

News



The B.F. Goodrich Company

JAN 6 1975

For Release: Immediately

Subject: RECORDS REVIEW REVEALS FOUR
CANCER DEATHS AT SHAWINIGAN
FACILITIES

B.F. GOODRICH CANADA LIMITED

Contact: Trevor L. Jones
Director, Corporate and Public Affairs
Executive Offices; Kitchenar, Ont. M2G 4G6
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SHAWINIGAN, Quebec, Dec. 13--Four former employees of a polyvinyl chloride manufacturing plant here (formerly known as Shawinigan Chemical), acquired by B.F. Goodrich Canada Limited in 1972, had a rare form of liver cancer, angiosarcoma, at the time of their deaths over the past six years, the company has learned.

The presence of angiosarcoma in these cases was discovered by Dr. Fernand Delorme, a pathologist at Centre Hospital Regional de la Mauricie Shawinigan-Sud, after a three-month review of hospital records.

The latest of the four deaths occurred recently, according to Dr. Delorme, and the earliest was in 1968.

Based on information presently available to the company, the deaths follow the pattern of those found earlier this year among workers who had long-term exposure to vinyl chloride gas (VCM) at some plants in the United States and Europe.

The U.S. and European cases involved many years of individual exposure to vinyl chloride gas at levels substantially higher than those generally existing today in plants where the gas is produced or used.

The discovery of several angiosarcoma cases in the United States in January of this year was the first known incidence of human cancer associated with exposure to VCM gas.

After the January discovery, B.F. Goodrich Canada greatly accelerated its plant modernization program at the Shawinigan facility, which was built in 1941. As a result, exposure to VCM gas among workers at the plant has been drastically reduced.

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CMA 013909

Subject to Protective Order in
Ross v. Genaco, Inc., No. 90-483Z
14th Judicial District Court
Calcasieu Parish, Louisiana

(More)

APPENDIX B

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2--RECORDS REVIEW REVEALS DEATHS

The reduction was achieved through a combination of engineering changes, new work practices and additional monitoring devices and safety equipment, all part of the company's continuing, intensive effort to minimize VCM gas in the plant's work atmosphere.

In addition, the company has provided medical examinations and liver function tests for all 200 plant employees.

No other cases of angiosarcoma have been found among employees at BFG Canada's two PVC facilities located here and in Niagara, Ontario.

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Ross v. Conoco, Inc., No. 90-4832
14th Judicial District Court,
Calcasieu Parish, Louisiana

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COMPARISON OF THE MORPHOLOGIC FEATURES OF
HEPATIC ANGIOSARCOMA IN MAN AND RODENTS
FOLLOWING PROLONGED EXPOSURE TO VINYL CHLORIDE

Gordon, D. E. , Thomas, L. B. , Calandra, J. C. , Popper, H. and Kent G.
Industrial BIO-TEST Laboratories, Inc. , Northbrook, Ill. , National Cancer
Inst. , Lab. of Pathology, Bethesda, Md. , Northwestern Univ. Med. Sch. ,
Chicago, Ill. , and Mount Sinai Sch. of Med. , New York, N. Y.

A causal relationship has been established between the development of hepatic angiosarcomas among workers engaged in the polymerization of vinyl chloride. The histologic features of similar hepatic tumors that developed in rodents (mice and rats) within one year after exposures of 2500, 200 and 50 ppm. of vinyl chloride for seven hours a day, five days a week, were compared with 14 cases of those that have occurred in man. To date, the incidence of hepatic angiosarcoma in rodents has been related to the level of exposure to vinyl chloride. Despite dissimilarities between rodent and human lesions, such as minimal fibrosis in mice, the basic evolution was the same. The earliest lesion was focal dilation of sinusoids in which the lining cells were increased in number, piled up and exhibited hyperchromatic and bizarre nuclei. Subsequently, sarcomatous lining cells enveloped plates of hepatocytes which were hypertropic and hyperplastic. They became cords surrounded by proliferated lining cells of different types in papillary arrangement associated with blood-filled cavities resulting from sinusoidal ectasia. Eventually, nodules of anaplastic sarcomatous cells with vascular spaces developed with hemorrhage and necrosis. This characteristic evolution common to animal and man indicates a specific and identifiable effect of vinyl chloride or its metabolites upon hepatic mesenchymal and epithelial cells. It enforces the causal relation of vinyl chloride exposure to angiosarcoma formation, but also assists in the exclusion of vinyl chloride as cause of some angiosarcomas of different appearance.

