



DOW CHEMICAL U.S.A.

June 14, 1977

BENNETT BUILDING
2030 DOW CENTER
MIDLAND, MICHIGAN 48640

Dr. Alfred Milbert
Division of Criteria Documentation
and Standards Development
National Institute for Occupational
Safety and Health
5600 Fishers Lane
Rockville, Maryland 20852

Dear Dr. Milbert:

Re: VINYL CRITERIA DOCUMENT

Attached is a compilation of the presentations made on vinyl and vinylidene chloride during your June 14, 1977, visit to our Oyster Creek Division.

We believe the data and information presented, which is based on over 30 years experience, supports the following recommendations:

Vinyl chloride and vinylidene chloride, though structurally similar, are quite dissimilar in their toxicity and health hazards. Consequently, they should not be covered by a single occupational exposure standard. We strongly believe that separate requirements should apply not only to the permissible exposure limits for the two materials, but also to monitoring, work practices and other sections which make up the framework of a standard. (See enclosures I-B, I-C, II, III-A and III-B)

After more than two years of operating under the current OSHA standard for vinyl chloride, we believe certain requirements are overly restrictive and do not materially contribute to a healthful workplace. These include:

- A. Scope - recent technical advances in reducing residual monomer levels in polymers now support exempting packaging, storage, and handling



operations of polymers from the vinyl chloride standard. This includes the exemption of fabricators. (See enclosure I-C)

- B. Monitoring - frequency of monitoring requirements are unnecessarily stringent, particularly for a continuous operation such as a monomer plant. Once a baseline has been determined over a period of time, monitoring results would not be expected to change unless some significant change occurs in the process. (See enclosures I-A and II)
- C. Regulated Area - the daily roster requirements for regular employees are absolutely unnecessary, since this information is well documented by employment records. (See enclosures I-A and I-C)
- D. Methods of Compliance - requirements for updating written plans should be changed from six months to one year. (See enclosure I-C)
- E. Medical Surveillance - as in the case of monitoring, once a baseline has been determined on an employee with respect to his exposure levels, medical history, age, etc., the frequency requirement of medical examinations could be flexible. Professional medical judgment should be allowed in the surveillance program. (See enclosure IV)
- F. Signs and Labels - requirements for labelling polymers should be dropped, as residual monomer levels in polymers have been drastically reduced since original issuance of the standard. (See enclosure I-C)
- G. Reports - the 24-hour reporting requirement should only apply to extreme emergencies, which should then be better defined. (See enclosure I-C)

Because of our unique situation in producing vinyl chloride and vinylidene chloride in close proximity (and their subsequent use as co-polymers), some of our procedures and controls tend to overlap. We would point out, however, that if vinylidene chloride were produced and used in physically separated facilities, the stringent controls required by the OSHA VCM standard would not be warranted for vinylidene chloride, based on dissimilar chronic health hazards. (See enclosures I-B, I-C, III-B)

Dr. Alfred Milbert
NIOSH

Page 3

Dow strongly desires to have one of our technical experts serve on the external review committee for the vinyls criteria document. With our lengthy experience and comprehensive programs involving vinyl chloride and vinylidene chloride, we could provide technical breadth and depth in the areas of manufacturing, engineering, work practices, industrial hygiene and toxicology. We would appreciate your consideration and response on this point.

We sincerely hope that the information presented during your visit and the accompanying compilation will aid in your criteria effort. If we can be of any further assistance, please feel free to contact us.

Very truly yours,

James W. Conder

James W. Conder
Health and Environmental Research

cd

cc: Vernon E. Rose, NIOSH
Richard Thomas, SRI

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Enclosures

I. Manufacturing Processes and Work Practices for Vinyl Chloride and Vinylidene Chloride

Presentations include:

- Basic process description
- Work practices/procedures to minimize employee exposure
- Engineering controls
- Safety practices
- Personal protective equipment
- Employee training and education
- Emergency procedures
- Sign posting and labeling
- Monitoring systems

- A. Vinyl Chloride - C. C. Bird
- B. Vinylidene Chloride - M. B. Tracy
- C. Vinylidene/Vinyl (Saran) Polymers - R. L. Dostal

II. Industrial Hygiene Practices for Vinyl and Vinylidene Chloride - R. R. Langer

Including:

- Typical employee exposure levels
- Area monitoring
- Personnel monitoring
- Analytical method

III. Toxicology of Vinyl and Vinylidene Chloride

- A. An Assessment of the Toxicology of Vinyl Chloride - T. R. Torkelson
- B. Vinylidene Chloride Toxicology - J. M. Norris

IV. Medical Surveillance for Employees Exposed to Vinyl and/or Vinylidene Chloride - P.C. Gay, M.D.

Including:

- Current Surveillance Programs
- Assessment of medical surveillance required by OSHA Standard for vinyl chloride

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