C O N F I D E N T I A L

Notes on Meeting
between representatives of
MCA Technical Task Group on Vinyl Chloride Research
and
National Institute for Occupational Safety and Health (NIOSH)
Rockville, Maryland July 17, 1973

Participants

For MCA:

Dr. W. E. Rinehart
(Ethyl Corporation)

Dr. V. K. Rowe
(The Dow Chemical Company)

Mr. R. N. Wheeler
(Union Carbide Corporation)

Mr. George E. Best
(MCA Staff)

As liaison representative from
the European Group project
sponsors:

Dr. David P. Duffield
(Imperial Chemical Industries)

For NIOSH:

Dr. Marcus M. Key, Director

Dr. Keith Jacobson

Mr. Richard B. James

Dr. Donald Lassiter

Dr. Frank Mitchell

Advance arrangements for this meeting were made by Mr. Best with Mr. Edward J. Baier, NIOSH Deputy Director, details having been handled for him by Dr. Herbert Christensen, an associate of Dr. Charles H. Powell, NIOSH Assistant Director for Research and Standards Development. Its purpose was to inform NIOSH as an agency of the U. S. Government regarding the program concerning the toxicology of vinyl chloride being administered by MCA on behalf of a group of companies with interest in that chemical.

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At the outset it was noted with regret that Dr. Tiziano Garlanda, Montedison (Italy), had been unable to share in representing the European Group project as planned.

Speaking from pencil notes, Dr. Rowe outlined the background for the investigative program, beginning with an indication of the magnitude of the vinyl chloride and polyvinyl chloride industries. He proceeded to refer to a number of scientific papers, including the entry on vinyl chloride in "Documentation of the Threshold Limit Values" (American Conference of Governmental Industrial Hygienists, Third Edition, 1971, pp. 277-8). In this background review, he highlighted MCA's role in administering a scientific study of acroosteolysis in certain polyvinyl chloride workers in the late 1960's, and in arranging for a consultation meeting in May 1971 with Dr. Luigi Viola (Regina Elena Institute for Cancer Research, Rome, Italy) on his inhalation studies with rats, in which he reported occurrence of tumors after exposure at 30,000 ppm vinyl chloride vapor.

Dr. Rowe stated that initiation of MCA's program had been held up to take advantage of information from a program sponsored by a group of European companies started somewhat earlier, commenting on MCA's appreciation for the liaison becoming established which made possible such an exchange.

Dr. Duffield began by stating that a post-examination of the histologic specimens from Dr. Viola's work had led to the firm conclusion that none of the observed lung tumors were primary tumors, but occurred as a secondary effect from malignancies in other parts of the animal body. He indicated there were other questionable factors, such as the handling of the test animals, etc. (He reminded that the purpose of Dr. Viola's research was to develop an "animal model" for acroosteolysis, which appears not to have been accomplished.)

Dr. Duffield stated the European Group program was directed both to epidemiology and to animal testing. He reported that an exhaustive examination of ICI employees, for

example, had revealed no indication of hazard from worker exposure to vinyl chloride, and that so far there was no reason to suspect any threat to human health.

Nevertheless, Dr. Viola's observed findings stimulated an ainmal testing program with rats which has produced some tumors, but Dr. Duffield pointed out the program is still in progress and no firm conclusions yet drawn. He said publication of the results is planned for late 1974. He mentioned that the European companies involved intend discussing this work with their respective governments, but this has been done so far only in part.

Dr. Rowe then continued with an explanation of the particulars of MCA's program, distributing copies of the two protocols, i.e., animal inhalation research being conducted by Industrial BIO-TEST Laboratories, Inc., and epidemiological survey just getting under way by Tabershaw-Cooper Associates, Inc. He invited comments and suggestions from NIOSH.

With regard to animal testing, Dr. Jacobson inquired about the strain of rats selected, at the same time saying it was more a matter of curiosity than any question relating to significance of results. Considerable discussion ensued about various rat strains and problems associated with test animals supply.

Dr. Lassiter was pleased to note the inclusion of the food, water, and bedding exposure comparison animal group. Responding to his queries, Dr. Duffield (1) identified the European study exposure range to be 50 to 10,000 ppm, but with repetition of the 30,000 ppm level being added, (2) gave 250 ppm as the lowest level at which tumors have been observed, and (3) stated that no tumors have been seen in either the blank or vinyl acetate control groups.

Dr. Jacobson asked whether vinyl chloride might have an alkylating effect, and this possibility was discussed from various angles.

Regarding the epidemiological survey, Drs. Mitchell and Jacobson emphasized the great importance of having as much documentation of exposure levels as possible. Dr. Lassiter pointed out the desirability of separating smokers from non-smokers, but realized this would likely be impossible in the presently planned approach which would rely solely on personnel records.

Dr. Key suggested further discussion with Dr. H. E. Stokinger in his capacity as chairman of the Threshold Limit Value Committee of the American Conference of Governmental Industrial Hygienists. (Initial contact for this purpose has been made.)

Responding to a question from Dr. Key, Mr. James indicated that vinyl chloride is among those due for fairly early consideration in the program of criteria documents development, perhaps due about midway in the current fiscal year (beginning July 1). It appeared, then, that preliminary indications from the MCA epidemiological survey, at least, would become available in time to be taken into account.

Dr. Jacobson mentioned having been puzzled by a recent phone inquiry about inability to purchase vinyl chloride for use as an aerosol propellant. Speaking as a representative of his company, Dr. Rowe stated they are no longer selling it for this purpose, and Dr. Rinehart indicated likewise. Mr. Wheeler said it has been used in this way only in relatively small quantities in paint and lacquer spray cans, with the likelihood that such application will be discontinued altogether by the end of the year.

Dr. Key characterized the meeting as being highly useful, and he and his associates expressed much appreciation for the initiative on the part of MCA and the industry which brought it about.

He said NIOSH would be interested in receiving interim reports of progress as the program goes forward, and

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was assured this would be arranged.

Papers left with Dr. Key and the members of his staff who took part were:

(1) Brief summary of vinyl chloride and polyvinyl chloride industry (single sheet)

(2) Referenced ACGIH reference (single sheet)

(3) MCA Chemical Safety Data Sheet SD-56 -- Vinyl Chloride (Revised 1972) (18-page booklet)

(4) Condensed protocols for MCA inhalation and epidemiological studies, corrected as of July 13, 1973 (8 sheets)

(5) MCA news release on these studies (2 sheets)

George E. Best

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