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December 16, 1975

Mr. Jerome Heckman
Keller & Heckman
1150 17th Street, N. W.
Washington, D. C. 20036

Dear Jerry:

Today EPA designated vinyl chloride as a hazardous pollutant and proposed an air pollution standard to limit emissions of vinyl chloride from all existing and new plants in the country. Rather than going in to a lot of detail, I am attaching a copy of Mr. Train's press release and a summary of the Quantitative Risk Assessment for Community Exposure to Vinyl Chloride. These two documents provide a quick summary of what the Agency did today.

At the press conference Mr. Train did endorse the concept of cost-risk-benefit analysis in regulating substances such as vinyl chloride. In my opinion this is a major step forward by the Agency.

Sincerely yours,

William D. Ruckelshaus

Enclosures

QUANTITATIVE RISK ASSESSMENT FOR COMMUNITY EXPOSURE TO VINYL CHLORIDE

SUMMARY

Vinyl chloride has produced liver angiosarcoma, a very rare form of cancer, as well as primary cancers at other sites and serious liver damage in workers employed in plants producing vinyl chloride monomer (VCM) and polyvinyl chloride (PVC). People living near these plants are also at some risk of adverse effects due to their exposure to vinyl chloride in the ambient air near the plants. Should the environmentally exposed population be the same size as it is now, and should it remain exposed to current level of vinyl chloride, we estimate that between less than one and ten cases of angiosarcoma of the liver will occur per year due to environmental vinyl chloride exposure. Due to the 15 to 20 year latency time of this disease, cases initiated this year will probably not be diagnosed until 1991 to 1995. In addition we estimate that an equal number of cancers at other primary organ sites are being produced by vinyl chloride each year, bringing the total number of cancer cases to somewhere in the range between 20 and less than one case per year. The successful implementation of the regulations is expected to reduce ambient vinyl chloride levels around plants to about 5 percent of current concentrations, and consequently to reduce the frequency of adverse health effects to 5 percent of the foregoing rates.

These estimates are based on several considerations. From 1970 census data, it was estimated that 4.6 million people live within five miles of the plants affected by these regulations. Standard methods of diffusion modeling showed that the average concentration of vinyl chloride

over a five mile region surrounding the plants is currently 17 parts per billion. A linear dose-response relationship extrapolated to zero with no threshold dose was assumed for these effects. The estimate of liver angiosarcoma frequency was based on the available animal dose-response information from controlled experiments and on the available information on adverse effects in highly exposed workers in the industry.

The above estimates of the incidence of liver cancer involve a substantial degree of uncertainty. These estimates should be validated by epidemiological studies of neighborhoods around VC plants, not only for liver cancer but other forms of cancer, liver disease, and birth defects. Suggestive evidence for an increased incidence of birth defects has recently been reported. An epidemiological study of the cancer experience around VC plants has been initiated but at least one year will be required to obtain some solid information.

Complete copies of the risk assessment are available from Gary Robinson EPA Press Office (202) 755-0344.