

cholinesterase, causing toxic accumulations of acetylcholine, with effects resembling muscarine and nicotine poisoning. Intoxication is identified in the living patient by a characteristic chain of signs and symptoms, including fixed, contracted pupils. Laboratory tests show solely a depression of the cholinesterase levels, and this is also the sole diagnostic sign at autopsy. The industrial worker, the physician, and the forensic investigator should all be conversant with the prevention, recognition, and treatment of intoxications from these valuable but potent agricultural chemical weapons.

-- Author's conclusion

- 237 The Vapor Toxicity of a Composite Solvent and Its Principal Compounds. C. W. LaBelle and H. Brieger. Arch. Ind. Health 12, 623-627 (Dec. 1955).

The literature on the toxicity of mixed solvents is reviewed. The solvent investigated consisted of methylethylketone (55.7%), propylene formal, 1,3-amylen oxide, tetrahydrofuran, dimethyl acetal, 1,3-butylene oxide, propylene acetal, and acetone. The toxicity of the mixed solvent was compared with that of each of the principal constituents (omitting the last three), in animal experiments. Both the mixed vapor and the component vapors have the same qualitative effect of anesthesia and narcosis, but quantitatively the components differ substantially in toxicity. The acute toxicity of the mixed vapor agrees within 10% with the geometric mean of the component toxicities weighted by their respective proportions in the mixture. This is not sufficient to prove synergistic or antagonistic effects of the components. The acute toxicity of the mixed vapor is close to that of methylethylketone. This study has demonstrated a method for determining the vapor toxicity of a composite solvent in relation to the vapor toxicities of its components.

- 238 The Toxicity of Certain Polymers with Particular Reference to the Products of Their Thermal Decomposition. J. F. Treon, F. P. Cleveland, J. Cappel, and E. E. Larson. Wright Air Development Center Tech. Rept. 54-301. 60 pp. (1954).

The toxicity of Teflon, Kel-F, Silicones DC-701 and DC-200 and Fluorolube F. S. and their decomposition products was investigated. The polymers themselves were found to be harmless to animals on a single oral dose and on skin contact. In general, animals tolerated repeated exposure to the mist of all these substances in the air at given concentrations. Inhalation of the mists of either of the silicones or of Fluorolube F. S. induced moderate degenerative changes in the livers of cats or guinea pigs. Their remaining viscera and all the viscera of the animals of other species were normal except for an increased evidence of pneumonitis. The maximum tolerable dose for animals exposed to the decomposition products of the substances under investigation for various periods of time are given.

-- Cond. from Chem. Absts.

- 239 The Toxicity of Certain Lubricants, Engine Oils, and Certain of Their Constituents with Particular Reference to the Products of Their Thermal Decomposition. J. F. Treon, F. P. Cleveland, and J. Cappel. Wright Air Development Center Tech. Rept. 54-344. 83 pp. (1954).

The toxicity of certain constituents of lubricants and engine oils was investigated. They included bis(2-ethylhexyl) sebacate, di-sec-amyi sebacate, and bis (2-ethylhexyl) adipate, also formulations used in practice containing one or more of those constituents and small quantities of other substances. They were found to be slightly toxic or nontoxic to animals on single oral administration. They were practically nontoxic on skin application. High concentrations of the mists of these substances were generally tolerated without untoward reactions. Toxic compounds are produced, however, by the thermal decomposition of these materials at 700°F. Extensive data are given on the inhalation toxicities of the various materials. Lowest lethal doses and maximum tolerable doses were of the order of magnitude of 0.2 to 4 mg. per liter of air.

-- Cond. from Chem. Absts.