A Literature Review - Problem Definition Studies on Selected Toxic Chemicals. Volume 2. Occupational Health and Safety Aspects of Phosphorus Smoke Compounds

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Abstract: This Problem Definition Study provides information on toxicological aspects and health hazards of **phosphorus** smoke compounds. The compounds covered in this study are red **phosphorus**, **white phosphorus**, butyl rubber/red **phosphorus**, plasticized **white phosphorus**, and epoxy **white phosphorus**. The subjects covered in this review are chemical and physical properties, toxicity, pharmocokinetics, sampling and analysis, industrial hygiene and safety practices, and standards. Recommendations for further toxicological studies on animals are also provided. There is virtually no information on the toxicity of butyl rubber/red **phosphorus**, plasticized **white phosphorus**, or epoxy **white phosphorus**. The toxicity of red **phosphorus** has not been studied very well. **White phosphorus** has been found to be highly toxic to both experimental animals and humans. Occupational exposure to **white phosphorus** vapors has produced necrosis of the jaw ('phossy jaw') among workers. There have been no reported cases of carcinogenicity in humans after **white phosphorus** intoxication. Tests for mutagenicity and teratogenicity have not been reported in the literature. (Author)

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