

MCA

MANUFACTURING CHEMISTS ASSOCIATION

1825 CONNECTICUT AVENUE, N.W. WASHINGTON, D.C. 20009 (202) 483-6126

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CHEMICALS
RESEARCH

APR 20 1978

April 17, 1978

TO: Vinyl Chloride Technical Panel
Vinyl Chloride Research Coordinators

SUBJECTS: Liver Angiosarcoma Registry, Dr. J. Stafford,
Division Manager, Health and Environment
Protection, Imperial Chemical Industries
Limited, Plastics Division (Two Documents)

Angiosarcoma of the Liver: An Epidemiologic
Survey, by Judith Brady, et. al.

Vinyl Chloride: A Case for the Use of
Laboratory Bioassay in the Regulatory Control
Procedure, by J. K. Wagoner and P. F. Infante

Abstracts or Papers for the Seventh Annual
Meeting of the Society of Toxicology,
San Francisco, California, March 12-16, 1978:
The Effect of Disulfiram on Vinyl Chloride -
Induced Carcinogenesis in Mice, by J. M.
Winston, et. al.

Gentlemen:

Dr. Torkelson has requested that the subject documents be
sent to the members of the Technical Panel and the Research
Coordinators.

Dr. Torkelson emphasizes once again Dr. Stafford's out-
standing work on the international compilation of data on
angiosarcoma cases. To date, Dr. Stafford's registry is con-
sidered by Panel members to be far more complete than the
information published by the National Institute for Occupational
Safety and Health.

VVC 000003915

-2-

Unfortunately, Dr. Stafford has not received answers to the questions on page one of his tabulation. Dr. Torkelson requests that Dr. Stafford's tables be distributed immediately to the Vinyl Chloride Monomer Sponsors with a request that they cooperate in every way possible with Dr. Stafford and his international effort.

Sincerely,

A handwritten signature in cursive script, appearing to read "J. T. Seawell".

J. T. Seawell
Project Manager
Vinyl Chloride Research

JTS:ec
Enclosures

VVC 000003916

Copied by MCA for distribution to the Vinyl Chloride Technical Panel and Research Coordinators, April 17, 1978, Mr. J. T. Seawell

IMPERIAL CHEMICAL INDUSTRIES LIMITED
PLASTICS DIVISION : WELWYN GARDEN CITY

LIVER ANGIOSARCOMA CASES (REVIEW DATE - 13th MARCH 1978)

2 Significant Changes

Pages

1
2-3
4
5-6
7-8
9
10
11
12
13
14-17
18

US 23 - a few more details including information
that case is at Great American Chemical
Company

France 09 -)
France 10 - } - new cases

3 Help Still Required

Germany - (a) Does anyone recognise NIOSH Case 08?
If it is genuine may I have details please.
(b) Is Case 06 (initials NH) a Hoechst case and
was it at Gendorf?
(c) What do I do with case 03? Did Dynamit Nobel
fill aerosol cans? If not, which company is
this and where? Should I remove 03 from our
list?

Italy - What do I do with case 01?

USA - (a) Is case 16 BEG? Louisville? Avon Lake?
(b) " " 17 " " " Still Alive?
(c) Is case 18 Charlie Arthur? Avon Lake? Reconcile
two entries in table.
(d) Whose case is 20? Details please.
Also case 22.
(e) More detail required on US 25 please,
eg Company and Plant location.
(f) Re case 23 (Gt. American Chemical) NIOSH says
he died 06-04-73, but SPI told me 06-04-76.
Which is correct please?

VVC 000003917

LIVER Angiosarcoma Cases - (Review Date:- 13th March 1978)

2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
NAME OR INITIALS	DATE OF BIRTH	COMPANY	FACTORY	FIRST VC EXPOSURE	DATE OF DIAGNOSIS	AGE AT DIAGNOSIS	YEARS OF EXPOSURE TO DIAGNOSIS	YEARS OF EXPOSURE	DATE OF DEATH	HISTOLOGICAL CONFIRMATION	ESTIMATED EXPOSURE LEVEL	OCCUPATION	OTHER CAREER HIGHLIGHTS	OTHER COMMENTS
	12.01.13	Solvay	Jemeppe	00.07.58	00.05.76	63	18	17	29.06.76	Yes	High	Autocleaner 14 yrs Polyworker 3 yrs	Driller in a foundry (2 yrs) Farmer (15 yrs) Work in glass ind. & chemical industry	Hepatic tests in October 1974 were normal. Retired Feb 1975 Hospitalised May 1976

