



DOW CHEMICAL U.S.A.

28 July 1977

MIDLAND, MICHIGAN 48640

*Steering Comm
John R.
G. G. G.*

Mr. Don R. Goodwin
Emission Standards and Engineering
Division
Environmental Protection Agency
Research Triangle Park, NC 27711

PROPOSED AMENDMENTS TO THE NATIONAL EMISSION STANDARD
FOR VINYL CHLORIDE

Dear Mr. Goodwin:

Dow would like to offer the enclosed paper, "Resolution of Dose-Response Toxicity Data for Chemicals Requiring Metabolic Activation: Example--Vinyl Chloride" by P. J. Gehring, P. G. Watanabe, and C. N. Park of our company, as a comment to the proposed amendments to the vinyl chloride emission standard. This paper has been completed recently and will be submitted for publication in the near future. It offers a new, sensible, and logical approach for assessing the potential carcinogenicity of a material such as vinyl chloride.

As is pointed out in the paper, theoretical extrapolation of this analysis based on animal data to humans exposed daily for 8 hours to 1 ppm vinyl chloride, conservatively suggests an incidence of 1.5 cases of angiosarcoma per 100 million people, which is less than that expected to occur spontaneously. The EPA's original analysis of community risk assessment, using dispersion modeling theory, estimated an average ambient concentration of 17 ppb for population areas in a 5-mile radius surrounding VCM/PVC plants before emission controls required by the current standard. Following the analysis presented in this paper, the resulting risk factor to communities would be well under 1 in 100 million, even after taking into account a 24-hour continuous exposure. The EPA has estimated since that implementation of emission controls required under the current standard would reduce the average ambient concentrations to 2 ppb. Even though this would provide a further safety factor for the 4.6 million people living in these communities, the proposed reduction in emissions from the current standard would produce an infinitesimal and negligible reduction in community risk. It is therefore unnecessary from the viewpoint of health conservation and constitutes an unjustified burden upon industry and our society.



AN OPERATING UNIT OF THE DOW CHEMICAL COMPANY

COLORITE 018850

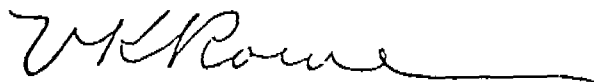
Mr. Don Goodwin
28 July 1977
Page 2

The offset provisions of the proposed amendments are not justified, since ambient air concentrations of vinyl chloride would not increase more than 1 ppb due to new construction at existing VCM/PVC plant sites (reference to C. Holbrook representing SPI/s Manufacture of the PVC Safety Group, July 19, 1977, before an EPA panel at Crystal Mall, Arlington, VA). In doing so, ambient air concentrations would remain well below levels which could be expected to cause a one in 100 million incidence of angiosarcoma.

The EPA should consider thoughtfully the implications of the VCM dose-response analysis presented in the enclosed paper. It represents a new approach in assessing the carcinogenic potential of VCM since it is able to use all the available animal data, unlike the linear or log-probit analyses made by the EPA where data obtained at exposure levels above 500 ppm were discarded. Furthermore, it is the first and only rational analysis which explains the inability of the linear or log-probit analysis to deal sensibly with the leveling off of effects found at the higher doses.

We believe that this approach to risk assessment is a significant step forward in understanding the potential health problems associated with VCM, and hope that it will help to point out the lack of need for further emission reductions from the present standard.

Sincerely yours,



V. K. Rowe, Sc.D.
Director, Toxicological Issues
Health and Environmental Research
1803 Building

g