

German
(translation) M.H.
5/14/74

NOTE

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P. Lawrence

concerning the evaluation of the data on the vinyl chloride disease cases
in the management districts Cologne I-South and Nürnberg

In 1973, disease cases were reported for the first time in the management districts Cologne I and Nürnberg which occurred in the manufacture of vinyl chloride in the firms

Dynamit Nobel AG, Troisdorf

Knapsack AG, Knapsack

Wacker-Chemie, Burghausen

According to the status of 4-20-1974, a total of 106 disease cases have been reported in the Cologne I management district and 6 disease cases in the Nürnberg management district. 105 disease cases have occurred in the firm Dynamit Nobel AG, 1 disease case in the firm Knapsack and 6 disease cases in the firm Wacker-Chemie, Burghausen. To what extent in the reported diseases it concerns exclusively cases which were caused by vinyl chloride must still be checked. The claimed symptoms speak for a causing by vinyl chloride. The disease phenomena however also can be an expression of an occupation-independent, constitutional disease. Occupational illnesses have been recognized up to this time in 23 cases, in 85 cases doubt exists as to the presence of an occupational illness according to List No. 9, an occupational illness is to be rejected with probability in 3 cases, in one compensation case the connection is extremely questionable.

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	<u>BV Cologne I</u>	<u>Wörnberg</u>	<u>total</u>
doubtful cases	80	5	85
occupational illness present	22	1	23
no occupational illness	3	-	3
connection with occupational activity very questionable	<u>1</u>	<u>-</u>	<u>1</u>
Total:	106	6	112

In the 85 doubtful cases, 11 deaths are found, which concern exclusively the firm Dynamit Nobel AG. Of these, according to the information of Mr. Zwahr (Management district Cologne I) in 4 cases suspicion should have been thickened that the deaths are causally in connected with the occupational action of vinyl chloride. According to the previously known diagnoses, death was caused by the following ailments:

- 1 angiosarcoma
- 1 liver sarcoma
- 1 bronchial sarcoma
- 2 heart infarctions
- 1 esophagus varices bleeding
- 1 reticulosarcoma
- 1 apoplexy
- 3 deaths of unknown cause

Of the 23 disease cases in which a present of an occupational illness is to be proceeded from with certainty according to List No. 9 of the Attachment to 7. BKVO, an approved decision has been granted in 20 cases. In 3 cases, of course the approving expert opinions have already been made, however the granting of a decision is still pending since certain doubt exists with regard to the level of the MdE. In the 23 disease cases, the following disease symptoms have been observed:

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20 cases thrombocytopenia
 17 cases liver damages
 16 case splenomegaly
 9 cases lung function disturbances
 3 cases sclerodermal skin infiltrates
 1 case leukopenia
 1 case temperature deficiency of the hands
 1 case enlarged Brontaleinretention (sic)
 1 case vessel changes in the eye
 1 case Raynaud syndrome
 2 cases acroosteolysis

Animal experiments with vinyl chloride lead to damages in: liver, spleen, central nervous system, skin, white and red blood picture, bones, kidneys, thyroid, heat peritoneum and lungs as well as to disturbance of the blood clotting and to tumors of the skin, the upper respiratory tract and the bones. The following damages are described in the literature by vinyl chloride with humans:

narcotic action

liver enlargement

liver fibrosis

spleen enlargement

arterial changes (Morbus Raynaud)

scleroderman skin changes

reduction of the blood platelets

band shaped acroosteolyses of the finger and phalanges

restrictive ventilation disturbances

blood pressure elevation

thyroid function disturbances

heart damages

(from expert opinions of Dr. Gross, Dr. Bolt and

Dr. Buchte in the Erkrankungssache Hasenberg and

No. 12 of the proposal)

In all previously recognized cases several of the symptoms described in the literature could be determined.

In the recognized disease cases, the concerned workers have complained of the following ailments:

buzzing in the ears

strong white coloration of the fingers in the cold

headaches

spots before the eyes

feeling of fatigue

cold feeling of hands and feet

dizziness

breathing shortness in climbing stairs

pain and tingling in the legs

pains in the liver and the spleen vicinities

stomach ailments

loss of appetite

vomiting

insomnia

A large part of these ailments is also to be observed with an irregularity of the autonomic nerve system. Therefore, in my opinion the conclusion must be drawn that vinyl chloride also influences the autonomic nerve system.

To the extent that statements are available up to this time, it could be established that practically all the victims were active in the autoclaves or in the autoclave area or at the centrifuge. Only in 3 cases has another

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work area been determined, namely one at the press (Case No. 28 of the compilation) and at the drying screen (Case No. 33 of the compilation) as well as in the experimental laboratory of Farbwerke Hoechst AG (Dr. Bier, today Director at Dynamit Nobel AG, Troisdorf--Case No. 84 of the compilation).

The period of the occupation according to the observation stands in no relationship to the seriousness of the diseases. Rather it is to be concluded that the intensity of the action and the disposition determine the level of the damage. Thus in the case in which a MdE of 20 was established, it could be observed that the exposure time was between 3/4 year and 14 years.

Up to this time, the following exposure times have been determined with 12 checked disease cases:

1 x 60% MdE	-	Exposure time 5 years
1 x 30% "	-	" 2 "
7 x 20% "	-	" between 3/4 and 14 years
3 x below		
20% "	-	" 5, 11 and 14 years

In the previously recognized compensation cases, the following MdE statements have been established

MdE below 20% - 9

MdE 20% - 9

MdE 30% - 1

MdE 60% - 2

In 3 compensation cases, the acknowledged expert opinions are already present. The proposed MdE (30%, 40%, 70%) in each case must be checked once more on the medical side.

A conference with Dr. Ernst, Technical Inspector in the Nürnberg management district showed that the different types of manufacturing should be very difficult to represent and Dr. Earnst will send us immediately a short outline

BFG30169

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concerning the individual methods of manufacture. However he notes that he did not intend to go into detail since he is preparing a publication directly for this and for this reason does not wish to give out his previously obtained information.

Heidelberg, April 22, 1974

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signed

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