ICI PLASTICS DIVISION
BESSEMER ROAD
WELWYN GARDEN CITY

* All dates use UK system

DAY - MONTH - YEAR

** All this information should be held confidential until it is published by Dr Theriault of Laval University in Quebec.

*** Many of dates altered to fit NIOSH 31/3/77 list.

LIVER Angiosarcoma Cases - (Review Date:- 13th March 1978)

	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
IND NO	NAME OR INITIALS	DATE OF BIRTH	COMPANY	FACTORY	FIRST VC EXPOSURE	DATE OF DIAGNOSIS	AGE AT DIAGNOSIS	YEARS OF EXPOSURE TO DIAGNOSIS	YEARS OF EXPOSURE	DATE OF DEATH	HISTOLOGICAL CONFIRMATION	ESTIMATED EXPOSURE LEVEL	OCCUPATION	OTHER CAREER HIGHLIGHTS	OTHER COMMENTS
A 1		15-12-13	SHAWMIGAN		1944	1955	41	10	11	02-09-55	Yes		Reactor Cleaner	Operator polymeris- ation	Smoker
2		06-03-14			1943	1957	43	14	14	21-12-57	Yes		Maintenance, millwright, pipefitter	Operator,	Worked overtime Smoker
3		26-08-19			1941	1962	42	21	20	23-03-62	Yes		Operator, foreman		Worked overtime Non-smoker
4		05-04-19			1945	1967	48	22	22	21-01-68	Yes		Reactor Cleaner	Operator, foreman, watercooling unit	Worked overtime Smoker
5		07-05-11			1944	1968	57	24	05	05-07-68	Yes		Reactor Cleaner	Water cooling unit	Worked overtime Smoker
6		15-12-19			1947	1971	51	24	23	10-01-71	Yes		Reactor Cleaner	Maintenance, millwright	Worked overtime Smoker
7		09-11-19			1946	1972	53	26	25	24-12-72	Yes		Reactor Cleaner	Machins Shop oper- ator and poly unit	Worked overtime Smoker
8		13-05-20			1961	1973	53	12	05	12-06-73	Yes		Reactor Cleaner	Maintenance machine shop	In plant 25 years! Smoker

VVC 000003919

ICI PLASTICS DIVISION
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LIVER Angiosarcoma Cases - (Review Date:- 13th March 1978)

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NAME OR INITIALS	DATE OF BIRTH	COMPANY	FACTORY	FIRST VC EXPOSURE	DATE OF DIAGNOSIS	AGE AT DIAGNOSIS	YEARS OF EXPOSURE TO DIAGNOSIS	YEARS OF EXPOSURE	DATE OF DEATH	HISTOLOGICAL CONFIRMATION	ESTIMATED EXPOSURE LEVEL	OCCUPATION	OTHER CAREER HIGHLIGHTS	OTHER COMMENTS
9	19-07-21	Shawinigan		1946	1974	53	28	26	04-09-74	Yes		Furnace op pipefitter maintenance		Worked overtime Snoke
10	16-05-15			1953	1976	61	23	14	00-04-77	Yes		Reactor Cleaner	Furnace op maintenance packaging	Ex-smoker

VVC 000003920

ICI PLASTICS DIVISION
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 WELBYN GARDEN CITY

LIVER Angiosarcoma Cases - (Review Date:- 13th March 1978)

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1 AND NAME OR ICE NO INITIALS	DATE OF BIRTH	COMPANY	FACTORY	FIRST WC EXPOSURE	DATE OF DIAGNOSIS	AGE AT DIAGNOSIS	YEARS OF EXPOSURE TO DIAGNOSIS	YEARS OF EXPOSURE	DATE OF DEATH	HISTOLOGICAL CONFIRMATION	ESTIMATED EXPOSURE LEVEL	OCCUPATION	OTHER CAREER HIGHLIGHTS	OTHER COMMENTS	
		00.00.28	State Co	Kovaky	00.00.57	00.00.73	46	16	16	00.00.74	Yes				
		00.00.26	State Co	Kovaky	00.00.51	00.00.66	40	15	15	00.00.66	Yes				

