

is a major factor in deaths in this category of aircraft, as are head injuries and incapacitating fractures. Complete autopsy examination of all victims of air crashes are of utmost importance in the promotion of general aviation safety.

-- Authors' summary

MISCELLANEOUS

- 519 Pollutional Effects of Outboard Motor Exhaust—Laboratory Studies.
J.N. English, G.N. McDermott, and C. Henderson.
J. Water Pollution Control Fed. 35, 923-931 (July, 1963).

A preliminary appraisal of the pollutional contribution of outboard motors was made by operating low-horse-power outboard motors in small tanks of water in the laboratory. Data indicate that exhausts from outboard motors have a variety of polluting effects. Based on the results of this study, an estimate of the total quantity of fuel constituents contributed to water by outboard motor exhausts in the United States in 1959 was made. These values were placed at 3 to 13 mil. gal. (11,400 to 49,300 m³) of gasoline, 7 to 15 mil. gal. (26,500 to 56,900 m³) of oil, and 0.2 to 0.7 mil. lb. (0.09 to 0.3 mil. kg.) of lead. The quantity of water diluting the exhaust materials is of major significance. Unusually low water volume per unit of fuel consumed appears to be necessary for severe pollution to result from outboard motor operation alone. A field study of the actual contributions of materials by outboard motor exhausts and their damaging effects on quality of water for particular uses is planned. The project should be carried out where the ratio of motor operation (fuel consumption) to volume of water is high and could be calculated approximately. The persistence or build-up of the pollutants and their damaging effects under field conditions would be important aspects of the study.

-- Public Health Engr. Absts.

- 520 Treatment of Petrochemical Wastes by the Activated Sludge Process. Part 1.
R.S. Engelbrecht and B.B. Ewing.
Ind. Water & Wastes 8, 36-39 (May-June, 1963).

Petrochemicals constitute a major portion of the chemical market today. Their production results in a myriad of wastes of varying composition and unusual characteristics. The authors have described the treatment of these organic chemical wastes by two methods, physical stripping and biological oxidation. Physical stripping of acetone and butanone, compounds deemed representative of the waste, by aeration, as in an activated sludge aeration basin, has been intensively studied; the physical constants of the chemical reactions of the process have been established. Biological oxidation of these compounds by use of the activated sludge process was investigated with the aid of the Warburg apparatus and the biological removal rates determined along with the overall efficiency of the process. Field experience with a petrochemical producer's waste are compared with laboratory results.

-- Public Health Eng. Absts.

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