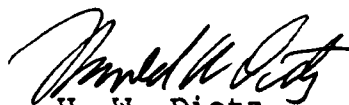


TO D. H. Hall	FIELD POINT OR DEPT. & BLDG. NO. Cleveland OTM-3	DATE YOUR LETTER
FROM H. W. Dietz	FIELD POINT OR DEPT. & BLDG. NO. D/0020, Corporate HQ	DATE THIS LETTER 6-2-87
SUBJECT		

On 13 May 1987, I sent you a copy of a review article on Vinyl Chloride written by Sir Richard Doll. I have now received further information from Dr. Bennett of ICI which you or your people might find useful.

Most important, I suppose, we now have the assessment of costs which BFG agreed to share at the beginning of the project. Apparently the expenses were minimal and will be assumed by ICI so that BFG's share is only 1/5 of the original agreed cost. I trust you can arrange for the appropriate amount to be sent as requested in Dr. Bennett's letter.


H. W. Dietz

jp 0602-2

22231001



ICI Chemicals and Polymers Group
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Chemicals and
Polymers
Group

Hillhouse
Site

Dr H W Dietz
Dr S L Dombrowski
Mr D Middleton
Dr D M J Williams

B F Goodrich, USA
Dow Chemicals, USA
Norsk Hydro, UK
B P Chemicals, UK

Your ref

Our ref

BB/MO

Date 22 May 87

**EPIDEMIOLOGICAL SURVEY BY SIR RICHARD DOLL
REIMBURSEMENTS OF COSTS**

At the outset of this Project, I agreed with all the five Companies involved -

B F Goodrich, USA
Dow Chemicals, USA
Norsk Hydro, UK
B P Chemicals, UK
ICI PLC, UK

- that Sir Richard Doll would be reimbursed on a world tonnage basis. The cheque for £15,000 would go direct to Green College, not to Sir Richard Doll, and any expenses would be paid to him direct. (At that time, it was felt that the expenses' element could become quite great).

Due to everybody's co-operation, and myself being in constant contact with Sir Richard, the expenses element has been minimal, and has amounted to only to £286, which I have reimbursed to him directly from my own budget.

I now feel, because of the small amount we have to pay as a group, that the easiest way would be for all the Companies to send a cheque to me, to the value of £3000, made out to ICI PLC. I will then forward one cheque, to the value of £15,000, to Green College.

Bennett

B BENNETT
M.A.
M.B., B.Ch., B.a.O.
D.Obst.R.C.O.G.
D.I.H., M.F.O.M.

22231002



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C&P
Chemicals and Polymers Group
Hillhouse Site

Dr H W Dietz
The B F Goodrich Company
3925 Embassy Parkway
AKRON
Ohio 44313
USA

Your ref

Our ref

BB/MO

Date 27 May 87

Dear Harold,

EPIDEMIOLOGICAL SURVEY BY SIR RICHARD DOLL

As you will see from the attached correspondence, it is ICI's intention to communicate the Sir Richard Doll Report to the workforce.

In view of its contents and the fact that the individuals involved in the communication are not medical people, and do not know the VCM history, I have written a very short background document, (which I realise is not comprehensive), together with a 'Question and Answer' document, to help the Management to answer any queries which may arise. If any more detailed questions are asked, I will be involved in that area.

I hope you find this of value and help, and I certainly would be grateful to receive any comments which you feel are appropriate to the report.

Kind regards.

Yours sincerely,

B BENNETT
M.A.
M.B., B.Ch., B.a.O.
D.Obst.R.C.O.G.
D.I.H., M.F.O.M.

enc

22231003

From
Dr B Bennett
Area Medical Adviser

Dr H W Dietz
ICI Chemicals & Polymers Group
Occupational Health Department
Hillhouse Site
PO Box 4 Thornton - Cleveleys
Blackpool FY5 4QD

To
All recipients of documents with reference
to the Sir Richard Doll Report

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Date 26 May 87

"EFFECTS OF EXPOSURE TO VINYL CHLORIDE : AN ASSESSMENT OF THE EVIDENCE"
Richard Doll, FRS

The above report will be in the public domain from the end of May.
Enclosed is a background document on VCM Health Issues, together with a
Q & A Document to assist the forthcoming communication process.