VVC 000003921

VVC 000003921

ICI PLASTICS DIVISION
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WELWYN GARDEN CITY

LIVER Angiosarcoma Cases - (Review Date:- 13 March 1978)

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CASE NO	NAME OR INITIALS	DATE OF BIRTH	COMPANY	FACTORY	FIRST VC EXPOSURE	DATE OF DIAGNOSIS	AGE AT DIAGNOSIS	YEARS OF EXPOSURE TO DIAGNOSIS	YEARS OF EXPOSURE	DATE OF DEATH	HISTOLOGICAL CONFIRMATION	ESTIMATED EXPOSURE LEVEL	OCCUPATION	OTHER CAREER HIGHLIGHTS	OTHER COMMENTS
01		15.04.24	RP	Rouasillon	00.01.46	18.02.67	43	21	19	19.02.67	Yes	High	Polyworker 19 years		Ref. Ravier et Al Arch. Mal. Prof. 1 30 n° 3 - nov 75 p. 171-177
02		03.06.11	PCUK	Brignoud	06.07.59	15.01.75	63	16	12	24.01.75	Yes	High	Polyworker 10 years		Ref. G. Bonneton et "Nouvelle press medicale" 5 nov. 77 - p. 735
03		06.01.20	RP	St Fons	00.00.46	15.01.75	55	29	29	29.06.75	Yes	High	Polyworker 10 years	VCM Production 16 years Compounding 2 years	Ref. Rety et Al Arch. Mal. Prof. 1 37 n° 6 Juin 76 p. 551 - 555
04		27.01.27	PCUK	Brignoud	19.10.49	16.01.76	49	26	26	04.01.76	Yes	High	Production worker 8 years Auto-cleaner 18 years		
05	VVC 000003922	29.01.38	PCUK	Brignoud	18.01.65	13.05.76	38	11	11	13.05.76	Yes	High	Polyworker 11 years		Ref P Couderc et Al "Semaine des hopitaux 10 Septembre '76
06		14.04.34	PCUK	Brignoud	01.03.58	12.08.76	42	18	13 (NIOH says 17)	11.09.76 (NIOH says 12.09.76)	Yes	High	Polyworker 10 years		Previously had bone angiosarcoma" AOL prior to AS Ann. de Mal. Prof. July '77. p 645 & 6

ICI PLASTICS DIVISION
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WELWYN GARDEN CITY

LIVER Angiosarcoma Cases - (Review Date:- 13 March 1978)

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CASE NO	NAME OR INITIALS	DATE OF BIRTH	COMPANY	FACTORY	FIRST VC EXPOSURE	DATE OF DIAGNOSIS	AGE AT DIAGNOSIS	YEARS OF EXPOSURE TO DIAGNOSIS	YEARS OF EXPOSURE	DATE OF DEATH	HISTOLOGICAL CONFIRMATION	ESTIMATED EXPOSURE LEVEL	OCCUPATION	OTHER CAREER HIGHLIGHTS	OTHER COMMENTS
07		00.00.27	RP	St Auban	01.07.50	After death NIOSH say 00.07.76	49 *	26	22	02.07.76	Yes	High	Plant foreman		Died of septicaemia Small liver lesion found after autopsy
08		01.04.34	SOLVAY	Tavaux	23.05.57	03.12.75	42	19	19	30.01.77	Yes	High	Packer then polyworker		
09	RX	08.10.14	RP	St Fenn	10.01.48	26.04.76	62	23	28	16.12.77	Yes	High	Polymerisation Operator	10 years in sulphuric acid factory, storekeeper & general services	Operated 4.76 removal of tumour from liver and died after second surgical operation for biliary bronchial fistula
10	V	24.05.15	RP	St Fenn	00.12.56	00.01.73	50	21	21	00.01.73	Yes	High	Autoclave Cleaner	Also in mechanical engineering industry	Died of pulmonary embolism 5 days after surgery

VVC 000003923

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 WELWYN GARDEN CITY

LIVER Angiosarcoma Cases - (Review Date:- 13 March 1978)

