

CANCER DEATHS AMONG PVC WORKERS CAUSE CONCERN

Long-existing concern over possible health hazards to workers in firms making polyvinyl chloride and vinyl chloride intensified dramatically last week with a disclosure that indicates there may well be a serious occupational disease problem—one involving cancer.

B. F. Goodrich Co. voluntarily revealed to federal and state officials that since 1971 three blue-collar workers at its PVC resins plant at Louisville, Ky., have died from a very rare form of liver cancer, two in 1973 and one in 1971. The cancer—angiosarcoma—is so rare that federal authorities estimate that deaths throughout the U.S. from this cause total only 21 per year.

Alerted to the deaths, federal experts and safety inspectors rushed within 48 hours to the plant. Dr. Marcus M. Key, director of the National Institute for Occupational Safety and Health, says that his agency will step up its effort to determine the extent of the disease in the U.S. and in foreign countries with similar manufacturing processes.

NIOSH plans to develop, on a crash basis, criteria for stringent work practices for use in the polyvinyl chloride process. An agency spokesman tells C&EN the criteria might be ready in several weeks.

The deaths were among BFG employees who worked in some phase of the PVC polymerization operation, but not in drying, finishing, or other areas. They had worked for BFG for 15 to 28 years.

Dr. Maurice N. Johnson, BFG's director of environmental health, stresses that the causes of death are subject to verification and that the company is probing to see whether they are occupationally linked.

Neither company officials nor federal experts are certain now what the suspect carcinogen may be, if the deaths are due to job exposure. And apparently there is no violation of the federal standard for exposure to vinyl chloride vapors of 500 p.p.m. of vinyl chloride on a time-weighted-average basis. BFG says maximum exposures in its plants have ranged from 50 to 100 p.p.m., with possibly higher exposures but not for long periods.

Dow Chemical, a major vinyl

chloride maker, urged use of a 50-p.p.m. exposure level in the literature in 1961 and adopted it as a company standard some 15 years ago. Regular physical examinations for Dow workers support the safety of this level, says Dr. Etcyl H. Blair, health and environmental research director. But last summer Dow warned all of its U.S. vinyl workers of a "potential problem," based upon results of an Italian research study that found tumors in rats administered 30,000 p.p.m. of vinyl chloride.

To its credit, BFG's voluntary alert is the first such notice ever made to NIOSH by a firm for a serious health problem. But the ensuing probe seems likely to shake operators of the 36 existing PVC resin plants in the U.S. as well as another 14 vinyl chloride plants.

Lift price curbs on plastics, SPI urges

Citing high overseas prices luring plastic resin supplies from the U.S. market, the Society of the Plastics Industry has petitioned the Cost of Living Council to exempt petrochemical feedstocks, plastic resins, and fabricated plastic products from Phase IV price controls.

The move is a result, according to SPI president Ralph L. Harding, Jr., of "raw material shortages caused by the world energy crisis and artificial domestic shortages attributable to Phase IV price regulations." Mr. Harding says domestic price limits have held resin and

feedstock prices at "abnormally low levels," leading producers to increase exports of these products to more lucrative foreign markets.

The SPI position lines up with that taken by fertilizer makers in their successful bid to have fertilizer industry wage and price controls lifted to ensure adequate supplies for the U.S. market (C&EN, Nov. 5, 1973, page 2). The fertilizer industry victory, however, may be in trouble. The Cost of Living Council is considering placing some new form of price control on the industry in response to what it believes to be excessive price hikes on certain fertilizer products.

In arguing its case to CLC, SPI claims that polyethylene sells for up to 45 cents a pound abroad, compared with a domestic price of about 18 cents a pound, and polystyrene that lists for about 16 cents a pound in the U.S. sells in foreign markets for up to 80 cents a pound. The petition also says that petrochemical feedstocks such as ethylene and benzene sell on foreign markets for as much as four times their domestic price. Thus, SPI claims, "It is not difficult to see how economic conditions have dictated significant sales of plastics resins and petrochemical feedstocks abroad." However, two large petrochemical and resin makers, Dow Chemical and Union Carbide, previously contacted by C&EN, deny that their exports of these products increased significantly in 1973.

To add ammunition to its argument, SPI surveyed plastics processors in the U.S. to assess the effect of resin shortages on production and employment. According to the poll, 73 of the 159 respondents have cut back their operations by an average of 23%, and 52 have laid off an average of 25 employees each.

Harding: to end artificial shortages



Water quality laws need fleshing out

"Believe it or not, industry wants Public Law 92-500 to work," Dr. Monte C. Throdahl, Monsanto's vice president for technology, told government and industry representatives at a conference on industry and clean water, sponsored by Midwest Research Institute last week in Kansas City, Mo. As it stands, he added, the 1972 Water Quality Act appears to be a skeleton, not an enforceable system.

