

- 251 Excretion and Metabolism of Edible Food Colors. J. W. Daniel.
Toxicol. & Appl. Pharmacol. 4, 572 (Sept. 1962).

The present investigation deals with the metabolic behavior and excretion of 11 "azo" colors and erythrosin; all these compounds have been used as food colors. The metabolites have been identified by paper chromatography and by isolation, with subsequent characterization by melting point and by ultraviolet and infrared spectroscopy. When azo dyes were administered, only small amounts (3%) were excreted in the urine, some 60%-80% of the color being excreted as the component amines and derivatives thereof. These colors with a nonsubstituted benzene nucleus were hydroxylated and excreted as o- and p-amino-phenol. Increasing the number of substituent sulfonic acid groups, or methyl substitution, appeared to have little quantitative effect on the contribution that fission of the azo link made to the metabolism of the azo colors. The fact that unilaterally sulfonated colors are excreted as hydroxyamines, which are known to disturb the normal metabolism of hemoglobin and, in addition, induce unexplained changes in the erythrocyte, suggests that the use of these colors as food additives should be discouraged. In rats, the color erythrosin was largely (approximately 60%) excreted in the feces. A small amount of dye was excreted in the bile, but there was no evidence for the urinary excretion of this color. The significance of these observations in relation to the toxicologic properties of the colors and their metabolites is discussed. -- J. Am. Med. Assn. References & Reviews

- 252 Tetrachloroethane—A Survey. R. Lobo-Mendonca.
Brit. J. Ind. Med. 20, 50-56 (Jan. 1963).

The use of tetrachloroethane as a solvent for cellulose acetate in the manufacture of bangles in small factories in India is described. The conditions under which exposure occurs are depicted. In a survey of 380 workers no cases of serious poisoning with jaundice were encountered, but there was a high incidence of nervous complaints, and the predominant symptom was tremor. The control and prevention of excessive exposure are discussed. -- Author's abst.

- 253 Fatal Addiction in Trichloroethylene. W. R. L. James.
Brit. J. Ind. Med. 20, 47-49 (Jan. 1963).

Trichloroethylene inhalation is a common industrial hazard that involves a risk of addiction. In the present case there was evidence of indulgence of addiction at work, but not at home. The medical history suggested permanent paresis of the olfactory nerves in addition to intermittent gastric disturbance. Sudden death, not preceded by severe physical exertion, occurred some 17 hours after the last known exposure to the vapor. There was fatty degeneration of the liver and old and recent lung hemorrhages. Trichloroethylene was isolated from the tissues. The urine contained a large amount of trichloroacetic acid. -- Author's abst.

- 254 Evaluation of Exposure to Nitrobenzene. Absorption of Nitrobenzene Vapour through Lungs and Excretion of p-Nitrophenol in Urine. J. Salmowa, J. Piotrowski and U. Neuhorn.
Brit. J. Ind. Med. 20, 41-46 (Jan. 1963).

In order to obtain a quantitative test for measuring exposure to nitrobenzene, experiments on men were done, in which nitrobenzene vapors (5 to 30 micrograms/l.) were absorbed into the lungs only. During an exposure of 6 hours the retention of nitrobenzene in the lungs diminished from approximately 87 to 73%. p-Aminophenol was not detected in the urine by the method used. Another metabolite, p-nitrophenol, was estimated in the urine of the exposed subjects; the quantities present represented about 13% of the inhaled dose of nitrobenzene. It was found that the determination of p-nitrophenol in urine could be used as a quantitative test when a single exposure to nitrobenzene occurred with a precision of approximately ± 8 mg. nitrobenzene. p-Nitrophenol is excreted in urine very slowly and, therefore, it may accumulate in the body. To evaluate the results of the proposed test in the case of a repeated exposure further investigations are necessary. -- Authors' abst.

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