

D. O. Popovac

Page 2

The following are suggested comments on the proposed program.

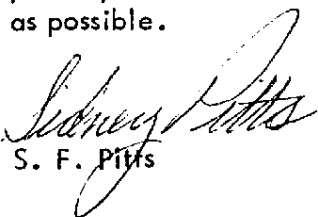
A. Test Program

1. The test program established should definitely include vapor concentration levels of practical exposure (500 ppm and 100 ppm).
2. While some parts of the program should be directed at confirming or denying Dr. Viola's results, a major factor should be to develop pathological studies aimed at suggesting the cause mechanism.

B. Financing

1. A large percentage of U. S. monomer and PVC producers should participate (80 to 90%).
2. Individual company participation should be on a pro-rata arrangement, based on production capacity percentage as shown in various public data.

We should discuss this proposed program and determine if we, as a company, wish to participate and under what conditions, so that our comments can be submitted as soon as possible.


S. F. Pitts

mc
Enc

VVC 000001274

L. N. Vernon

D. O. Popovac

November 22, 1971

Manufacturing Chemists Association—VCM Toxicity Subcommittee

CONFIDENTIAL

The attached letter by Mr. S. F. Pitts summarizes the actions taken at the MCA meeting in Washington, regarding VCM toxicity. I recommend that we participate in the program. If you concur, we will submit our comments on the proposed program as shown. Please let me have your comments at the earliest opportunity.

Original Signed By
D. O. POPOVAC

D. O. Popovac

mc
Enc
CC:
JDBu-WCB
Each w/att

VVC 000001272

Interoffice Communication

To D. O. Popovac
From S. F. Pitts
Date November 18, 1971
Subject Manufacturing Chemists Association--VCM Toxicity Subcommittee

On November 16, 1971, a meeting was held in Washington, D. C. under MCA sponsorship, to discuss an industry-supported testing program of the reported carcinogenic effects of vinyl chloride monomer. Represented at the meeting were various monomer and PVC producers including ICI and Solvay.

The original research work on this subject was directed by Dr. P. L. Viola in Rome, Italy. There was some indication that it grew out of acroosterolysis (AOL) studies and was in some way backed by Solvay. The initial animal inhalation studies were with acetylene based VCM with unknown impurities (1 to 3% estimated). A copy of the research paper is attached.

Information presented at the meeting is that additional work by Dr. Viola is in progress using lower concentrations. Positive response (tumor development) was reported in 10 to 15% of the animals at 5000 ppm using equally mixed acetylene and EDC derived VCM.

The basic purpose of the meeting was to present recent information on the subject and to determine if VCM interests in the U. S. wish to support further research into this potentially serious problem. It was felt by those representatives attending that there should be additional research work undertaken. How the testing should be carried out and funded was discussed, but no decisions were made.

A group of three individuals was appointed to collect comments from each company on test procedures and how the research should be financed. These comments should be made as soon as possible as a target date of December 15, 1971 has been set for the group to report back.

Some quotes from various testing labs have been received. The lowest from an acceptable lab is \$183,000 for a two-year study. The funding would be through MCA on a pro-rata or equal share basis. Once the test procedure and definite costs are established, each interested company would be polled by mail ballot for whether or not they desire to financially participate.

VVC 000001273



MANUFACTURING CHEMISTS ASSOCIATION

1825 CONNECTICUT AVENUE, N. W. • WASHINGTON, D. C. 20009 • (202) 483-6126

November 19, 1971

To: Participants in the November 16, 1971 Vinyl Chloride Conference

Subject: Report on Proceedings of the Conference Held at the Hotel Washington, Washington, D. C.

Attendance:

Anthony, M. V.	Stauffer Chemical Company
Bell, Z. G.	PPG Industries, Inc.
Cassidy, L. E.	Canadian Industries, Ltd.
Duffield, D. P.	ICI Ltd.
Fedoruk, J. C.	Allied Chemical Company
Fritz, R. J.	Esso Chemical Company
Gabbett, J. F.	Pantasote Company of New York
Hendricks, N. V.	Standard Oil Company (N.J.)
Johnson, M. N.	Monsanto Company
Johnson, K. D.	Manufacturing Chemists Association
Knapp, W. A.	Allied Chemical Company
Knoepfel, R. W.	Solvay American
Lefevre, M. J.	Solvay et Cie
Lindquist, A. B.	Stauffer Chemical Company
McCormick, W. E.	The B. F. Goodrich Company
Madden, W. W.	Firestone Plastics
Mudd, J. R.	General Tire & Rubber Company
Pitts, S. F.	Continental Oil Company
Siegel, A. C.	Tenneco Chemicals, Inc.
Sheth, K. K.	Allied Chemical Company
Smith, W. M.	Air Products and Chemicals, Inc.
Torkelson, T. R.	The Dow Chemical Company
Weekers, Pierre	Solvay et Cie
Wheeler, R. N.	Union Carbide Corporation
White, N. G.	Shell Chemical Company
Zwicker, B.M.G.	The B. F. Goodrich Company

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Our present awareness of the alleged carcinogenicity of vinyl chloride monomer has resulted from studies begun in an effort to elucidate the mechanisms of pathogenesis of the acroosteolysis seen in some vinyl chloride workers. As most of the companies represented at this meeting were participants in, or otherwise

- (2) If impurities are implicated, are the significant contaminants uniquely related to one or another of the commercial vinyl chloride synthesis methods?
- (3) If the pertinent carcinogen can be identified, can a "no-effects" level be demonstrated?

