



THE DOW CHEMICAL COMPANY

RECEIVED

BENNETT BUILDING
2030 DOW CENTER
MIDLAND, MICHIGAN 48640

June 24, 1977

JUN 29 1977

J. T. BARR

bcc: ✓ Rose Adams - Air Product
H. N. Johnson, MD - BFG

Robert Spirtus, PhD
Division of Surveillance
NIOSH

JUN 27 1977

Robert A. Taft Laboratories ROSS ADAMS
4676 Columbia Parkway
Cincinnati, Ohio 45206

cc: Ms. Rose Kaminski
NIOSH

CC John Stafford
R. Wilson
L. Tapp
JTBarr

Dear Dr. Spirtus:

It was good talking to you again about vinyl chloride. So many questions remain unanswered, fortunately because of the small number of cases involved.

In regard to Table II which Ms. Rose Kaminski sent me, I related my concern about the appropriateness of this table and particularly of Cases 14 & 15. As indicated in note 8 of this table, there is a question about whether case 14 was an angiosarcoma. Furthermore it was my understanding that Dr. Hans Popper of the Mt. Sinai School of Medicine as well as several other pathologists questioned whether the angiosarcoma in Case 15 was characteristics of vinyl chloride induced disease.

Perhaps it was for this and other reasons that Dr. Bill Lloyd, formerly of NIOSH, chose not to issue this table after September of 1975.

I certainly suggest that if you republish Table I you seriously consider the appropriateness of including Table II. The relationship of these cases to vinyl chloride apparently has not been established and publication of the table will lead to confusion. A more useful table might be all recorded angiosarcomas, but of course this would be a very difficult task.

Sincerely yours,

T. R. Torkelson /ebg

T. R. Torkelson, ScD
Corporate Medical Dept.

ebg



AP00019379

DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE
PUBLIC HEALTH SERVICE
CENTER FOR DISEASE CONTROL

September 1, 1977

NATIONAL INSTITUTE FOR OCCUPATIONAL SAFETY AND HEALTH
ROBERT A. TAFT LABORATORIES
4676 COLUMBIA PARKWAY, CINCINNATI, OHIO 45226

T. R. Torkelson, Sc.D.
Corporate Medical
The Dow Chemical Company
Bennett Building
2030 Dow Center
Midland, Michigan 48640

Dear Dr. Torkelson:

Thank you for the information concerning angiosarcomas associated with vinyl chloride in your letter of August 22, 1977 to Dr. Spirtas. We would like to obtain more details on the cases new to this office and would, therefore, appreciate any additional information you have on these, or better yet, the name and address of the person we could contact for more information. Also, to your knowledge, have these additional cases been microscopically confirmed?

In regard to your question concerning the U.S. cases, you are correct about the name of case 18, and case 23 was employed at the Great American Chemical Company in Fitchburg, Massachusetts. In regard to German case 8, I have enclosed a copy of the documentation we have received concerning the German cases.

Several weeks ago you mentioned correspondence among Drs. Philip Landrigan, Hans Popper, Louis Thomas and Marcus Key concerning the validity of U.S. cases 14 and 15. I was unable to find any such correspondence in our files. I telephoned Dr. Thomas and Dr. Falk in regard to this matter and it was agreed that case 14 should be removed from our lists. Dr. Thomas stated that case 15 couldn't be discounted as an angiosarcoma since it was microscopically confirmed but that a determination couldn't be made as to whether or not this angiosarcoma was VC induced. As a result, Table II will not be presented in the Current Intelligence Report we intend to submit to JOM.

AP00019380

Page 2 - Dr. T. R. Torkelson

Since I spoke with you last, two more U.S. cases have been reported to this office. I have enclosed a revised copy of Table I, which includes these cases, plus the additional cases you provided.

Again, thank you for the information you have provided.

