Monsanto

FROM (NAME & LOCATION): G. W. Ingle - Washington, D.C. Office

DATE: May 8, 1969

SUBJECT: MCA MEETING RE: ACROOSTEOLYSIS IN PVC WASHINGTON D.C. 5/6/69

REFERENCE:

cc R. I. Dunlap - Springfield
Y. P. Phillips - Springfield
M. N. Johnson - St. Louis

PLAINTIFF'S EXHIBIT
DOW-505

TO : Dr. W. E. Nessell
Springfield

Dear Bill:

Yesterday's meeting presented a thorough review of the University of Michigan's long overdue report to MCA on the above. Since the University of Michigan will ultimately provide a list of the errors and changes in the report, as it has already been given to you, I will limit my comments to the highlights of discussion on these changes.

In general, University of Michigan wanted to do more work because of the conviction that AOL may not be limited to finger tips. It may, in fact, ultimately prove to be systemic. In addition, it is felt that the relatively mild symptoms of Raynauld's disease are the precursors of AOL itself. For these reasons, University of Michigan wants to add to "its recommendation section" on page 104 these three proposals:

1. There should be "pre-assignment" examinations of workers, not only in PVC but also in VCM areas. These should include hand X rays, total medical history, particularly with respect to any evidence of Raynauld's disease, Scleroderma, abnormal cold response and possibly extension to a systemic analysis as soon as more is known about AOL.

2. There should be periodic exams, at least every year, covering those factors in item #1.

3. The manufacturers of VCM and PVC should underwrite the cost of animal studies to determine and characterize the caustic agent.

Item #3 prompted discussion. In the first place, the original #3 recommendation on page 104 indicated that such studies should be "continued". Since such studies have not really been started, the word "continued" was to be replaced with the word "supported". What is to me more important, is the total absence - in the report as written - of reference to what I consider to be the critical experiment in this study, - careful chemical analysis of the "kettle-crud" from those kettles positively causing AOL, in comparison with the same from those kettles not causing AOL. We should keep in mind that 24 - and possibly 25 - of the 25 positive cases of AOL resulted from manual cleaning of kettles. On the other hand, there was a slightly smaller number of

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personnel exposed to direct kettle cleaning who did not suffer AOL. Thus, the distinction between the respective "kettle-cruds" and the actual degree of exposure of personnel to such deposits, would seem to be critically pertinent. In his concluding remarks, University of Michigan's Dr. Magnuson indicated that he was in essential agreement with this view since he recommended that animal studies be delayed until there was careful analysis of kettle-crud.

There was also a difference of opinion concerning the VCM concentration of 50 ppm, as indicated in recommendation #1 on page 104. To eliminate any doubt that this figure relates only to an index of adequate ventilation in reactor cleaning and not a threshold level for general safety when exposed to VCM, it was agreed to change the last sentence in this recommendation to indicate this meaning. In addition, it was agreed to modify the second sentence by inserting after the words "solvent cleaning", the phrase "to positively eliminate" the present hand scraping operations. As now written, this sentence does not really firmly demand elimination of this operation.

In the area of general comments, it was my feeling that Goodrich's Dr. McCormack was doing everything possible to make the problem seem resistant to solution. He did admit that Goodrich has the largest number of AOL cases. He asked the other six manufacturers to identify themselves but there was reluctance to do this except in the cases of Pantosote, Airco and, I suspect, Esso. The meeting was chaired by the chairman of MCA's Occupational Health Committee. In my opinion, he overemphasized the toxicological aspect and underemphasized the analytical chemistry but this may be my own bias. He did indicate that ultimately we may find that AOL is related to a chromosomal aberration which if confirmed, may be used to select PVC and CVM workers.

Alerted by Yorke Phillips to our interest in identifying those plants who have used solvent cleaning in the past or have changed to use this procedure, I have made several attempts but have failed to penetrate the confidentiality with which University of Michigan has cloaked the identity of the respective plants. One clue to their identities may be obtained from a listing - not included in the printed report - of the number of poly-kettle cleaners associated with each coded plant. Thus, on Table XL on page 94, I have listed from top to bottom the following numbers of poly-kettle cleaners, - 216,165, 16, 20, 39, 31, 32, 32, 58, 54, 27, 20, 13, 28, 7, 30, 22, 17, 9, 91, 17, 8, 21 and 1. If we can relate these indices of size to any other index of identity, such as estimated total volume, it may be possible to identify the concerned plants. Note also that plants EE and DD are within the same company.

The list of changes and corrections in the report is expected to be available within three weeks.

George W. Ingle

GWI:sbh