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**THE ZEPPELIN IN THE ATOMIC AGE**—Edwin J. Kirschner—*University of Illinois Press*, 80 p., illus., \$3.50. Attempting to revive interest in rigid airships, which may hold new promise with the advent of nuclear power.

Science News Letter, April 20, 1957

CHEMISTRY

**Atomic Radiation Makes Rocket Fuel Burn Faster**

➤ **ATOMIC RADIATION** may be used to make fuels burn faster in aircraft or rocket engines, a University of Michigan chemical engineer suggested at the American Chemical Society meeting in Miami.

Prof. Stuart W. Churchill reported that beta particles emitted by a powerful bit of radioactive gold can increase the burning speed of fuel by 50%.

The discovery means smaller engines with radioactive "sources" might be used to do the job of bigger ones, since every pound saved in an aircraft part gives an additional saving of ten pounds elsewhere in the plane.

It also suggests that existing engines could be made more efficient or could operate at higher altitudes. Conceivably aircraft rockets or missiles could be equipped with radiation sources to whittle down engine weight in the space required for combustion.

Prof. Churchill emphasized the study was a preliminary one and that the results show an increase in burning speed of a given amount of fuel, not an increase in the power from it.

When the reaction was tested with radioactive sources less intense than the gold, rated at 10,000-curies, the flame's speed "fell off rapidly to the normal value," Prof. Churchill reported. He said the radiation caused certain parts of the fuel to be more reactive chemically and thus to burn faster.

The results with the 10,000-curie source were roughly the same for all fuel air mixtures tried and at pressures ranging from those found between 30,000 and 50,000 feet above the earth's surface.

The studies were sponsored by the U. S. Air Force's Office of Scientific Research through the University of Michigan's Engineering Research Institute.

Science News Letter, April 20, 1957

PUBLIC SAFETY

**Chemists Stress Safety For Labs and Factories**

➤ **INDUSTRIAL AND ENGINEERING** chemists attending the American Chemical Society meeting in Miami discussed the need for active safety programs and increased safety precautions to keep pace with the rapid advance of their field.

Prof. Mathew M. Braidech of the National Board of Fire Underwriters told the chemists "rapid technological advances are bringing about the use of new and more hazardous materials and processes, which are posing important safety and protective problems."

The chemical industry could not have reached its present remarkable growth without giving primary consideration to safety codes and technical standards, he said.

Prof. Braidech urged the pooling of practical skills and technical talents through national technical committees representing the various fields concerned. More than 75 laboratories employing nearly 1,800 scientists and technicians are devoting their attention to technical problems of fire and explosion safety.

Dramatic accidents such as explosions and fires are not the only safety problems faced by the chemical industry. J. B. Williamson, chairman of the labels and precautionary information committee, Manufacturing Chemists' Association, said it is the responsibility of the chemical manufacturers to educate customers in the proper and safe use of their products.

The most practical means for giving needed information, he stated, is by warning labels and precautionary statements affixed to the containers.

Science News Letter, April 20, 1957

PUBLIC HEALTH

**Mud Pies and Paper Hats Guilty of Murder**

➤ **MUD PIES** made from liquid solutions of insecticides and hats made from empty bags containing residues of insecticides were named as two typical killers of children at the American Chemical Society meeting.

Careless use of pesticides causes the death of 100 to 150 persons each year, Dr. Bernard E. Conley, secretary of the American Medical Association's committee on pesticides, reported.

"Most of these accidents," Dr. Conley warned, "could be prevented if those sirens of disaster, ignorance and carelessness, could be thwarted. For example, deaths regularly occur because insecticides are temporarily stored in bottles that once contained wine, whiskey or soft drinks."

Cautioning the meeting that pesticide poisoning is a complex problem with no simple or pat solution, Dr. Conley asked for a wider publicity program to alert the public to safety awareness in the use and handling of the insect-killers.

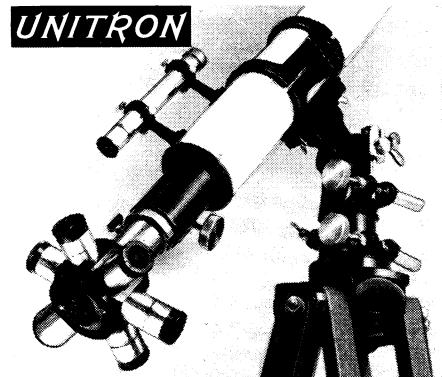
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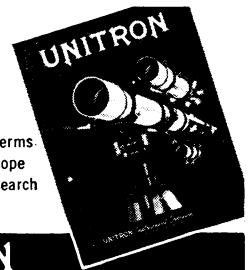
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