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14th Judicial District Court
Calcasieu Parish, Louisiana

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APPENDIX C

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Industrial **BIO-TEST** *Laboratories Inc.*

1810 FRONTAGE ROAD
NORTHBROOK, ILLINOIS 60062

TOXICOLOGY
ENVIRONMENTAL SCIENCES
CHEMISTRY
PLANT SCIENCES
MEDICAL SCIENCES

AREA CODE 312
TELEPHONE 272-3030

December 9, 1974

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Subject to Protective Order in
Ross v. Conoco, Inc., No. 90-4837
14th Judicial District Court
Calcasieu Parish, Louisiana

Mr. Albert C. Clark
Vice President and
Technical Director
Manufacturing Chemists Association
1825 Connecticut Avenue, N. W.
Washington, D. C. 20009

Dear Al:

Re: Vinyl Chloride Project

This is a letter which I would like you to submit to the Vinyl Chloride Committee through Ken Johnson and Ted Torkelson. As you are aware, we received the contract for this project through competitive bidding. The costs were quoted for what appeared to be a straight-forward inhalation study. As the results indicate, it has been much more than an ordinary toxicology test. The findings have resulted in an expenditure of considerable additional effort and cost to BIO-TEST.

Certain additional items have been accepted by us as a contribution to the scientific community, to the chemical industry and to the general public. A few such items are considered our obligation.

As you can imagine, however, we have spent considerable time and funds in the interests of the vinyl chloride producers and users far in addition to those estimated in our original quote. In view of this we would like you to consider reimbursement of certain of our costs for the additional work. Most of the costs have incurred from the great amount of time spent by Dr. Gordon and our other pathologists, as well as the time of Dr. Goode and myself.

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APPENDIX D

CMA 013912

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The extra work started with the meeting here on April 15, 1974, to discuss tumors found in the mice. Some examples of additional effort are as follows:

- April 30, 1974 - Met with representatives of EPA.
- June 16 & 17, 1974 - Met with representatives of NCI to review animal tumors.
- September 3 & 4, 1974 - Met with representatives of NCI to review human tumors.
- September 5, 1974 - Special sacrifice for cytogenetic work with Dow Chemical.
- October 28, 1974 - Met with Dr. Thomas of NCI.
- October 29, 1974 - Met with Dr. Thomas of NCI and pathology meeting in Chicago.

These are only a few examples of additional meetings and trips for this project. Others are too numerous to mention.

Because of the angiosarcomas in the livers of mice, we were asked to check background data. This meant careful review of our catalog of mouse liver slides, by our pathologists, to check for spontaneous incidence. As you might guess we have several thousands of these.

Most of you recall, I testified during the OSHA hearings in June 1974, for SPI and for MCA. I charged SPI for certain expenses which were considered their share of preparation and presentation of the testimony. I have not charged MCA for their portion.

For all of this extra effort to date, our costs amount to about \$20,000. We certainly would appreciate your presenting this request to the sponsors for their consideration of reimbursement.

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Subject to Protective Order in
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14th Judicial District Court
Calcasieu Parish, Louisiana

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CMA 013913

Mr. A. C. Clark

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December 9, 1974

I will be glad to answer questions or provide additional details at your request.

We hesitate to request additional funds, but we feel that the actions taken were in the best interests of the sponsors and of MCA. These additional efforts were expended without hesitation or consideration of reimbursement funds.

Sincerely yours,



M. L. Keplinger, Ph. D.
Manager, Toxicology

MLK/kjl

cc: Dr. T. R. Torkelson

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Calcasieu Parish, Louisiana

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Vinyl Chloride Research Program
Financial Statement - November 30, 1974

	Invoiced (Committed)	Received	Research Contract	Admin- istrative	Disbursements			Balance
					Purchases	Research Contracts	Total	
1. Epidemiology study Tabershaw/Cooper Associates (a) Health Study of VC Workers (6/13/73) (b) Adjustment - Travel (8/16/73) (c) Adjustment - Extension (3/16/74) (d) Petition of data (7/13/74) (e) Study of Workers - 4 Plants (11/5/74)	\$ 91,940	\$ 91,940	\$ 71,345 \$ 3,950 \$ 5,250 \$ 1,000 \$ 10,350	\$ 45	.	\$81,545	\$81,590	\$ 10,350
2. Chronic Inhalation Studies Industrial BIO-TEST Labs (a) Original-Protocol 2/1/73 (2/1/73) (b) Additional Animals - 100 rats (5/22/73) (Restart-Agreement 8/31/73)	\$190,281	\$190,281	\$149,000 \$ 15,000	\$2,665/ ¹	\$ 279/ ²	\$60,875 \$55,875 \$ 5,000	\$63,819	\$126,462 (\$93,125)/ ³ (\$10,000)/ ⁴
3. Dow Studies (a) Metabolic (b) Teratology	\$101,250	\$100,050	\$ 50,000 \$ 20,000			\$50,000 \$20,000		\$ 30,050

Note 1 - Travelling Expenses Gasque, Kociba and Torkelson to Italy
2 - Cylinders for Vinyl Chloride
3 - Less \$37,250 due IBL December 1974
4 - Less \$5,000 due IBL December 1974

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APPENDIX E

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