Letters

Federal R&D funding

SIR: It was with interest that I read the letter from Prof. Mueller of the chemistry department of Purdue University (C&EN, Nov. 5, 1973, pages 36 and 34) concerning federal R&D funding. I share his bewilderment over such phrases as "new highs in basic research support from federal funds." If, indeed, these new amounts of money are being supplied, little if any is going into what most academic chemists would call basic research. I do not know if Mueller was suggesting a poll, but we as a department have experienced at least the 30% decrease in funding he mentioned in the time period 1967-72.

One source of the gloom that was mentioned in Mueller's letter appears to be some of the new funding policies of the Chemistry Section of the NSF. This is a traditional source of a significant portion of the basic research funds of chemistry departments. The situation has three important facets: 1. The budget of the Chemistry Section has come no place close to increasing at a rate even matching the inflation. 2. M. Kent Wilson reported at a meeting at the recent national ACS meeting in Chicago that because the funds were becoming more scarce, it was becoming necessary to make fewer grants of larger amounts of money so that at least a few scientists could be supported at a level so that they could accomplish something. 3. Recent renegotiations of the overhead levels have further decreased the fraction of the meager funds that can be used scientifically.

It seems likely that at least for a while all but a few chemists will find cheap basic research the only possible kind!

G. A. Gallup
Professor of Chemistry, University of Nebraska, Lincoln, Neb.

'Tis an Indian freighter

SIR: I was shocked to see in your Dec. 24, 1973, issue (page 12) that you illustrated your article entitled "U.S. trade balance will move into black" with a photograph of a ship bearing a large swastika emblem on its bow (or stern).

Would you please explain the origin of this picture and why it was chosen to illustrate this article?

David Gutman
Associate Professor, Illinois Institute of Technology, Chicago, Ill.

Editor's note: The ship in question is an Indian freighter, registered in Bombay. It is loading fertilizer.

Energy overreaction?

SIR: I want to congratulate Dr. Kenyon for his timely editorial (C&EN, Dec. 10, 1973) warning about the danger of overreacting to the energy crisis. For the sake of the new members and others with short memory, I would like to point out that he wrote almost 10 years ago (C&EN, June 8, 1964) another editorial discussing the dangers of the overproduction of scientists. Unfortu-

nately his prophetic voice was unheeded at that time or dismissed as an unrealistic, pessimistic view. Dr. Kenyon very modestly has refrained from saying, "I told you so."

Being a scientist does not make anyone infallible; therefore, anyone can make a mistake. But while the first mistake can be understood and forgiven, to do the same thing all over again cannot be tolerated. It would be either stupidity or a deliberate crime; neither of them has any place in our institutions dealing with the education of future scientists. We feel directly the energy shortage, but this should not create hysteria (real or pseudo) in the logical atmosphere of academic circles. It must not be used as a cover for an uncontrolled increase in the production of scientific manpower such as we experienced in the sixties. Such action would be irresponsible and would result in an almost catastrophic backlash against our higher educational system.

Our educators should be good enough scientists to know how to draw the correct conclusion from previous unsuccessful experiments. I have faith in their improved vision to read the handwriting on the wall. To use Dr. Kenyon's symbolism about the alcoholic: Someone on the wagon should know that falling off from it could be dangerous. One could be crushed under the wheels!

Attila E. Pavlath
Councilor, ACS California Section

Instrument care

SIR: In response to Rebecca L. Rawls' article, "Money pinch tightens university operations" (C&EN, Dec. 24, 1973, page 30), there is a method that chemistry departments could use to save money, and in addition give their faculty and students a broader educational experience.

There is a growing awareness that today's chemist needs more "practical experience" in addition to book learning. One area that is sorely lacking is instrument care and repair.

If a person has enough intelligence to obtain a degree in the physical sciences, certainly that person should be able to learn enough electrical horse sense to look after simple chemical instrumentation.

Thus, a chemistry department might offer a course entitled, "Electrical Horse Sense." All interested personnel, broken instruments, and people with electrical horse sense would gather in one room and look into the logic and practice of simple repairs.

This plan would cut repair bills, and might make purchases of new instruments less frequent. In the long run, science dollars might go further.

Brian D. Warner
Department of Chemistry, Washington State University, Pullman, Wash.

Correction

SIR: This letter is in regard to your article entitled "Who will produce enriched uranium?" (C&EN, Dec. 3, 1973, page 8). On the first page of that article there is a photograph titled "Paducah, Ky., facility . . ."; the title is unfortunately incorrect.

The photo is in fact an aerial view of Union Carbide's K-25 plant in Oak Ridge, Tenn. It is correct that the facility is used in producing enriched isotopes by gaseous diffusion.

Richard C. Dickinson
Research Fellow of the Robert Welch Foundation, Arlington, Tex.

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