Sincerely yours,

Rose Kaminski

Rose Kaminski, Statistician
Illness Effects Section
Surveillance Branch
Division of Surveillance, Hazard
Evaluations, and Field Studies

Enclosure

AUGUST, 1977

REPORTED CASES OF HEPATITIS A IN THE UNITED STATES BY SOURCE OF INFECTION

TABLE 1

CASE	NO.	DATE	EXP.	OR P.C.	AGE	SEX	TOT. YEARS	DATE	STATUS
01	01	00-00-00	00-00-00	00-00-00	00	M	00	00	DEATH
02	02	03-06-14	00-00-43	00-00-43	43	M	14	14	EXP.
03	03	08-26-19	00-00-41	00-00-41	41	M	21	21	EXP.
04	04	04-05-19	00-00-45	00-00-45	45	M	22	22	EXP.
05	05	05-07-11	00-00-44	00-00-44	44	M	24	24	EXP.
06	06	12-15-19	00-00-47	00-00-47	47	M	24	24	EXP.
07	07	11-09-19	00-00-46	00-00-46	46	M	25	25	EXP.
08	08	05-13-20	00-00-61	00-00-61	61	M	12	12	EXP.
09	09	07-19-21	00-00-46	00-00-46	46	M	28	28	EXP.
10	10	05-16-15	00-00-53	00-00-53	53	M	16	16	EXP.
11	11	00-00-28	00-00-57	00-00-57	57	M	16	16	EXP.
12	12	00-00-28	00-00-57	00-00-57	57	M	16	16	EXP.
13	13	00-00-26	00-00-51	00-00-51	51	M	15	15	EXP.
14	14	06-04-30	10-01-56	09-19-68	38	M	11	11	EXP.
15	15	07-26-31	10-14-57	09-25-70	40	M	13	13	EXP.
16	16	09-04-30	04-16-57	00-00-74	44	M	11	11	EXP.
17	17	01-01-32	12-16-62	00-00-75	43	M	13	13	EXP.
18	18	09-29-26	04-15-54	00-00-75	49	M	12	12	EXP.
19	19	09-29-26	04-15-54	00-00-75	49	M	12	12	EXP.
20	20	10-19-17	04-19-54	00-00-75	58	M	22	22	EXP.
21	21	12-13-34	12-02-59	06-16-76	42	M	17	17	EXP.
22	22	04-15-24	01-00-46	02-18-67	43	M	21	21	EXP.
23	23	06-03-11	07-06-59	01-08-75	63	M	15	15	EXP.
24	24	00-00-19	00-00-46	01-08-75	55	M	29	29	EXP.
25	25	01-27-27	10-19-49	01-04-76	49	M	26	26	EXP.
26	26	01-29-38	00-00-65	09-00-76	38	M	11	11	EXP.
27	27	04-14-34	00-00-58	09-00-76	42	M	18	18	EXP.
28	28	00-00-27	07-01-50	07-00-76	49	M	26	26	EXP.
29	29	00-00-00	00-00-00	00-00-76	00	M	00	00	EXP.
30	30	00-00-01	00-00-46	12-00-72	71	M	26	26	EXP.
31	31	06-02-37	02-00-66	00-00-74	37	M	09	09	EXP.
32	32	11-13-29	00-00-57	12-13-72	43	M	15	15	EXP.
33	33	03-14-20	00-00-53	07-10-75	55	M	22	22	EXP.
34	34	08-01-22	04-00-53	08-21-74	52	M	22	22	EXP.
35	35	12-23-15	03-00-50	12-20-71	56	M	24	24	EXP.
36	36	06-23-27	08-14-51	02-00-70	43	M	19	19	EXP.
37	37	00-00-00	00-00-00	00-00-70	00	M	00	00	EXP.
38	38	00-00-00	00-00-00	00-00-70	00	M	00	00	EXP.
39	39	00-00-00	00-00-00	00-00-70	00	M	00	00	EXP.
40	40	00-00-00	00-00-00	00-00-70	00	M	00	00	EXP.
41	41	00-00-00	00-00-00	00-00-70	00	M	00	00	EXP.
42	42	00-00-00	00-00-00	00-00-70	00	M	00	00	EXP.
43	43	00-00-00	00-00-00	00-00-70	00	M	00	00	EXP.
44	44	00-00-00	00-00-00	00-00-70	00	M	00	00	EXP.
45	45	00-00-00	00-00-00	00-00-70	00	M	00	00	EXP.
46	46	00-00-00	00-00-00	00-00-70	00	M	00	00	EXP.
47	47	00-00-00	00-00-00	00-00-70	00	M	00	00	EXP.