It is our intention to communicate the findings in line with the enclosed
timetable.

Bennett

B BENNETT

encs

22231004

Communication and Dissemination of Information : Sir Richard Doll Report

Documents to be circulated on 26 May 87

Within EVC/ICI

Hillhouse	)	
Barry	)	
Runcorn	)	
Wilhelmshaven	)	Each Works to organise their own communication
Waldshut	)	at a similar time and not before 16 Jun 87
Sins	)	

Hillhouse	:	Health and Safety Committee	-	16 Jun 87
		Site Committee	-	24 Jun 87
		Staff Committee	-	9 Jul 87

EVC

Copies of documents to :

Mr A Catanzariti, Technical Director	)	Communicate to
Mr C Cella, Enichem Polimeri SPA	)	Enichem Plants
Mr W J Prinselaar, Commercial Director	)	
Mr A J de Vos, Vinyls Environmental Adviser	)	for information

ICI

Copies of documents to :

Mr R L Pocock
Mr F Rotts - for communication to Wilhelmshaven, Waldshut
and Sins
Mr J S Smith/Dr D J Wheeler - for communication to
Hillhouse and Barry
Mr G Wynne - for communication to Runcorn Plant
Dr D D Bryson/Dr J C Paterson/Dr B Bennett
Dr I F H Purchase/Dr G M Paddle

Non-ICI

Copies of documents to :

Mr D Middleton/Mr H Clayton - Norsk Hydro
Dr D M J Williams, B.P.
Dr A E J Evans, Unilever

Also send documents to :

B F Goodrich, USA	Dr H W Dietz
Dow Chemicals, USA	Dr S L Dombrowski
ICI Americas, Wilmington	Dr D M Ferguson

Publicity

Mr T Quinlan/Mr L Allen
Mr D O'Neill

22231005

26 May 87

VCM

Background Document

VCM was first recognised as being a chemical of major toxicological concern in the mid 60's with the discovery of Acro-osteolysis (a bone disease) in individuals exposed to high levels. Professor Viola and his co-workers, due to the need to explain the phenomenon, opened up the study of VCM toxicity which, for the first time, suggested that VCM was an animal carcinogen.

This work was confirmed by Professor Maltoni in Italy. In 1971, he embarked on a further programme of work at the Institute of Oncology in Bologna, sponsored by ICI, Montedison, Solvay and Rhone-Poulenc.

Maltoni observed one angiosarcoma of the liver at 500 ppm and one at 250 ppm. Angiosarcoma of the liver (ASL) is a very rare type of cancer of the liver, occurring naturally in 1 in 10 million of the population. Maltoni recommended that epidemiological investigations and medical controls should be undertaken on exposed workers.

As a result of this, ASL was found in a greater than expected number of Goodrich employees, in Dec 1973. Consequently, Industry - on a world-wide basis - directed their efforts, with the co-operation of the workforce, towards a further reduction of exposure of personnel to VCM. The levels of personal exposure were reduced quickly from 150 ppm to 5 ppm, and to-day they are even lower, and

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Since 1974, VCM - being a human carcinogen - has attracted considerable attention, resulting in the publication of Papers of varying quality.

Allegations have been expressed regarding the carcinogenic effects of VCM in humans, producing tumours in other parts of the body, in addition to ASL.

To clarify the situation, ICI, together with Dow, Goodrich, BP and Norsk

Hydro, commissioned Sir Richard Doll to assess the strengths and weaknesses of the published evidence available to date.

Sir Richard himself will receive no financial benefit and it was agreed, prior to commencing the Project, that there would be no restriction on the circulation and dissemination of the information, or alteration to the text.

26 May 87

22231007

26 May 87

Angiosarcoma of the liver (ASL) - Questions and Answers

Medical/Personnel

Q1. What is angiosarcoma of the liver (ASL)?

A1. A very rare and highly malignant liver tumour. It is extremely difficult to diagnose until late in its development. It occurs naturally (5 cases a year in the UK and about 15 a year in the US) and is also associated with exposure to high levels of VCM.

Q2. How many people have died of ASL to date?

