UNION CARBIDE CORPORATION
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R. N. WHEELER, JR.

From: A. B. Steele Date: April 19, 1974

cc: See Attached List Subject: Formation of the VCM/PVC Industry Management Committee Within the Society of the Plastics Industry

PURPOSE: The recent increase in concern that vinyl chloride monomer exposure may induce liver cancer in workmen has given rise to a proposal that the monomer and PVC resin producers form a single, unified action group to deal with the various phases of the problems that now confront the industry. In the recent past, coordinated effort to cope with the special problems relating to regulations by OSHA, NIOSH, EPA, and FDA have been handled by the management representatives of the group of vinyl chloride and polyvinylchloride resin producers involved in the Vinyl Chloride Research Program administered by the Manufacturing Chemists Association. Because the charter of the MCA makes it awkward to have specialized segments of the industry operating under its sponsorship, the VCM/PVC Industry Management Committee held an Ad Hoc meeting in Washington, D.C. on April 16, 1974, and decided to form a permanent action group within the Society of the Plastics Industry where Bylaws of SPI are compatible with present industry needs.

SPI COORDINATION: Mr. Ralph L. Harding, Jr. will coordinate the activities of the VCM/PVC Industry Management Committee; Jerome H. Heckman of Keller and Heckman, 1150 17th Street N.W., Washington, D.C. will provide legal advice.

For the present, the MCA-administered projects (animal exposure studies at Industrial Bio-Test Laboratories, Inc. and the study of the health of vinyl chloride workers by Tabershaw-Cooper Associates) remain within the administrative control of the MCA. Further additional studies that may be authorized by the Management Committee from time to time will be administered by the SPI.

INDUSTRY MANAGEMENT COMMITTEE ACTIONS:

In recognition of the substantial amount of effort that will be needed to represent properly the interest of the VCM/PVC producers in actions relating to vinyl chloride exposure of workmen in monomer, polymer, and fabrication plants, the following decisions were reached:

1. VCM/PVC producers form a single, unified group to deal with all of the phases; actions to be taken with OSHA, NIOSH, EPA, FDA, and other agencies will be on a groups basis rather than each producer acting as an independent agent. Each producer reserves the right to withdraw support and endorsement if the producer is unable to accept the proposals or representations of the Industry Management Committee.

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2. The SPI to provide administrative guidance, staff support, and legal direction; costs to be covered by assessment of each Industry member, using a sliding scale relating to production of vinyl chloride monomer and/or PVC resins, within the general pattern now used by MCA in raising monies for the several research projects relating to vinyl chloride.

3. A Steering Committee elected; Messrs. Vittone (Goodrich), Connors (Diamond Shamrock), Adams (Air Products), Williams (Dow) and Harding (SPI) are to act for the Industry when timing of action makes impractical bringing together of total Industry Management Committee.

4. A Public Relations Committee appointed; chaired by Ross Adams (Air Products) and authorized to contract with Arthur D. Little for an economic impact analysis defining the impact to the United States economy from a shutdown of the PVC resin industry--a condition that would result from the imposition by OSHA of a standard of non-detectable levels of vinyl chloride within regulated operating areas.

5. A Task Group headed by Harry Connors (Diamond Shamrock) assigned the responsibility to define the strategy and to initiate actions that will place the Industry in an advantageous position in negotiating with OSHA a permanent Work Standard that can be accomplished in operating plants and not impose additional burdens on the safety and operating capabilities of employees, yet not comprise the health of workmen. The scope of this strategy includes concern for the Work Standard applied to monomer production, PVC polymerization operations, and forward through fabrication, including the monomer content of the workplace atmosphere, of the air exhausted to the external environment, and of the resin product shipped and then fabricated to plastic materials.

   Union Carbide is assigned an active role in this Task Group, since it is the present view that the Industry must present actual experience (health history) of a large population of employees in the production of PVC resins over an extended period of time if substantial relief from the likely standard that the vinyl chloride content of the workplace atmosphere be maintained at non-detectable levels. Union Carbide is recognized by the Industry as unique in having accumulated experience with VCM and PVC manufacture and employee health monitoring and records over extended time periods.

6. The Task Group identified in Item 5 additionally takes responsibility for collecting information on the magnitude of VCM ventilated to the workplace atmosphere in various PVC plastic fabrication activities; almost without exception each PVC producer has at least one type of fabrication operation; has methods and instruments for making measurements that are reliable; will measure

VCM contents of PVC resin, of fabricated plastic, and of workplace atmosphere in an attempt to construct a profile that would inter-relate VCM concentrations. All members of the Industry Committee agreed to pool information in this area as such data are accumulated.

