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Seven Urgent Investigations Going Aerosol Gas Causes Deadly Canc

BY JOHN SAAR

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Washington Post News Service

Washington — Before it was identified earlier this year as the carcinogenic killer of 12 industrial workers vinyl chloride was accepted as a cheap and almost innocuous gas with a variety of uses. Pressurized into consumer-sale aerosol cans, it served as the propellant for insecticides and hair-sprays; as the base ingredient in a common plastic — polyvinyl chloride (PVC) — it is omnipresent as bottles, pipes, wrapping, car upholstery, phonograph records and sundry other products.

With dramatic speed over the last few months, our understanding of the apparently compliant slave gas has been unpleasantly changed. Unmasked by an Italian research chemist, it now stands convicted in the deaths by a rare and invariably fatal liver cancer of the 12 plastics workers in the last 13 years.

6,500 Workers

The relationship between vinyl chloride and angiosarcoma — a liver cancer which generally kills an average of only 21 persons a year in the United States — is the latest of the chemical time bombs to threaten our industrial workers and, if the forebodings of some researchers are borne out, it may be the worst.

That suspicion is under high priority investigation by at least seven governmental and medical research groups.

They want to know exactly what the health risks are for approximately 6,500 people who work in 37 plants where vinyl chloride is polymerized to polyvinylchloride.

Beyond that, there is an urgent need to establish the hazards, if any, for thousands of others who fashion PVC into products and for the public at large which uses them.

Found First in Mice

The world health board

With responsibility for governing vinyl chloride use falling between the overlapping jurisdictions of several federal agencies — all adjusting at differing speeds to new knowledge on the gas — some important gaps still exist.

The recent history of vinyl chloride shows a helter-skelter pattern of scientific initiative and governmental response:

- Jan. 20, Dr. Joseph A. Wagoner, director of NIOSH's field investigation division, begins an epidemiological study of four long-established PVC manufacturing plants. At this time the research is occupying 18 out of 32 people on his staff. One branch has shut down work on every other project to handle the vinyl chloride emergency.

- In mid-February, Italian scientist Cesare Maltoni told a hurriedly assembled OSHA hearing that two out of 67 rats subjected to daily dosages of vinyl chloride developed angiosarcomas. At a very high level of 6,000 parts per million, 11 out of 72 rats developed the rare tumors. However, the bombshell in Maltoni's findings that led to an immediate emergency revision of the industrial atmosphere levels then standing at 500 PPM was the statement that some rats developed the tumors at 250 PPM.

- Feb. 21, the FDA was asked by the health research group to ban and name cosmetics employing vinyl chloride as a propellant on the basis of "well-documented carcinogenicity." A similar petition went to EPA Administrator Russell Train, calling for suspension of vinyl chloride products regulated by the EPA. The Health Research Group (HRG) is a privately funded organization.

- March 23, responding to

- April 24, citing those tests and the easy availability of substitute gases. Train signs an order banning all vinyl chloride products uses.

has been exposed at a quickening pace since animal researchers found several months ago that mice and rats dosed with the chemical developed angiosarcoma. This was followed by discovery of the same type of rare tumor among workers with vinyl chloride.

Last January, B. F. Goodrich announced the death of three longterm employees at the Louisville polyvinyl chloride plant with the significant addendum that the company was investigating whether the deaths "were related to occupational causes."

Since then, 94 consumer products containing vinyl chloride either have been voluntarily withdrawn by manufacturers or banned from sale by the EPA and FDA. These included 41 aerosol pesticides for household use, 26 home and professional hairsprays, 13 deodorants and antiperspirants.

Emergency Rule Changes

The radical change in attitude toward the colorless gas is reflected in Department of Labor regulations on the exposure of industrial workers. Previous regulations limiting workers to 500 parts per million were based on avoiding combustible concentrations and toxic levels sufficient to cause dizziness and nausea. A new emergency standard limiting exposure to 50 parts per million is now in force and the Occupational and Safety Health Administration (OSHA) plans to seek a permanent standard of no measureable level.

The perceptions of vinyl chloride as dangerous in any amount leads to comparison with the levels accepted as reasonable by the chemical industry as late as January of this year. Vinyl chloride readings declared by the companies themselves ranged in ordinary production from 20 to 100 ppm. But occasional very high readings were admitted. The plastics division of Uniroyal at Painesville, Ohio, for instance, told NIOSH researchers that workers scaling the vessels in which PVC is made were briefly exposed to levels as high as 1,600 ppm.

cludes, the EPA states it has no listing of products containing vinyl chloride and is sending a warning letter to all 35,000 pesticide manufacturers suggesting substitution of another gas.

• March 26, HRG — unsuccessful in persuading Clairol to withdraw vinyl chloride-powered hairsprays from the market — takes the dispute to the FDA in a letter to the administrator, Dr. Alexander N. Schmidt. The substance of the HRG's case was Clairol's admission that users of the sprays were exposed to 200 ppm for one-minute duration. The HRG director, Dr. Sidney M. Wolfe, reproved the FDA. "Whereas this inaction by the FDA must be welcome and financially beneficial to Bristol-Myers and its Clairol subsidiary, it may be fatal for many unsuspecting citizens of this country."

• April 3. The FDA announces action to end the use of vinyl chloride in products under its control. The order concerns three manufacturers and about 50 products. Calling the hazard to hairspray users "extremely remote," Clairol Inc. nevertheless announces the recall of 100,000 cans of Summer Blonde and Miss Clairol aerosol hair sprays.

• April 5, in response to a March 11 recommendation from NIOSH that the acceptable industrial level should be zero, the Department of Labor announces an interim emergency level of 50 ppm.

• April 17, the EPA identifies 20 products containing vinyl chloride, leaves 21 more unnamed pending manufacturers' approval of their publication.

• April 19, EPA Administrator Russell Train hears the result of crucial experimentation by his own people. Under test, pesticides on public sale raised the vinyl chloride concentration in a small room such as a bathroom to 400 ppm in a 30-second burst. Without light or ventilation, the researchers reported to their chief, the concentration of gas diminished by only 1 per cent in a four-day period.

One-Third of U.S. Output From Houston Area

A few weeks ago, a Washington scientific group, the Center for Science in the Public Interest, cited the Houston-

chloride present in the air.

Harris County pollution chief Walter A. Quebedeaux, however, was critical of the