48	48	00-00-00	00-00-00	00-00-70	00	M	00	00	EXP.
49	49	00-00-00	00-00-00	00-00-70	00	M	00	00	EXP.
50	50	00-00-00	00-00-00	00-00-70	00	M	00	00	EXP.
51	51	00-00-00	00-00-00	00-00-70	00	M	00	00	EXP.
52	52	00-00-00	00-00-00	00-00-70	00	M	00	00	EXP.
53	53	00-00-00	00-00-00	00-00-70	00	M	00	00	EXP.
54	54	00-00-00	00-00-00	00-00-70	00	M	00	00	EXP.
55	55	00-00-00	00-00-00	00-00-70	00	M	00	00	EXP.
56	56	00-00-00	00-00-00	00-00-70	00	M	00	00	EXP.
57	57	00-00-00	00-00-00	00-00-70	00	M	00	00	EXP.
58	58	00-00-00	00-00-00	00-00-70	00	M	00	00	EXP.
59	59	00-00-00	00-00-00	00-00-70	00	M	00	00	EXP.
60	60	00-00-00	00-00-00	00-00-70	00	M	00	00	EXP.
61	61	00-00-00	00-00-00	00-00-70	00	M	00	00	EXP.
62	62	00-00-00	00-00-00	00-00-70	00	M	00	00	EXP.
63	63	00-00-00	00-00-00	00-00-70	00	M	00	00	EXP.
64	64	00-00-00	00-00-00	00-00-70	00	M	00	00	EXP.
65	65	00-00-00	00-00-00	00-00-70	00	M	00	00	EXP.
66	66	00-00-00	00-00-00	00-00-70	00	M	00	00	EXP.
67	67	00-00-00	00-00-00	00-00-70	00	M	00	00	EXP.
68	68	00-00-00	00-00-00	00-00-70	00	M	00	00	EXP.
69	69	00-00-00	00-00-00	00-00-70	00	M	00	00	EXP.
70	70	00-00-00	00-00-00	00-00-70	00	M	00	00	EXP.
71	71	00-00-00	00-00-00	00-00-70	00	M	00	00	EXP.
72	72	00-00-00	00-00-00	00-00-70	00	M	00	00	EXP.
73	73	00-00-00	00-00-00	00-00-70	00	M	00	00	EXP.
74	74	00-00-00	00-00-00	00-00-70	00	M	00	00	EXP.
75	75	00-00-00	00-00-00	00-00-70	00	M	00	00	EXP.
76	76	00-00-00	00-00-00	00-00-70	00	M	00	00	EXP.
77	77	00-00-00	00-00-00	00-00-70	00	M	00	00	EXP.
78	78	00-00-00	00-00-00	00-00-70	00	M	00	00	EXP.
79	79	00-00-00	00-00-00	00-00-70	00	M	00	00	EXP.
80	80	00-00-00	00-00-00	00-00-70	00	M	00	00	EXP.
81	81	00-00-00	00-00-00	00-00-70	00	M	00	00	EXP.
82	82	00-00-00	00-00-00	00-00-70	00	M	00	00	EXP.
83	83	00-00-00	00-00-00	00-00-70	00	M	00	00	EXP.
84	84	00-00-00	00-00-00	00-00-70	00	M	00	00	EXP.
85	85	00-00-00	00-00-00	00-00-70	00	M	00	00	EXP.
86	86	00-00-00	00-00-00	00-00-70	00	M	00	00	EXP.
87	87	00-00-00	00-00-00	00-00-70	00	M	00	00	EXP.
88	88	00-00-00	00-00-00	00-00-70	00	M	00	00	EXP.
89	89	00-00-00	00-00-00	00-00-70	00	M	00	00	EXP.
90	90	00-00-00	00-00-00	00-00-70	00	M	00	00	EXP.
91	91	00-00-00	00-00-00	00-00-70	00	M	00	00	EXP.
92	92	00-00-00	00-00-00	00-00-70	00	M	00	00	EXP.
93	93	00-00-00	00-00-00	00-00-70	00	M	00	00	EXP.
94	94	00-00-00	00-00-00	00-00-70	00	M	00	00	EXP.
95	95	00-00-00	00-00-00	00-00-70	00	M	00	00	EXP.
96	96	00-00-00	00-00-00	00-00-70	00	M	00	00	EXP.
97	97	00-00-00	00-00-00	00-00-70	00	M	00	00	EXP.
98	98	00-00-00	00-00-00	00-00-70	00	M	00	00	EXP.
99	99	00-00-00	00-00-00	00-00-70	00	M	00	00	EXP.
100	100	00-00-00	00-00-00	00-00-70	00	M	00	00	EXP.