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ND NO	NAME OR INITIALS	DATE OF BIRTH	COMPANY	FACTORY	FIRST VC EXPOSURE	DATE OF DIAGNOSIS	AGE AT DIAGNOSIS	YEARS OF EXPOSURE TO DIAGNOSIS	YEARS OF EXPOSURE	DATE OF DEATH	HISTOLOGICAL CONFIRMATION	ESTIMATED EXPOSURE LEVEL	OCCUPATION	OTHER CAREER HIGHLIGHTS	OTHER COMMENTS
	OT	04.06.30	Dynamit	Troisdorf	01.10.56	19.9.68	38	12	12	25.01.69	Yes (NIO SH)		Polyworker		Dates altered to fit NIOSH 31/3/77 List and 1/78 "
	HA	26.07.31	Dynamit	Troisdorf	14.10.57	25.9.70	40 (39?)	13	12	14.12.71	Yes (NIO SH)		Polyworker		Dates altered to fit NIOSH 31/3/77 Lis ^a and 1/78 "
	UA	16.07.30	Dynamit?		09.06.52	00.03.73	43	21	21 (NIO SH says 14)	10.10.73	Yes (NIO SH)		Filling pesticide aerosol cans with VC		Reported under non-polymerisation workers in NIOSH list of 31/3/77. Is this correct?
		04.09.30	Wacker	Burg-hausen	16.04.57	26.11.74	44	17	17	25.11.74	Yes (NIO SH - no comment)		Polyworker & temp autocleaner		
	MW	01.01.32	Dynamit	Troisdorf	16.12.62	00.00.75	43	13	12	10.01.75	Yes		Polyworker		
	EH	09.05.36	Hoechst	Gandorf?	02.04.60	00.12.73 (NIO SH says 00.00.74)	38	13 (NIO SH says 14)	05 (NIO SH says 03)	16.12.74	Yes (NIO SH)		Polyworker (NIO SH says assistant factory chemist)		Reported under non-polymerisation workers in NIOSH list of 31/3/77 & 1/78
		29.09.26	Wacker	Burg-hausen	15.04.54	12.11.75	49	21	21 (NIO SH says 12)	13.11.75	Yes		Autocleaner 12 yrs Foreman Tech Dev 8 yrs		

VVC 000003924

ICI PLASTICS DIVISION
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LIVER Angiosarcoma Cases - (Review Date:- 13 March 1978)

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CASE NO	NAME OR INITIALS	DATE OF BIRTH	COMPANY	FACTORY	FIRST VC EXPOSURE	DATE OF DIAGNOSIS	AGE AT DIAGNOSIS	YEARS OF EXPOSURE TO DIAGNOSIS	YEARS OF EXPOSURE	DATE OF DEATH	HISTOLOGICAL CONFIRMATION	ESTIMATED EXPOSURE LEVEL	OCCUPATION	OTHER CAREER HIGHLIGHTS	OTHER COMMENTS
?	?	19.10.17	?	?	19.04.54	1975	58	22	21	25.12.75	Yes	?	?	?	In NIOSH list of 16.2.77 awaiting details. These detail given by NIOSH on 31.3.77. Whose case is this? Why? we not heard of it
?	RK	13.12.34	CWH	Marl	00.02.61 (NIOSH says 2.12.59 but CWH confirms 00.02.61)	end '76 (NIOSH says 16.6.76 but CWH confirms end '76)	42	15 (NIOSH says 17 but CWH confirms 15)	13 (NIOSH says 15 but CWH confirms 13)	Still alive	(NIOSH says yes)	High peaks	Autoworker & cleaner 8 yrs Next job 3 yrs Control room 1 yr		Still Alive In job A was 17% cleaner with average 700 ppm exposure and occasional 1000 +. In job B, 17% cleaner with average 250 ppm. In job C, 75 ppm average exposure
	WJ	25.07.29	Baker	Burg-hausen	10.10.55	28.06.77	47	22	28	28.06.77	Yes	High	3 years autoclave cleaner 19 years filter operator		
	FK	29.12.36	CWH	Marl	02.01.61	00.00.77	41	16	10	07.03.77	Yes	High peaks	9 years autocleaner		exposures identical to RK case from 1974

VVC 000003925

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* Should this case be removed from the list? MIOSH have it on their supplementary list relating to non-polymerisation workers.

