Japan* 43, Suppl. binding 448-9(1940) (in English).—The rate of polymerization accelerates, reaches a max. and then decreases continuously. The apparent heat of activation was found to be 12.5 Cal. The degrees of polymerization of the polymers formed at various stages are almost equal.

Studies on urea-formaldehyde resins. I. Composition of powdery resins. S. Turuta. *J. Soc. Chem. Ind., Japan* 43, Suppl. binding 366-9(1940) (in English).—Twenty-seven kinds of resin were prepd. by (a) varying the amt. of aldehyde of the same concn. and of different concns. (37.2%, 36.0%, 39.4%) added to a const. amt. of urea (45 g. of 50% soln.), and (b) by varying the temp., 30°, 50°, 70° and 90°. In each case 0.2 cc. of 0.2 N HCl was used as a catalyst. The compn. of the resins showed systematic though not simple changes. In each group the compn. changes continuously; this shows the existence of homologous series. The continuous formula of the condensation type like (I) and (II) is more general than the discontinuous one of the polymerization-condensation type like (III) and (IV).



Urea-formaldehyde film-forming compositions. Air-drying films by acid catalysis. T. S. Hodgins and A. G. Hovey. *Ind. Eng. Chem.* 33, 512-15(1941).—The action of mono- and diphosphoric esters of alic. in catalyzing the hardening of urea-formaldehyde films has been investigated. These esters are of value in hardening urea-mine-formaldehyde-butanol resins where package stability is not a major factor. A 0.004-in. urea-formaldehyde film, on air-drying, was soft at 4 hrs. and had a Sward hardness of 20 at 24 hrs. With a short-chain alic. phosphate accelerator present to the extent of 1-5%, this film had Sward hardnesses of 44-52 at 4 hrs. and 48-82 at 24 hrs. Precautions to be observed in the formulation of air-drying enamels contg. acidic accelerators are discussed.

Testing the insulating properties of thermos flasks. R. Vorbau. *Chem. App.* 27, 356(1940).—A method of testing thermos flasks immediately after manuf. is described, wherein a thermocouple is inserted and the cooling rate inside the flask is measured.

Melanoderma and keratoses from the action of high-boiling hydrocarbons. H. Wanick. *Arztl. Sachverst.* 21g. 66, 49(1940); *Zentr. Gewerbehyg. Unfallverhüt.* 27, 201(1940).—In the prepn. of cork plates (heat-insulation plates of asphalt and cork) much dust develops under very unfavorable working conditions. Two workers, who had been working for 3 months, suffered from pigmentation, inflammatory changes and hyperkeratoses of the face, forearms and hands. The hyperplastic processes were