A2. World-wide, 130, out of about 200,000 workers employed in the Industry.

Q3. Can you predict how many cases of ASL can be expected from those employees who have been exposed?

A3. Sir Richard Doll and Dr. Bennett have predicted that, in Industry, a further 130 cases may be expected, due to its long latency period (22.54 years).

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Q4. Have there been any cases of ASL that have occurred in workers exposed to the reduced VCM levels imposed in 1974?

A4. No, and there are no medical grounds to suggest that the incidence will be distinguishable from the normal population expectancy.

Operations

Q5. What changes have been made in working procedures and exposure levels to eliminate this risk for current and future workers?

A5. Exposure levels have been reduced by a factor of 100 times to below the EEC required maximum level of 3 ppm averaged over a year.

Exposure on our Plants is now of the order of an annual average of less than 1.5 ppm. This has been achieved largely by equipment re-design to reduce leaks, by careful monitoring, maintenance, and stringent operation procedures.

Prior to the mid '70's, the greatest exposure came from manual cleaning of the inside of the autoclaves. Automatic procedures have now all but eliminated manual cleaning. If employees have to enter the vessels, the residual VCM is reduced to the lowest achievable levels and respirator protection is used.

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Q6. Can you be certain that current work practices and exposure levels are sufficient now to eliminate liver-cancer risk?

A6. Medically, we believe that present levels are safe. No cases of ASL have ever been found from exposure to the low levels which have now been achieved. (Cases have only ever arisen in employees exposed to the high pre-1974/75 levels. At that time, and earlier of course, there were employees not involved in autoclave cleaning, who were exposed to lower levels. None of these has ever developed ASL).

Q7. Can it be possible ever to reach a zero exposure level on a PVC Plant?

A7. No. In any piece of equipment with moving parts, such as valves and pumps, wear will take place and some small leaks are inevitable.

The best monitoring and maintenance practices now keep levels as low as practicable at an annual average of less than 1.5 ppm, with levels in areas outside the immediate autoclave area as low as 0.8 ppm.

22231010

Doll Paper

Q8. Does Sir Richard suggest that any other tumours as well as ASL could result from VCM exposure?

A8. The combined data do not provide any support for the hypothesis, neither for respiratory cancer as a whole (SMR 97) (Standard Mortality Ratio = Observed/Expected x 100), nor in the specified data for lung cancer in the USA, UK and Italy (SMR 99)

The balance of evidence does not support the idea that VCM has caused cancer in any other organ than the liver.

Q9. Does this report conflict in any way with the recent HSE, VCM Mortality Study?

A9. Yes, but only with reference to lung cancer in people employed at high levels before 1956. Both agree that ASL is in excess in both reports.

Q10. Is ICI involved in any other VCM/PVC Research?

A10. Yes, we are leading the field in this area -

e.g., Nuclear magnetic resonance screening

Monoclonal antibodies

and are in constant communication with all the World experts.

We play a prominent role in the European Committees.

22231011

Q.11 Is there any risk to people living in the vicinity of the VCM/PVC Plants?

A.11 Sir Richard Doll states that, on any reasonable criterion, the hazard to the general public (if there is any at all), must be negligible, but suggestive evidence has been obtained that past levels of environmental pollution with VCM may have caused a few cases of cancer in the general public. This risk is less than 1 death in 1 million deaths, if it is present.

Q.12 How does this risk compare with other risks?

A.12 The risk to the outside population is less than 1 in a million, and not as great as from routine vaccination.

Q.13 Why are not all the various Surveys analysed in total?

A.13 It is not possible to pool all Studies together, due to lack of uniformity in presentation, techniques and data itself.

Q.14 What is a mutagen / What is a teratogen ?

A.14 A mutagen is a chemical which has the ability to produce a change in the genetic material (genes) of a cell. Mutagenic activity is thus taken as warning of possible carcinogenicity potential.

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A.14 A teratogen is a chemical capable of producing a physical defect
(Cont'd)

in the fetus. A teratogenic drug is a drug which, when
administered to a pregnant mother, induces some physical defect
in her unborn child.

The term has come into usage since the thalidomide disaster.

26 May 87

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