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### A NEW SMOKE SCREENING CHEMICAL FOR USE IN AERIAL SMOKE TANKS

Authors: [William H. McLain](#); [Robert W. Evans](#); [DENVER RESEARCH INST CO MECHANICS DIV](#)

**Abstract:** A review of the literature for chemical smoke agents is presented. Based on this review an experimental program to evaluate new liquid smoke agents was formulated. The results of this experimental program indicated that liquid agents possessing an obscuring power greater than FS can be developed using selected mixtures, solutions, and compounds of **phosphorus**. A solution of 33 weight % methylene iodide in **white phosphorus** had a TOP of about 2800. A eutectic mixture of **phosphorus** sesquisulfide and **white phosphorus** had a TOP of about 2800. The major difficulty of the agents tested was their pyrophoricity which resulted in handling difficulties. Considerable reduction in the rate of oxidation was accomplished using methylene iodide as a flame inhibiting agent.

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