COMMENTS AND MISCELLANEOUS INFORMATION RELATIVE TO THE VCM STANDARDS:

A. MCA to prepare and distribute by April 17th a press release on preliminary findings of animal exposure studies at Industrial Bio-Test Laboratories. Findings of liver angiosarcoma at all three levels of vinyl chloride exposure confirmed by histopathology. These recent findings will likely influence OSHA to: 1) decrease ceiling exposure level in temporary standard below the 50 ppm level or 2) press for early publication of the permanent standard which will approximate the NIOSH limit of non-detectable levels of VCM in the regulated operating areas. An early permanent standard is the more likely action.

B. Survey of members producers showed none that could operate if the NIOSH Work Standard were imposed on the industry. Two major monomer producers agreed that the best in engineering, design, and operation of a monomer plant will likely reduce emissions of vinyl chloride to a level of 5 ppm TWA over eight hours equivalent to a ceiling of 10 ppm as now defined by the Temporary Standard. The same survey showed that PVC suspension producers now believe that a realistic present goal for plant operations is 25 ppm VCM using a TWA over eight hours or a 30 - 40 ppm ceiling; achievement of this goal is certain to take both time and significant added investment.

C. The producers need a basis on which to standardize monitoring and sampling procedures to permit comparisons on a sound basis. Eighteen companies are using presently the carbon absorption tube technique while six report using the air-bag approach to obtaining air samples measuring employee exposures. Much of the data are TWA based and the Temporary Work Standard leaves opent the possibility for substantial variance in methodology, making it unlikely that the data now being compiled in individual plants can be compared across the industry.

D. Firestone will likely confirm the finding of a case of liver angiosarcoma in a workman with an estimated seventeen years of service in PVC operations.

E. There is a growing recognition that emission levels and the steps needed to abate VCM passing to the environment are substantially different for plants manufacturing resin by the solvent, emulsion, dispersion, suspension and bulk polymerization processes; that the Industry Management Committee should press for VCM tolerances that will permit continuation of the PVC process exhibiting the highest levels of emission when properly designed and operated to minimize escape of monomer to the atmosphere; emulsion and dispersion plants

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are likely the processes which will be most difficult to bring into line, particularly if the work standard is designed primarily on the experience in PVC suspension resin operations.

F. The revised Work Standards as prepared last week by Mr. R. N. Wheeler and his associates have broad acceptance by the Industry Management Committee. The proposed level of 0.1% maximum monomer in PVC resins will remain difficult for certain producers, particularly in manufacturing certain low molecular weight homopolymers and copolymers by the suspension process and certain grades of homopolymer by the bulk process. There is a feeling that a toxic-substance warning label may be required for all resin having a monomer content above some ceiling level; no label for resins having less than the ceiling level; the dividing concentration may be 0.1% monomer based on wt. of resin.

G. Organization Resource Counselors (ORC) will likely present a proposal for a survey of employee health in fabrication plants converting PVC resins; a cause-of-death review is to be included in the proposal now expected from the School of Public Health, Georgetown University.

H. FDA is expected to issue a temporary standard on vinyl plastics used on critical applications including food, feed, drug, cosmetic and medical apparatus. The likely levels of VCM will be 1 ppm in the surface in contact for flexible packaging; 10 ppm in the surface for rigid packaging; 40 ppb extracted into the test fluid for both flexible and rigid packaging.

I. CBS has approached Vittone (Goodrich) and Harding (SPI) relative to industry cooperation in the preparation by CBS of a TV documentary on the VCM problem. Certain agencies of Government have identified for CBS industry people who are thought by the agencies to be particularly knowledgeable and, thus, good candidates for participation in preparing the documentary. Our Dr. C. U. Dernahl is reported on the list of knowledgeable persons. <u>The Industry Management Committee urges industry-wide discussion before any member company agrees to participation</u>.

J. My feeling now is that the Department of Labor (OSHA) is unlikely to set Work Standards that will shut down the PVC resin industry; that no revised temporary standard or final permanent standard will be pushed that would force an immediate cessation of PVC resins nationwide. Rather I anticipate that OSHA will impose on the industry the toughest standard that the industry can tolerate in 1974, with the provision that the exposure limit be progressively reduced stepwise year-by-year until the absolute minimum level is achieved. Concurrently, I would expect the requirement for a continuing review of employee health to assure that the improved operating conditions within the workplace atmosphere reflect in lessening health problems among PVC workers. Yet to achieve even this type of regulation court action may well required.

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