

DISTRIBUTED TO ALL EMPLOYEES OF THE CALVERT CITY PLANT 25 JAN 1974

To: All Employees Calvert City and Pace Plants

Subject: Press Reports Concerning Cancer Deaths
of B.F. Goodrich Plant Employees

On January 23, 1974 the B.F. Goodrich Company released the following statement to the news media:

AKRON, Jan. 23 -- The B.F. Goodrich Company today reported that it informed Kentucky health officials and the Federal National Institutes of Occupational Safety and Health that the Company is investigating whether the cancer deaths of three employees in the polyvinyl chloride operations at its Louisville, Ky. plant were related to occupational causes.

Dr. Maurice N. Johnson, the Company's director of environmental health, said he had recently received medical reports concerning the death of an employee late in December. A review of medical records uncovered that two other employees had apparently died from the same cause -- one in September, 1971 and one in March, 1973. The reported causes of death are subject to verification.

"Awareness of this grouping," said Dr. Johnson, "warranted a thorough investigation and prompt notification of the two government agencies most directly concerned."

The B.F. Goodrich Company has been conducting programs to reduce exposures to hydrocarbons, particularly vinyl chloride, throughout its operations. While all plants were operating at levels well below those prescribed by Federal Government standards, a successful effort has been made to reduce levels in these plants to approximately one-tenth those specified.

These efforts have included development of the most sophisticated monitoring systems now known; strict rules on procedures where exposure might be increased; a complete checking of all pipes, valves and similar equipment to prevent leaks, and extensive improvements in ventilation systems.

"The death in December, considered in relation to the two previous similar cases, has caused us to initiate intensive investigations throughout the vinyl products operations of the Company," Dr. Johnson said.

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"To be sure we get the best independent evaluation and guidance, the Company has engaged Tabershaw-Cooper Associates, Inc. of Berkeley, California. Dr. Irving R. Tabershaw, one of the country's foremost experts in the field of public and occupational health and safety, is supervising the work of this consultant firm," Dr. Johnson said.

The Company has instituted a program of explaining the new information and steps the Company is taking to all employees involved in vinyl products production. In addition, the Company has put into action a program to reduce exposures to vinyl chloride and other hydrocarbons to the minimum possible in all vinyl operations. Operations of the plants are continuing under the program of minimum exposure levels.

"We are providing medical examinations to all employees involved in any phase of vinyl chloride or polyvinyl chloride production and reviewing available medical records of any deceased former or retired employees," Dr. Johnson said.

"We have assured officials of NIOSH and the State of Kentucky that we will continue to provide them with any significant new information as it develops," he said.

This information was covered in several newspaper reports on January 24, 1974. An article appearing in The Wall Street Journal on January 24 is attached for your further information.

Air Products is endeavoring to obtain all possible information from Goodrich about these reports and the factual background behind them. A meeting of industry representatives is taking place today (January 25) for this purpose in Washington D.C. Dr. A. R. Adams, Dr. Mayo Smith and Mr. John Barr are attending for Air Products. At this moment our knowledge of the Goodrich circumstances is limited to the press release quoted above and the newspaper accounts we have read. Your company will do everything possible to develop a full understanding of the situation and to keep you thoroughly informed on a current basis.

As you read and think about these reports please bear in mind the following points:

1. The Goodrich statement relates to three cases of cancer of the liver incurred by employees who worked at its PVC resin and compound plant at Louisville, Ky. Goodrich operates four additional PVC plants in the United States and two in Canada and a large vinyl chloride monomer plant in the United States on which they have not reported similar problems.

2. Goodrich, and now public authorities, are investigating whether the deaths reported are related to occupational causes. No conclusion has been drawn about this as yet, except that such an investigation seems indicated by the circumstances observed.

3. A comprehensive review of our own personnel and medical records is underway at Pensacola and is essentially complete at Calvert City. At this time we know of no occurrences of liver cancers among employees who have worked at either of our plants since those plants started operation. We will definitively determine whether this is the case as quickly as available information sources permit. This will require tracing retired or otherwise terminated personnel. You will be kept informed of any new findings from this study as they are developed.

4. We will provide a program of medical examinations for all employees who have had any extensive involvement in PVC operations. This requires the formulation of an appropriate examination procedure and testing program and the arranging for the services of a highly skilled medical specialist to prepare and supervise them. The search for such a doctor has been started.

5. The Goodrich report is the first of which we are aware that indicates occupational exposure of workers in PVC polymerization facilities may be related to cancer of the liver. The situation of the Borden, Inc. plant mentioned in The Wall Street Journal article is quite different. The Borden plant processes resin into finished products, the reported illnesses are not the same, and the materials suspected in that situation are non-PVC components used in processing operations. The Borden case is still being studied.

6. In common with many other materials, government regulations have set limits for concentrations of vinyl chloride monomer in the air of plants handling this material. Like Goodrich, Air Products has been working to reduce worker exposure to vinyl chloride vapors for some period of time. We are attempting to accelerate delivery of equipment that has been ordered that will permit automatic analysis and monitoring of air concentrations and improve ventilation. An extensive review of additional possible measures will begin immediately. Although much has already been done, much more can be done. This requires the effort and cooperation of each employee involved. Your suggestions as well as your personal dedication to this goal are expected.

7. It will be clear that vinyl chloride is only one of many chemicals in use in PVC plants. No two companies use precisely the same mix of chemicals. Because of this, we cannot know how the exposure situation at Louisville varies from our own. We are trying to find out, to see if this teaches us anything of importance.

