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UNION CARBIDE CORPORATION OLD RIDGEBURY ROAD, DANBURY, CT 06817

To (Name) William C. Kuryla, Ph.D.
Division Corporate Toxicology
Location Location 511
Area South Charleston

Date December 6, 1982

Originating Dept. HS & EA

Area Epidemiology, P2

Copy to S.G. Austin, Sc.D.

Subject Diethylene Glycol and
Tetraethylene Glycol

Dear Bill,

Concerning your request, I am enclosing two memos relating to the reasons for our concern over the toxicologic and epidemiologic status of two chemicals, diethylene glycol and tetraethylene glycol.

Please call if you have any questions.

Sincerely,

A. Robert Schnatter
Biostatistician

ARS:gac
Enclosure

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hec: ARS

UNION CARBIDE CORPORATION OLD RIDGEBURY ROAD, DANBURY, CT 06817

To (Name)	Dr. David L. Glenn	Date	November 1, 1982
Division		Originating Dept.	HS&EA
Location		Area	P-2
Area		Subject	Status Report of NIOSH <u>Brain Tumor Investigations</u>
Copy to	Betty Lynn White - Law Dept. Dr. T. A. Lincoln Mr. J. B. Browning		

Dear Dave:

Based on a recent conversation with Dr. Leffingwell (October 29, 1982) I have learned that Rick Waxweiler has submitted the NIOSH Cohort Study of the Texas City Brain Tumors for publication in the Journal of the National Cancer Institute. The article has been accepted and final revisions are being made by Dr. Waxweiler.

I asked Dr. Leffingwell when NIOSH would be going to the Texas City Plant to present the results of their investigation. He informed me that he "hoped" final revisions to the case-control paper would be made within the next few weeks. Since this paper has been responsible for the delay, he expects that the NIOSH visit would occur shortly thereafter. Dr. Leffingwell was not too knowledgeable about who had been selected to go to the plant. His guess is that the team would consist of himself, Dr. Waxweiler or Ms. Marie Harring, and possible Dr. Halperin. Dr. Alexander is no longer with OSHA and is not likely to be included.

Dr. Leffingwell also informed me that he expects to be reassigned shortly to the "Epidemiology I" section of NIOSH. This section is headed by Dr. Jay Beaumont, Dr. Waxweiler's successor.

With respect to the Brain Tumor Case-Control Study, Sandy did inform me that in the latest analysis, the two chemicals, diethylene glycol and tetraethylene glycol, emerged with extremely high odds-ratios. That is, four of the brain tumor cases were exposed to both of these chemicals and none of their controls were similarly exposed. In the current version of the case-control paper some comments will be made regarding the possibility that these and other exposures with extremely high odds-ratios, may be implicated in the etiology of the brain cancer cases. Dr. Leffingwell continues to believe that "chance" is the most likely explanation for this finding.

Sincerely,

Susan G. Austin, Sc.D.
Corporate Director of Epidemiology

SGA/cas

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UNION CARBIDE CORPORATION OLD RIDGEBURY ROAD, DANBURY, CT 06817

To (Name) Dr. Susan G. Austin
Division HS & EA
Location Epidemiology
Area P2

Date November 9, 1982

Originating Dept. HS & EA

Area Epidemiology, P2

Copy to

Subject Diethylene Glycol and
Tetraethylene Glycol

Dear Susan:

I've looked into the information we have on chemicals (diethylene glycol (DEG) and tetraethylene glycol (TEG)) which NIOSH recently reported as having high odds ratios in their new case control draft.

First, NIOSH did not mention either chemical in their previous case-control draft; the two chemicals were not on the list of chemicals to which at least four cases were exposed.

In our study, very similar exposure rates are found among cases and controls in overall analyses using all controls or hourly controls. When a 15 year latent period is built in higher exposure rates among cases are evident, yet the probability of a real difference is rather low.

The two chemicals have exactly the same exposure rates. This is due to the fact that they were present in the same department. The following tables summarize our information:

Exposure Rates Among UCC Cases and Controls

<u>Analysis</u>	<u>All Cases</u>	<u>Gliomas</u>	<u>All Ctl 1</u>	<u>Hourly Ctl 1</u>	<u>All Ctl 2</u>	<u>Hourly Ctl 2</u>
Overall	4/11 (36.4)	4/10 (40.0)	12/33 (36.4)	11/30 (36.7)	12/31 (38.7)	11/29 (37.9)
5-yr latency	3/10 (30.0)	3/9 (33.3)	8/31 (25.8)	7/27 (25.9)	6/26 (23.1)	6/25 (24.0)

Department Groups Associated With DEG And TEG

DEG: 12, 13, 14, 16, 19, 29
TEG: 12, 13, 14, 16, 29

(see addendum for list of departments within each department group)

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Odds Ratios for DEG, TEG

<u>Contrast</u>	<u>All Cases</u>	<u>15 year latency</u>	<u>Probability of Similar Underlying Exposure Rates</u>
Case vs. Ctl 1	1.00	1.23	1.0, 0.80
Glioma vs. Ctl 1	1.16	1.44	0.84, 0.66
Case vs. Ctl 2	0.90	1.43	0.89, 0.67
Glioma vs. Ctl 2	1.06	1.67	0.94, 0.55
Case vs. H. Ctl 1	0.99	1.22	0.99, 0.81
Glioma vs. H. Ctl 1	1.15	1.43	0.85, 0.67
Case vs. H. Ctl 2	0.94	1.36	0.92, 0.72
Glioma vs. H. Ctl 2	1.09	1.58	0.91, 0.59

The four cases exposed to these chemicals are:

<u>Name</u>	<u>DOD</u>	<u>Date of First Exposure</u>	<u>Length of Exposure</u>	<u>Length of Employment</u>	<u>Diagnosis</u>
Perkins	4/62	11/58	3.4 years	8 years	Glioblastoma
Malone	3/79	9/57	approx 6 mo	32 years	Astrocytoma IV
Wurzlów	3/73	9/46	6.7 years	26 years	Glioblastoma
Hinson	12/78	10/59	5.8 years	24 years	Anaplastic Astrocytoma

Please let me know if you have any questions.

Sincerely,



A. Robert Schnatter

ARS:gac

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ADDENDUM

Departments Encountered In Case Control Study Which Were Associated With DEG and TEG

	<u>DG Name</u>	<u>Departments</u>
DG	ETO derivatives	12800
013	Ethylene Oxide/ Glycol	12700, MX000, 20600, 21500, 12500, MY000, M2800, M2X00.
014	Distribution	99100, VP000, VS000, 28100, MC000, 22000, 22001, 22300, 23100, 29700, 20000, 38500, VS100, VS200, V8P00, 09600, 26100, 29000
016	Chem. Lab	92200, 35501, BL000, 90000, 35500
019	Marine Terminal	None
029	Polyglycols	None

ARS:gac
11/15/82

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