JS 1/8/77

LIVER Angiosarcoma Cases - (Review Date:- 13 March 1978)

	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
ID NO	NAME OR INITIALS	DATE OF BIRTH	COMPANY	FACTORY	FIRST VC EXPOSURE	DATE OF DIAGNOSIS	AGE AT DIAGNOSIS	YEARS OF EXPOSURE TO DIAGNOSIS	YEARS OF EXPOSURE	DATE OF DEATH	HISTOLOGICAL CONFIRMATION	ESTIMATED EXPOSURE LEVEL	OCCUPATION	OTHER CAREER HIGHLIGHTS	OTHER COMMENTS
		15.06.34			00.00.65	19.04.71	36	06	03	16.04.71	?Yes		PVC Bag Extruder		Primary tumour may have been pericardium. Not homogeneous with other cases.
		13.11.29	Montedison	Porto Marghera	00.00.57	13.12.72	43	15	06	00.12.72	Yes		Polymworker		
		14.03.20	Solvay		00.01.53	10.07.75	55	22	21	10.07.75	Yes	High	Autocleaner 9 yrs Autoclave operator 12 yrs		

VVC 000003926

* Could Japanese PVC Association
be asked to comment on this table.

ICI PLASTICS DIVISION
BESSEMER ROAD
WELWYN GARDEN CITY

LIVER Angiosarcoma Cases - (Review Date:- 13 March 1978)

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CASE NO	NAME OR INITIALS	DATE OF BIRTH	COMPANY	FACTORY	FIRST VC EXPOSURE	DATE OF DIAGNOSIS	AGE AT DIAGNOSIS	YEARS OF EXPOSURE TO DIAGNOSIS	YEARS OF EXPOSURE	DATE OF DEATH	HISTOLOGICAL CONFIRMATION	ESTIMATED EXPOSURE LEVEL	OCCUPATION	OTHER CAREER HIGHLIGHTS	OTHER COMMENTS
	TOMOJI MORI	01-08-22	mitsui TOATSU	NAGOYA	1951? (NIOSH 00-04-53)	21-08-75 (NIOSH 21.08.74)	52	22	22	24-10-75	YES (NIOSH No comment)	often 3000 ppm and no protective measures until 1974	13 yrs auto-clave cleaner 1964 - assigned to different work since had ill health.		Japan Times 25-10-75
	SHIZUO SATO		SUB CONTRACTOR TO MITSUI TOATSU	NAGOYA								Reactor cleaner 1964-1974			Pre-cancerous disorder of liver. Japan Times 25.10.75
	SHIGEO TANAKA		mitsui TOATSU	NAGOYA	1953	Nov '68	43	16		14-01-69					Japan Times 27-10-75 (some figures uncertain - bad print)
	KAZUYOSHI ONO		mitsui TOATSU	NAGOYA		Dec '67	47			Dec '67					Japan Times 27-10-75
		02.08.39			00.11.58	10.08.76	37	18	13	10.08.76					

VVC 000003927

ICI PLASTICS DIVISION
BESSEMER ROAD
WELWYN GARDEN CITY

LIVER Angiosarcoma Cases - (Review Date:- 13 March 1978)

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	AH	23.12.15	Korok Hydro	Heroya	00.03.50	20.12.71	56	22	/ 21	04.01.72	Yes	High	Foreman & Autoclave Supervisor		Confirmed by Dr Thils-Evanson of NH
VVC 000003928															

VVC 000003928

ICI PLASTICS DIVISION
BESSEMER ROAD
WELLYN GARDEN CITY

LIVER Angiosarcoma Cases - (Review Date:- 13 March 1978)

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NU	23.06.27	Kemnord	Sunderwall	14.08.51	20.10.70	43	19	18	20.10.70	Yes		Polyworker		
BL	27.11.11	Kemnord	Sunderwall	00.01.45	00.08.72	61	27	27	16.03.72	Yes		VCM production		but Mr Blokquist remembers him as polymerisation worker and personally pulling him unconscious in the VPP works
NE	10.06.10	Kemnord	Sunderwall	00.05.47	18.03.76	65	29	21	19.03.76	Yes	High	Polyworker		
AL	16.11.14	Kemnord	Sunderwall	30.00.46	12.05.77	64	31	31	12.05.77	Yes	High	1946-1958 polymerisation worker (12 yrs) 1958-1977 Foreman (19 yrs)	In first 12 years of employment had been heavily exposed. In 1974, liver cancer - malignancy and metastasis diagnosed. Data confirmed in Dr D Byren letter 18.8.77 to CEFIC	