8. The firm of Tabershaw-Cooper Associates has been employed for some time by a group of companies in the vinyl chloride monomer and polymer businesses to study the health histories of employees involved in these operations throughout the United States. Air Products has been participating in the sponsorship of these studies. We understand that they are about 80% complete as of now and that no evidence of any situation similar to that reported by Goodrich has yet come from the Tabershaw-Cooper study. This study, and a related study of exposure of laboratory animals to vinyl chloride monomer vapors, have been arranged through the Manufacturing Chemists Association. A press release from MCA on these studies was released on June 28, 1973. A copy of that press release is attached. This program of studies was reviewed with the National Institute for Occupational Safety and Health at that time.

9. There have been reports in the scientific literature regarding potential toxicity hazards of vinyl chloride, as has been the case for many chemicals. The first report of its potential hazard as a cancer causative came from laboratory experiments with animals and was presented by Italian investigators at the Tenth International Cancer Congress held in Houston, Texas in May 1970. This was a preliminary report and was first published in May, 1971. Since publication many imperfections in the work reported have been pointed out

and new work to produce information of greater reliability has been undertaken. The MCA sponsored animal studies are one such effort, but no useful data have yet been reported from this program which is now scheduled for completion in late 1974.

In Summary:

1. The Goodrich report is disturbing.
2. Government and industry will cooperate to thoroughly investigate the situation.
3. Your company has no similar experience as far as we now know. This will be promptly definitively determined. No other similar occurrences anywhere in the world are known to us.
4. Significant measures are underway to:
 - a) Understand the Goodrich situation.
 - b) Relate it to our own situation and experience utilizing the best expertise obtainable.
 - c) Provide you, and Air Products, with a relevant check on the current state of your health if you have been involved in PVC operations to any significant degree.
 - d) Reduce to the practicable minimum and continuously monitor vinyl chloride monomer content of plant air.
 - e) Continue to support and pursue scientific studies of any potential problems related to our operations.
 - f) Continue to invite and obtain cooperation of employees and public officials in assessing and assuring the safety of our operations.

Three Cancer Deaths May Be Job-Related, B.F. Goodrich Says

Former Employees at Louisville
Plant All Were Involved in
Polyvinyl Chloride Operation

By a WALL STREET JOURNAL Staff Reporter
AKRON, Ohio — B.F. Goodrich Co., in a move that sent ripples through the plastics and chemicals industries, said it is investigating the possibility that the cancer deaths of three workers at a plant in Louisville, Ky., may be job-related.

Goodrich said that the workers affected were in its polyvinyl chloride operations, and that they died of angiosarcoma of the liver, a rare form of liver cancer.

Dr. Maurice N. Johnson, Goodrich's director of environmental health, said in the company's statement that he had recently received medical reports concerning the death of an employee in late December. "A review of medical records uncovered that two other employees had apparently died from the same cause—one in September 1971 and one in March 1973," the company said.

It was understood that a fourth death—in 1968—involving a more common form of liver cancer was considered outside the reasonable bounds of the "grouping" of the three recent deaths, all attributed to angiosarcoma.

Goodrich said it had informed Kentucky health officials and the Federal National Institute of Occupational Safety and Health that the company was investigating the possibility that the deaths might be "related to occupational causes."

Will Begin Investigation

Kentucky officials said they had just learned of the situation at the Louisville plant and had asked a medical expert to investigate. In Rockville, Md., a spokesman for NIOSH said a team of experts will arrive in Louisville this morning to begin an investigation.

Dr. Marcus M. Key, director of NIOSH, said the institute also will step up efforts to determine the extent of angiosarcoma in the U.S., and in foreign countries with similar manufacturing processes. A spokesman for the institute said the best information available shows 21 deaths per year in the U.S. attributable to angiosarcoma.

The recent deaths at Louisville, according to Dr. Johnson of Goodrich, involved workers in the company's vinyl products operations. An official of NIOSH said he understood that the workers had an average of 20 years' exposure to various chemicals and agents involved in vinyl operations.

Goodrich said it has been conducting a program to reduce exposure to hydrocarbons, particularly vinyl chloride, throughout its operations. Further steps to limit exposure and to describe the situation to workers in vinyl products production are being taken, the company said.

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Goodrich also said it is providing medical examinations to all employees involved in any phase of vinyl chloride or polyvinyl chloride production, and is reviewing all its medical records of former or retired employees.

About 1,200 persons work at the Louisville plant, of whom about 270 are involved in vinyl products operations.

"Dropping of a Bomb"

Word that the deaths might be job-related spread quickly throughout several industries. Said Louis Beliczky, an industrial hygienist on the staff of the United Rubber Workers union, which has many members involved in vinyl operations at various companies: "I look at this as the dropping of a bomb. It opens up the possibility of a whole new occupational disease."

Mr. Beliczky said he suspected there might be a connection between the Goodrich problems at the Louisville plant and the problems of Borden Inc. at a vinyl-materials plant in Columbus, Ohio. Workers at the Borden plant for several months have complained of a variety of ailments, some believed crippling, which they allege are connected with working conditions.

Rudolph Kaelin, president of the Synthetic Rubber Workers unit representing the Kentucky plant's workers, said some of his coworkers "have been concerned for quite a while" about the possibility of cancer. "With these men dying of it, it makes you wonder," Mr. Kaelin says he has worked with vinyl products for about 15 years; he has been a Goodrich employee for 23 years.

A medical expert at NIOSH, however, said he doubted the difficulties at the two plants were related. He asserted that the problem at the Borden plant has been defined as peripheral neuropathy, a disease that attacks nerves that control muscles in human limbs. The liver afflictions at the Goodrich plant seem unrelated to the problem at Borden, he said.

Goodrich has four other polyvinyl chloride plants—at Avon Lake, Ohio, Padricktown, N.J.; Long Beach, Calif., and Henry, Ill.