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RE: Eriven vs Union Carbide

December 16, 1994

I am currently Professor and Director of the Division of Toxicology at the University of Texas Medical Branch in Galveston, Texas. My major area of interest is toxicology, and especially genetic toxicology. Genetic toxicology has to do with the effect of chemicals on our genetic material. This effect could lead to cancer, or developmental abnormalities (transmitted either through germinal cells or during in utero exposure). I have conducted extensive research in the area of chemical carcinogenesis, and developed many of the procedures currently used to detect the early stages in chemically induced neoplasms. I have served on several Government committees having to do with the extrapolation of animal data to man (risk assessment), and the interpretation of epidemiology studies as they relate to the known animal toxicology of specific chemicals. I frequently teach and routinely advise medical students and Physicians concerning their patients who may



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have been exposed to toxic chemicals. I was recently a member of the National Academy of Science Committee on animal monitoring, a member of the Office of Technology Committee on Human Biological Monitoring, and a past member of the NATIONAL LIBRARY OF MEDICINE SCIENTIFIC REVIEW PANEL. For 10 years I edited the international journal, Teratogenesis, Carcinogenesis and Mutagenesis. I am the 1994 recipient of the Hollaender award which is given to scientists who have made an outstanding contribution the field of Genetic Toxicology.

I. ASSIGNMENT

In the above referenced case, I have been asked to review the biological information pertaining to Vinyl Chloride and furnish my opinion as to the scientific probability that Mr. Birven exposure to Vinyl Chloride significantly contributed to his development of Adenocarcinoma and subsequent death.

BASES for My Opinions

In reaching my opinions I have utilized a number of studies, texts and other materials that have evaluated the hazardous effects of Vinyl Chloride. I have utilized information generated by the national library of medicine database services such as the Hazardous Substance Databank ("HSDB"), Toxline, RTECS (the database for OSHA), materials generated from regulatory agencies such as the Occupational Safety and Health Administration

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("OSHA"), the National Institute of Occupational Safety and Health ("NIOSH") and the American Conference of Governmental Industrial Hygienists ("ACGIH"). Primarily, however, my judgment is based upon my years of research and other experience in this area of toxicology.

III. VINYL CHLORIDE.

Vinyl Chloride is one of the most potent known human carcinogens, it has especially been identified as a liver carcinogen. Several epidemiology studies associate Vinyl Chloride with cancers of the liver as well as other organs. Metabolism, distribution studies, as well as cancer bioassay studies indicate that one of the primary organs following inhalation exposure is the liver, and that this chemical can produce cancer of the liver at extremely low concentrations.

I will be prepared to testify that Mr. Birven's exposure to Vinyl Chloride during his employment at Union Carbide, in all probability, caused or contributed to his malignancy and death.



Marvin S. Legator, Ph.D. Toxicologist