VVC 000003929

ICI PLASTICS DIVISION
BESSEMER ROAD
WELWYN GARDEN CITY

LIVER Angiosarcoma Cases - (Review Date:- 13 March 1978)

2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
ND NAME OR NO INITIALS	DATE OF BIRTH	COMPANY	FACTORY	FIRST VC EXPOSURE	DATE OF DIAGNOSIS	AGE AT DIAGNOSIS	YEARS OF EXPOSURE TO DIAGNOSIS	YEARS OF EXPOSURE	DATE OF DEATH	HISTOLOGICAL CONFIRMATION	ESTIMATED EXPOSURE LEVEL	OCCUPATION	OTHER CAREER HIGHLIGHTS	OTHER COMMENTS
WJ	20.04.01	ICI	Hillhouse	04.04.44	03.12.72 (For & Collier paper says 23.12.72)	71	28	22	03.12.72 (For & Collier paper says 23.12.72)		500 ppm	1944-7 VCM 1947-8 Drier 1948-61 Autoclave operator 1961-66 Drier		
BJW	02.06.37	BP	Barry	00.02.66	00.12.74	37	09	3.5	24.12.74	Yes	High	Autoclave cleaner		Exposure limited to 2/66 - 9/69
														• NIOSH are still quoting Case 02 from IGC0 which has been discounted in the UK IGC0 spread many polymers including PTC onto fabrics.

VVC 000003930

ICI PLASTICS DIVISION
BESSEMER ROAD
WELWYN GARDEN CITY

* UK system of dates
DAY - MONTH - YEAR

LIVER Angiosarcoma Cases - (Review Date:- 13 March 1978)

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AND E NO	NAME OR INITIALS	DATE OF BIRTH	COMPANY	FACTORY	FIRST VC EXPOSURE	DATE OF DIAGNOSIS	AGE AT DIAGNOSIS	YEARS OF EXPOSURE TO DIAGNOSIS	YEARS OF EXPOSURE	DATE OF DEATH	HISTOLOGICAL CONFIRMATION	ESTIMATED EXPOSURE LEVEL	OCCUPATION	OTHER CAREER HIGHLIGHTS	OTHER COMMENTS
	EARL PARKS	17-10-23	BFG	Louisville	09-12-48	03-03-73	49	24	21	03-03-73	YES				Rolling Stone Art Ref 1 NY Acad of Sc Symp
		19-08-33	BFG	Louisville	15.11.55	00-05-70	37	14	13	27-09-71 (NIOSH says 28.09.71)	YES				Ref 1 Also Block JAMA 1/7/74 p53
		25.05.15	BFG	Louisville	28.11.45	19-12-73	58	28	28	19-12-73	YES				Ref 1
		15-01-24	BFG	Louisville	06-07-52	19-08-67	43	15	15	07-01-68	YES				Ref 1
		25-01-12	BFG	Louisville	19-06-44	09-04-64	52	20	20	09-04-64	YES				Ref 1
	RAY AUSTIN JONES?	23.11.28	BFG	Louisville	17-01-62	00-02-74	45	12	12	24-07-75	YES		US Air Force		Ref 1 + Louisville Time 23/7/75 Retired April 1974
	CHARLES T SMART	03-05-22	DGC	S Charle- ston	27.08.44	00-00-68	45	24	17 1/2	23-03-68	YES				Ref 1
VVC 000003931		06-05-20	Goodyear	Niagara	07-10-46	00-08-61	41	15	15	29-08-61	YES				Ref 1

ICI PLASTICS DIVISION
BESSEMER ROAD
WELSH GARDEN CITY

• UK System of dates
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LIVER Angiosarcoma Cases - (Review Date:- 13 March 1978)

