tritolyl phosphate has been decomposed. The toxicity of these decomposition products is of about the same order as that resulting from the decomposition of a typical paraffinic lubricating oil at the same temperature. Precautions should be taken to prevent prolonged contact of the commercial tritolyl phosphates with the skin, and if such contact occurs, the skin should be flushed generously with water. -- Cond. from Chem. Abstr.

224 Comparative Value of Estimation of Sulfates and Phenol in Urine for Determining the Concentration of Benzene in Air. J. Teisinger and V. Fiserova-Bergerova. Arch. maladies profess. 16, 221-232 (1955). French.

The question under investigation is whether estimation of the organic sulfates and phenol excreted in the urine may not be a better indication of harmful exposure to benzene than direct calculation of the amount in the air. Normally the urine contains from 80 to 95% of inorganic sulfates. The disintegration of benzene may lower the precentage of inorganic sulfates to 70 or even to 50 when benzene is present. Phenol is another product of the transformation of benzene. Considerable individual variations have been found in the capacity to absorb and metabolize benzene. Comparison of urine analyses with calculated benzene absorbed during work and with observations on 26 persons exposed to known concentrations of benzene are exhibited in a series of graphs. The sulfates test remained within normal limits until the concentrations of benzene inhaled reached 35 ppm. This test should be regarded as a collective test on a group of persons. It indicates with considerable probability that exposure at work has exceeded 35 ppm. The estimation of phenol is easier than that of sulfates. In an individual test, the finding of 40 mg. phenol in a 24-hour sample of urine indicates with high probability that the person is exposed to benzene less than the permissible limit, but 100 mg. indicates exposure near the permissible limit. -- Cond. from Bull. Hyg.

225 Toxicological Investigations into Solvents for Replacing Benzene. 3. A Study of Isopropylbenzene or Cumene. R. Fabre, R. Truhaut, J. Berauchon, and F. Loisillier. Arch. maladies profess. 16, 285-299 (1955). French.

(This paper is apparently a revision of one published earlier, IHF Abst. 711, Jul. 1953). The chemical and physical properties of isopropylbenzene are described. In rats and rabbits exposed to the vapor for varying periods, no alterations were found in the blood picture, except that in the rat the red cells tended to increase. The bone marrow was unaffected. The coagulability of the blood remained the same. No lesions were found in any bodily organ, but slight passive congestion was found in some organs. The solvent, like benzene and toluene, was found to select certain organs, especially the endocrine glands, the nervous centers, and the bone marrow. The study suggests that isopropylbenzene, unless used at much higher concentrations than are likely to be encountered industrially, is less toxic than benzene, particularly with respect to the hemopoietic tissues, if man reacts in the same way as the animals. Some evidence indicated that isopropylbenzene is metabolized in the body and excreted as phenolic compounds in the urine. -- Cond. from Bull. Hyg.

226 Occupational Hazard from Toluene: Environmental Investigations and Clinical Researches in Chronic Poisoning. L. Parmeggiani and C. Sassi. Med. lavoro 45, 574-583 (Nov. 1954). Italian with English summary.

This report deals with 24 workmen who showed symptoms or signs of occupational poisoning. Some were exposed to toluene at concentrations of 200 to 800 ppm, and others to both toluene and butyl acetate at similar concentrations. The butyl acetate added little to the symptomatology of the cases, only accentuating the irritation of mucous membranes and increasing nervous excitability. Of those exposed to toluene, only 9% showed pharyngitis and conjunctivitis and 53% showed signs of nervous excitability. Nearly all of those exposed also to butyl acetate showed these manifestations. Subjective symptoms disappear when the subjects are away from work. Unlike benzene, occupational toluene poisoning does not affect the bone marrow or other blood-forming organs. The authors think that the tolerance limit of 200 ppm for toluene might be somewhat raised, in the light of the experience reported. -- Cond. from Bull. Hyg.

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