



Vinyl chloride

UNIROYAL, Inc.
Oxford Management & Research Center
Middlebury, Connecticut 06749

April 30, 1976

Meeting of VC Research Coordinators and Technical Panel

April 27 & 28

The meeting of the MCA-VC Research Coordinators was held at 8:30p.m. on April 27 and the Technical Panel at 9:00a.m. on April 28 in the Crystal City Marriott Hotel. The writer represented Uniroyal at Both meetings. While a more detailed report will be mailed out by MCA this report is intended to cover the main points of the meetings promptly.

- 1.) Teratology. Dr. B. A. Schwetz described work done at Dow, which will be published, indicates that VC is not teratogenic (birth defects). Fifteen percent ethanol in drinking water plus VC increased toxicity but not fetal development.
- 2.) Metabolism. Work reported by Dr. P. G. Watanabe by Dow indicates that at low doses vinyl chloride is converted to water soluble derivatives which are readily eliminated. As dosage is increased the capacity of these systems is exceeded and the VC goes thru a mechanism which involves activation (probably formation of $\text{CH}_2\text{O}-\text{CH Cl}$) and reaction with proteins, DNA, giving rise to carcinogenicity.
- 3.) Animal studies (Dr. M. L. Keplinger of Industrial Bio-Test). These studies, now complete, will be reported on in mid-May at the Atlanta Industrial Hygiene Association meeting. These studies show VC to be somewhat more toxic than Maltoni's original work. They confirm the carcinogenicity and show a dose - response relationship. A summary of the data is attached.
- 4.) Mutagenetic Work. Dr. R. V. Johnston of Dow. Dow got permission to harvest tissues of rats (SM and SF of each level) exposed at 0, 50, 200 and 2500ppm. for 1 year and made a cytogenetic evaluation of bone marrow cells. They found no statistically significant increase in chromosomal aberration rates in bone marrow cells of exposed rats. This does not rule out the possibility that VC might effect other cells.
- 5.) Epidemiological. Dr. W. R. Gaffey. Dr. Gaffey has extended the original Tabershaw-Cooper study by including a group of Union Carbide workers with early exposure and making a much more detailed breakdown

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by age, length of exposure and years from exposure to death. His preliminary report is also attached.

The technical panel had already approved further work at Dow to elucidate metabolism and they voted to support for one year work at University of Louisville to try to develop early diagnostic tests. Goodrich has supported this work in the past. It was agreed that this work is of such broad importance that it should be supported more widely by the chemical industry. However, to explain and sell such a program would take too long and the manpower at Louisville would be disbanded. Therefore, it was felt wise to support it for one year and seek broader support thereafter. With administrative costs the asking will be:

Dow \$133,000. This work will not extend beyond one year.
Louisville \$233,000. This is an annual rate as described above.



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WDH/df

Attachments

cc: D. E. Dudrow
J. D. Forbes, M.D.
G. A. Anderson
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