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RAYMOND GENTLE FINNEY	08-11-31	BRU	Louisville	28.05.45	01-03-74	43	29	24	11-03-75	YES	2000 ppm			Ref 1 has wrong figures re first exposure, Louisville Times 29-10-74, 12-3-75, 10-3-76
	16-08-13	Goodyear	Niagara	12-06-51	00-05-68	55	17	17	10-05-68	YES				Ref 1
	27-05-09	Goodyear	Niagara	14-10-48	00-03-70	61	23	23	16-03-70	YES				Ref 1
	17.11.18	Pirelli	Pettistown	13-09-49	02-05-69	50	20	19	02-05-69	YES				Ref 1
RICHARD KIRK	01-12-21	UCC	S Charlesston	11.12.45	00-05-74	52	32	25	07-04-74	YES	2000 ppm			Charleston Daily Mail 21/7/75
														Dubious fabrication case
														Dubious fabrication case
	04-11-27	BRU?		08-05-50	00-00-69	41	19	04	27-03-69	YES		1951-4 VCM Polymerisation	From 1954 onwards in Army and other service, 16-50-Army	Table 4 in Wagoner Testimony to US Senate.
	06-05-31	BRU?		23-06-55	11-10-74	43	19	19	ALIVE?	YES				

VVC 000003932

• UK system of dates

DAY - MONTH - YEAR

ICI PLASTICS DIVISION
BESSEMER ROAD
WELWYN GARDEN CITY

LIVER Angiosarcoma Cases - (Review Date:- 13 March 1978)

	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Y AND CASE NO	NAME OR INITIALS	DATE OF BIRTH	COMPANY	FACTORY	FIRST VC EXPOSURE	DATE OF DIAGNOSIS	AGE AT DIAGNOSIS	YEARS OF EXPOSURE TO DIAGNOSIS	YEARS OF EXPOSURE	DATE OF DEATH	HISTOLOGICAL CONFIRMATION	ESTIMATED EXPOSURE LEVEL	OCCUPATION	OTHER CAREER HIGHLIGHTS	OTHER COMMENTS
18	Is this Charlie Arthur?	22-04-28	Is this BFG?	Is this Avon Lake	15.09.54	00-00-75	46	21	13	02-11-75	Yes				
19	VIRGIL CHRISTIAN	00-00-15	UCC	S Charles- ton	20-00-43	19-06-75	60	32	32	6-4-76 (latest DIOSH says ALIVE)	Yes	2000 ppm			Williamsport Sun Gazette 21 June 75 Charleston Dail. all 21/7/75.
20		31.08.17			00.00.55	30-01-76	58	21	18	30-01-76	Yes				
21	CHESTER HINDLE	02.09.09	UCC	S Charles- ton	00.12.46	early 1977	67	30	22	02-01-77	Yes				28 yrs with UCC at SC Retired News Release 23-2-77
22		02-10-23	Is this BFG?	Is this 10th Louisville victim?	11.07.47	00-01-76	52	29	28	04-12-76	Yes				
23		00-00-23	Is this BFG?	Is this victim?	08.09.58	05.04.73	50	15	14	06-04-76	Yes				
187	CHARLIE ARTHUR	22-07-28	BFG	AVON LAKE	54	00-03-75	47	21	13	75		13 years AUTO- CLEANER 8 yrs on ESTOL PLAST- ICISER AND CARBONET	NAVY - TYRE STORE		Rolling Stone Magazine 15/1/76

VVC 000003933

OPERATIONS

ICI PLASTICS DIVISION
BESSEMER ROAD
WELWYN GARDEN CITY

LIVER Angiosarcoma Cases - (Review Date:- 13 March 1978)

