

- 227 Investigations into the Toxicity of Solvents for Replacing Benzene. 2. A Study of Toluene. R. Fabre, R. Truhaut, S. Laham, and M. Peron. *Arch. maladies profess* 16, 197-215 (1955). French.

The general conclusion that the acute and chronic toxicity of toluene is lower than that of benzene has been doubted by some observers. The reason for contradictory reports is probably that commercial toluene contains high percentages of benzene. In the experiments described, rats, rabbits, and dogs were exposed to varying concentrations of pure toluene vapor for periods over seven weeks. No changes in the blood picture or in general health were found. Findings with animals must be used for human beings with reserve, but they seem to indicate the value of substituting toluene for benzene as a solvent, subject to the reservations regarding impurities.

-- Cond. from Bull. Hyg.

- 228 Minimum Aniline Concentration Affecting the Central Nervous System in Rabbits. M. S. Zakabunina. *Farmakol. i Toksikol.* 18, No. 3, 51-54 (1955). Russian.

The lowest concentrations of aniline vapor affecting rabbit nerve centers were 0.02-0.04 mg. per l. in 40-minute exposures, and 0.004-0.006 mg. per l. in 8-hour exposures. In these periods no formation of methemoglobin was observed even at somewhat higher aniline concentrations. The principal effect was on the central nervous system.

-- Chem. Absts.

- 229 The Acute Toxicity of the Vapors of Some Methylated Hydrazine Derivatives. K. H. Jacobson, J. H. Clem, H. J. Wheelwright, Jr., W. E. Rinehart, and N. Mayes. *Arch. Ind. Health* 12, 609-616 (Dec. 1955).

Methylhydrazine, asym-dimethylhydrazine, and sym-dimethylhydrazine vapors are similar to hydrazine in that they are respiratory irritants and convulsants on acute exposure. In addition to causing respiratory distress and convulsions, methylhydrazine vapor was found to produce hemolysis and elevated temperatures in exposed dogs. Methylhydrazine was the most toxic of the vapors tested, and hydrazine the least toxic. The higher volatility of asym-dimethylhydrazine indicates that the hazard of this vapor is similar to methylhydrazine. However, the hemolytic properties of methylhydrazine indicate that this vapor has a greater sublethal hazard. Preliminary data on sym-dimethylhydrazine suggest that this vapor has a toxicity and vapor hazard that is less than methylhydrazine and asym-dimethylhydrazine but greater than hydrazine. The odors of hydrazine, methylhydrazine, and asym-dimethylhydrazine were usually described by human subjects as ammoniacal, fishy, or amine-like. The odor of these vapors appears to offer adequate warning of acute exposure to dangerous concentrations.

-- Authors' summary

- 230 Hazards in Pest Control Operations. W. A. Cook. *Modern Sanit.* 7, 22, 42-47 (Dec. 1955); 8, 24, 41-46 (Jan. 1956).

This discussion of hazards and precautions is designed to assist the sanitarian and pest control operator, rather than to be a complete toxicological dissertation on all the pesticides or a manual on step-by-step precautionary measures. Therefore the coverage is broad rather than detailed. Three areas of exposure are considered: (1) the formulation of insecticide preparations; (2) the application of these materials; and (3) hazards to the occupants of a structure after a pesticide has been applied. The materials considered include: chlorinated hydrocarbons, including DDT and similar insecticides; organic phosphates; other organic compounds and botanicals; inorganic insecticides; rodenticides, including phosphorus, thallium sulfate, sodium fluoracetate, and warfarin; and fumigants, including hydrogen cyanide and methyl bromide. In conclusion, the author stresses that the essential element in practical precautionary measures for successful handling of pest control operations is the use of common-sense procedures based on a knowledge of the materials being used. The sanitation manager should be alert to the hazards, must see that employees are well informed and follow proper procedures, and should secure the cooperation of trained industrial hygiene personnel.

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