Inasmuch as the material used by Dr. Viola was of undocumented composition, and variously noted to contain from 1 to 3 percent impurities, and whereas American commercial practice now may specify total organic impurities to as low as 100 ppm (99.99% assay), some hope, but not great confidence, was expressed that it could be shown that Dr. Viola's results were attributable to the impurities in his sample. Mr. Knoepfel volunteered to attempt to identify the production lots from which Dr. Viola had secured his samples, and to secure available analytical data on such lots. The qualitative list of the impurities reported by Dr. Viola as present in his material is appended to this report of proceedings.

Mr. McCormick reviewed the test protocol his group had suggested, and expressed his view that current plans should contemplate the eventual need of an epidemiological survey of workers with possible exposure to potentially carcinogenic concentrations of atmospheric contaminants in vinyl chloride operations. He commented thereby that the \$183,000 low bid must be considered as just the start of the anticipated project costs, and that any epidemiology or protocol expansion could substantially increase the funding requirements.

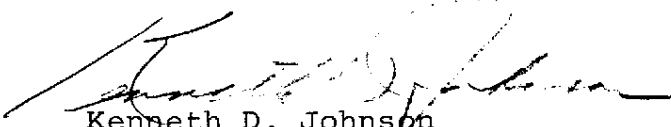
The suggestion that research costs be reduced by limiting the tests with acetylene-derived material to the highest exposure level only, primarily as a "positive control," received general support.

The problems of defining routes of funding or concurrence on a specific test protocol led to the decision to appoint a smaller study group to reach agreement on these points and to report the results of their deliberations in the form of a specific research proposal with specific funding requirements and mechanisms. One of the major questions posed to this group was the extent to which tests should be planned on a concurrent basis, to save time, or on a sequential basis, to minimize investment in tests subsequently shown to be unnecessary or non-informative.

The main conference adjourned at 2:45 P.M., and the Planning Group convened. They agreed that:

- (1) vinyl chloride manufacturers should be solicited for analytical data on their commercial grade of vinyl chloride, listing identified impurities and their characteristic ranges, methods of analysis, and limits of detection;
- (2) their interest be determined in contracting for the provision of a supply of vinyl chloride of uniform quality over the life of the research project, including their proposed specifications and analytical verification of specification conformance;
- (3) the Planning Group's proposal should include a recommendation for funding on a sharing of costs prorated among participating vinyl chloride producers and polymerizers on the basis of total capacity (monomer synthesis plus PVC production, each taken separately, as published in Oil, Paint and Drug Reporter and/or the Stanford Research Institute's Directory of Chemical Producers, is shown in attachment to this report);
- (4) that discussions with the offering laboratories be continued to clarify cost changes associated with suggested protocol modifications, and that Drs. Lane, M. N. Johnson, and Torkelson and Messrs. Hendricks and McCormick review test protocols in the light of new information developed at the conference, and prepare recommendations on a "best value" research protocol; and
- (5) the next meeting be held in Washington, Tuesday, December 14, at 9:00 A.M. (as the MCA Conference Room is not available at that time, MCA will arrange for a meeting room space in a convenient hotel, and will notify members of the Planning Group as soon as space can be confirmed.)

Respectfully submitted,


Kenneth D. Johnson
Staff Representative

Reported Production Capacity
Million Pounds/Year

Company	Vinyl Chloride Monomer	Poly- vinyl Chloride	Total	Percent * of Total
Air Products & Chem.	---	170	170	1.9
Allied Chem. Corp.	300	140	440	4.9
American Chem. Corp.	170	70	240	2.7
Atlantic Tubing & Rubber	---	100	100	1.1
Borden, Inc.	---	240	240	2.7
Continental Oil Co.	600	155	755	8.4
Diamond Shamrock	---	250	250	2.8
Dow Chemical	1220	---	1220	13.6
Ethyl Corp.	420	125	545	6.1
Firestone T & R	---	240	240	2.7
General T & R	---	75	75	0.8
B. F. Goodrich	1000	600	1600	17.8
Goodyear T & R	---	90	90	1.0
Great American	---	70	70	0.8
Keysor Century	---	50	50	0.6
Monochem	300	---	300	3.3
Monsanto	---	150	150	1.7
Occidental Petroleum	---	360	360	4.0
Olin Corp.	---	150	150	1.7
Pantasote Co.	---	110	110	1.2
PPG	800	---	800	8.9
Stauffer	---	150	150	1.7
Tenneco	255	190	445	4.9
Union Carbide	---	350	350	3.9
UNIROYAL	---	135	135	1.5
	5065	3970	9035	100

*This column represents the approximate share of project costs that would be borne by the indicated company if all named companies elected to participate. Since this is not likely, percentage costs prorated among participating companies may be expected to be somewhat larger than that shown.

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