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Chemical Division  
Lake Charles, La.

To: File

## INTER-OFFICE CORRESPONDENCE

Date: August 6, 1974

From: W. R. Grace

Location: 28 North

Subject: VDC Toxicity

*For your info*

On August 5, 1974, I called Ron Hoopes, Manager Daran Products, W. R. Grace Company in Cambridge, Massachusetts, to discuss the information that W. R. Grace might have relating to the toxicity or carcinogenicity of vinylidene chloride. His first reaction was that they, as a company, were betting on the future. VDCM has a bright future with a tremendous growth indicated in the new use area. Everything they know about toxicity and carcinogenicity is in the vane of not being overly concerned about problems in this area. They have done no basic testing of toxicity but have left that to others. They have gleaned evidence from some foreign manufacturers, namely BASF, ICI and Kanegafuchi, who also confirm that there is no basic problem with this monomer. They also have information on VDCM received from the U. S. Navy and from Harvard University (he will send these to us).

The evidence that they have is clear showing that VDCM is toxic similar to carbon tetrachloride to the liver or kidneys. Accordingly, all of their employees, both in manufacturing and research, have been screened with health examinations on a routine basis. No evidence of any problem has ever been found and their employees have probably been exposed as long as anyone else to vinylidene chloride.

When they built a plant in 1959-60 in Acton, Massachusetts, their first PVDC unit, they made sure to monitor the work environment and they still do because they know inhaling VDCM is bad as far as causing liver damage. They have never wanted their employees to be exposed to vinylidene chloride and have carefully monitored their workplace. They especially feel proud of the fact that they are a leader in the removal of free monomer from the polymer resin. In food packaging industries, odor entrapment is a problem. VDCM is a low boiler as opposed to some of the copolymers like acrylates and it is important, however, to have both of these monomers removed from the latex. Most of their competitors have high free monomer contents in polymer which the converters may entrap in their packaging construction resulting in some bad free odor to food, for instance. One recent episode involved trouble with Kellogg's Corn Flakes where the report was that the cereal smelled and tasted like something different. It was all due to high free monomer from somebody's latex which was sent to Crown Zellerbach, a package maker. Grace feels they are leaders in marketing low free monomer latex and this feature has served them well. He knows the VCM people are now trying to achieve this too in their industry.

W. R. Grace is the largest producer and seller of PVDC materials in North America with their Daran and Cryovac Divisions. He knows that the FDA will require, and have required, food containers to have a contact surface free from any free monomer. He feels that the OSHA or FDA people will be looking immediately at some of the major coatings involved in food packaging starting with polyethylene and including polyester, focusing first on the big ones, but

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he does not feel that PVDC will be immediately scrutinized since it is such a relatively small item of commerce at the present time.

W. R. Grace will share in the MCA testing costs for VDCM toxicity and carcinogenicity now being conducted by Industrial Bio-Test. He was aware that Dow was four to six months into their vinylidene chloride testing program.

He said that it is clear today that there is no evidence whatsoever of the carcinogenicity of VDCM. One of their biggest reasons for saying this is their careful analysis of medical records on their employees rather than testing on animals.

They are following the TLV recommendations of ACGIH of 10 ppm which they were advised of by both Dow and PPG. VDCM is absent from the packaging coating largely because of their process uniqueness and they find no difficulty in meeting the non-detectable extraction limit in the coating for food wrappers. Mr. Hoopes is in charge of the PVDC latex "Daran" in both the marketing and technical end and told me that he would support us in any way he could, in person if required, in order to help us in any way with expanding our vinylidene chloride plant.

  
W. B. Graybill

/kf

cc: Z. G. Bell  
J. E. Burrell  
G. J. Lazarchik  
H. W. Rahn  
L. F. Sargert  
V. A. Sarni  
R. E. Widing  
G. M. Zapp

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