



UNION CARBIDE CORPORATION P.O. BOX 471, TEXAS CITY, TX 77590

Solvents and Intermediates Division

September 25, 1981

Dear Carbider:

As you know Union Carbide Corporation and the National Institute of Occupational Safety & Health (NIOSH) have been conducting long, complicated studies to investigate whether there might be an excess of primary malignant brain tumors among employees and, if so, whether they are associated with an occupational exposure to chemicals in this plant.

Union Carbide has now completed their Mortality Study and Case Control Study. We would like to take this opportunity to share the results with you.

These studies indicate that Union Carbide employees at Texas City have enjoyed better than average health. The overall incidence of death has been significantly less than the national average, as have been deaths due to all forms of malignant cancer and circulatory, respiratory and digestive diseases.

The study revealed no overall excess of deaths due to primary malignant brain cancer within the employee population. It did, however, show a comparatively small, but statistically significant excess within a subgroup of 2,699 employees who began their employment before 1958, worked at the plant at least six months, and were alive at least 20 years after their date of hire. A separate study of those cases failed to indicate any relationship between primary malignant brain cancer and any specific work exposures.

To give you a better perspective of the findings, the study completed by Union Carbide covered 6,588 employees working at the plant from 1941-1979. Of that group there were 765 deaths due to all causes . . . significantly lower than the 923.8 deaths expected in the general United States population of similar age, sex and race composition. Within the subgroup of 2,699 employees noted in the previous paragraph, we found eight deaths due to primary malignant brain cancer, as compared to an expected average of 2.37 deaths. While quite small in number it is this statistically significant excess on which we have been concentrating the epidemiology studies.

A total number of 21 cases of primary brain tumor were identified. Eighteen of these were termed malignant. There was not an excessive proportion of the specific type of brain tumor called glioblastoma. Originally thought to be a rare occurrence, glioblastoma actually is quite common form of tumor among adult brain cancer cases.

Brain tumors are a rare cause of death and while there must be concern over any elevation, in incidence, there is no cause for alarm based on the results of this study.

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As everyone at Texas City knows, exposures to all kinds of chemicals have been greatly reduced in recent years. We firmly believe that our present standards and practices in the Texas City Plant provide more than adequate protection from known health hazards. We will continue to follow the health of our employees to learn when and if some unfavorable health experiences occur.

We expect that the result of the NIOSH studies, when released, will basically agree with our conclusions. We will keep you informed.

We want to express our appreciation to Dr. Tom Lincoln, Corporate Medical Director, and Dr. Susan Austin, Corporate Epidemiologist, who have given their total cooperation to make this study possible. We are also appreciative of the affirmative review of the detailed findings by their consultants, Dr. Brian MacMahon of Harvard University and Dr. Philip Enterline of the University of Pittsburgh.

D. L. Engle
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