	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
CASE NO	NAME OR INITIALS	DATE OF BIRTH	COMPANY	FACTORY	FIRST VC EXPOSURE	DATE OF DIAGNOSIS	AGE AT DIAGNOSIS	YEARS OF EXPOSURE TO DIAGNOSIS	YEARS OF EXPOSURE	DATE OF DEATH	HISTOLOGICAL CONFIRMATION	ESTIMATED EXPOSURE LEVEL	OCCUPATION	OTHER CAREER HIGHLIGHTS	OTHER COMMENTS
22			BFG	Louisville No 10		24-01-76		28		ALIVE					Louisville Times 26-1-76. Said to be 10th AS victim at Bel lane factory of whom have dtd so far.
	Charles Edward Maore	17.05.47	UCC	South Charleston	1939	27.05.77	60	38	24? (NIOSH says 26)	27.05.77	Yes	Medium to High for 24 years	1941-65 Non-solvent vinyl resin unit and Dispersion vinyl resin unit first as fitter helper, then shift utility man	1937-39 was off and on labourer 1939-41 may have been exposed as reactor cleaner 1943 became shift fitter 1946 became shift utility man 26.4.1965 employment was terminated	H M Wheeler letter of 18/8/77 to J Stafford gives details.
		07.08.10	?	?	00.02.47	10.03.77	67	30	20	10.03.77	Yes				

VVC 000003934

ICI PLASTICS DIVISION
BESSEMER ROAD
WELMATH GARDEN CITY

LIVER Angiocarcinoma Cases - (Review Date:- 13 March 1976)

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
NAME AND AGE	NAME OR INITIALS	DATE OF BIRTH	COMPANY	FACTORY	FIRST EXPOSURE	DATE OF DIAGNOSIS	AGE AT DIAGNOSIS	YEARS OF EXPOSURE TO DISEASE	YEARS OF EXPOSURE	DATE OF DEATH	HISTOLOGICAL CONFIRMATION	ESTIMATED EXPOSURE LEVEL	OCCUPATION	OTHER CANCER HIGHLIGHTS	OTHER COMMENTS
1	Lavin	05.04.14	Jugo THERM	Split	00.00.53	08.04.73	59	20	20	08.04.73	Yes				
2		15.11.31	Jugo THERM	Split	00.00.50	12.07.73	42	23	18	12.07.73	Yes				

VVC 000003935

Copied by MCA for distribution to the Vinyl Chloride Technical Panel and Research Coordinators, April 17, 1978, Mr. J. T. Seawell

From J Stafford
Division Manager
Health & Environment Protection
Welwyn
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16 March 1978

ASL CASES

With my 13th March 1978 review of the ASL cases, may I plead for help. I have been revising these tables at regular intervals but am handicapped by lack of response on some of the questions I raise. Will you please check through your company and country cases and let me have notes of misinformation and also fill me in on the blank spaces.

So far as I can see the ASL cases in the VCM/PVC industry are distributed:

USA	- 23
Canada	- 10
Germany	- 10
France	- 10
Sweden	- 4
Italy	- 2
UK	- 2
Japan	- 2
Yugoslavia	- 2
Czechoslovakia	- 2
Norway	- 1
Belgium	- 1
	69

J Stafford

VVC 000003936

Liver Angiosarcoma Cases

Circulation:

Dr G Paddle
Dr D P Duffield
Dr W G F Adams
Dr D Winter
Mr G J Sleddon/Mr A W Barnes
Dr D W Plester
Mr W Adams - Vinatex
Mr P Sharrock - BP
Mr R Hards - BIP
Dr B W Duck - BP
Mr T L Phillips - BP
Mr B N P Hutchesson - CIA
Mr A S Garnett - CEFIC
Mr H Vallender - CIA
Dr W Freiesleben - Wacker
Dr L de Boer - Shell
Mr J C Thomas - Rhone-Poulenc
Dr T Garlanda - Montedison
Mr M Bonnefoy - Solvay
Dr B List - Lonza
Mr P G Claus - APME
Dr J Kammuller - Shell
Mr C Sjoelin - Kemanord
Mr C Rangnes - Norsk Hydro
Dr R Praefke - CWH
Mr H Emminger - VKE
Mr P de Voogd - Shell
Dr E Lloyd-Jones - BP
Dr G Riley - Hillhouse Assistant
Works Manager
Dr F W Best - Millbank
Dr G Norcross - Everberg
Mr C d'Haenens - APME

Dr T R Turkelson - Dow
Mr J Lawrence - SPI
Mr N Wheeler - UCC
Dr A Ross Adams - Air Products
Dr Walter D Harris - Uniroyal Inc.

Dr D Douglas - EMAS
Dr P Baxter - EMAS

Dr J Stafford (6)

JS/ERA/DSO-107
13 March 1978

VVC 000003937