* - Indication microscopically confirmed angiosarcoma of the liver.
 ** - Indication unknown data.

Total reported cases = 63

01	U.S.A.	10-17-23	12-09-48	03-03-73	49	22	16	03-03-73	U.S.A.
02	U.S.A.	08-19-33	11-15-55	05-00-70	37	14	13	08-28-71	U.S.A.
03	U.S.A.	05-25-15	11-28-45	12-19-73	58	28	28	12-19-73	U.S.A.
04	U.S.A.	01-15-24	07-06-52	08-19-67	43	15	15	01-07-68	U.S.A.
05	U.S.A.	01-25-12	06-19-44	06-09-64	52	20	18	04-09-64	U.S.A.
06	U.S.A.	00-00-29	01-17-62	02-00-74	45	12	12	07-24-75	U.S.A.
07	U.S.A.	05-03-22	08-27-44	00-00-68	45	24	18	03-23-68	U.S.A.
08	U.S.A.	05-06-20	10-07-46	08-00-61	41	15	15	08-29-61	U.S.A.
09	U.S.A.	11-08-31	09-09-54	03-01-74	43	17	17	03-00-75	U.S.A.
10	U.S.A.	08-16-13	06-12-51	09-00-68	55	17	17	05-10-68	U.S.A.
11	U.S.A.	05-27-09	10-14-46	03-00-70	61	23	23	03-16-70	U.S.A.
12	U.S.A.	11-17-18	09-13-49	05-02-69	50	20	13	05-02-69	U.S.A.
13	U.S.A.	12-01-21	08-19-44	03-00-74	52	30	30	07-04-74	U.S.A.
14	U.S.A.	11-04-27	03-08-50	00-00-69	41	17	4	03-27-69	U.S.A.
15	U.S.A.	05-06-31	06-23-55	10-11-74	43	19	19	ALIVE	U.S.A.
16	U.S.A.	04-22-28	09-15-54	00-00-75	46	21	13	11-02-75	U.S.A.
17	U.S.A.	00-00-15	00-00-43	06-19-75	60	32	32	ALIVE	U.S.A.
18	U.S.A.	08-11-17	00-00-55	01-30-76	58	21	18	01-30-76	U.S.A.
19	U.S.A.	00-00-10	12-00-46	00-00-77	67	30	22	01-02-77	U.S.A.
20	U.S.A.	10-02-23	00-00-49	01-00-76	52	27	27	12-04-76	U.S.A.
21	U.S.A.	00-00-23	09-08-58	00-00-00	50	00	14	04-06-73	U.S.A.
22	U.S.A.	00-00-17	00-00-46	00-00-77	67	30	22	01-02-77	U.S.A.
23	U.S.A.	00-00-23	09-08-58	00-00-00	50	00	14	04-06-73	U.S.A.
24	U.S.A.	00-00-17	00-00-46	00-00-77	67	30	22	01-02-77	U.S.A.
25	U.S.A.	08-07-10	09-00-47	03-10-77	67	30	20	03-10-77	U.S.A.
26	U.S.A.	00-00-17	00-00-39	05-27-77	60	38	26	05-27-77	U.S.A.
27	U.S.A.	04-05-14	00-00-53	04-08-73	59	20	20	04-08-73	U.S.A.
28	U.S.A.	12-15-31	00-00-50	07-12-73	42	23	18	07-12-73	U.S.A.

Full Titles

1. Cincinnati; OH
2. A General Scheme for the Incorporation of Pharmacokinetics in Low-dose Risk Estimation for Chemical Carcinogens. Example - Vinyl Chloride.
3. ICI Ends its Silence on Vinyl Chloride.
4. Establishing Regulatory Priorities.
5. Industrial Hygiene Evaluation of Thermal Degradation Products from PVC Fetus in Meat-wrapping Operations.
6. Angiosarcoma of Liver in Manufacture of PVC.
7. Occupational Acroosteolysis I An Epidemiological Study.
8. Risk of Angiosarcoma in Workers Exposed to Vinyl Chloride as Predicted for Studies in Rats.
9. Percutaneous Absorption of Vinyl Chloride Gas in Rhesus Monkey.
10. Development of Hepatic Angiosarcoma in Man Induced by Vinyl Chloride, Thorotrast, and Arsenic.
11. Study of Diseases Caused by Vinyl Chloride.
12. The Toxicity of VC as Determined by Repeated Exposures of Laboratory Animals.
13. Pathology of Vinyl Chloride.
14. The Halogenated Hydrocarbons, their Toxicity and Potential Dangers.