

FILE NAME: Goodyear (GY)

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December 6, 1962

Bureau of Workmen's Compensation
Ohio Department Building
Columbus 15, Ohio

Attention: Mr. Paul J. Dragan
Room 410-A 8

Re: O. D. 7682-22
Albert B. Johnson, Dec'd.

Gentlemen:

On November 28, 1962 a visit was made to the Goodyear Tire & Rubber Company, Akron, Ohio to determine conditions under which the above named decedent had worked. The company manufactures Pliofilr, a transparent rubber hydrochloride film, in the plant in which the decedent had been employed from 1941 to 1961.

The decedent's employment experience with this company is as follows:

2/1/23-5/8/24	Tire manufacturing.
5/8/24-1/29/34	Balloon fabric processing (for Blimps).
1/29/34-9/25/41	Tire manufacturing.
9/25/41-8/4/61	Pliofile Department.

In the manufacture of Pliofile, compounded rubber is dissolved in benzol and anhydrous hydrogen chloride is bubbled through the solution to form a rubber hydrochloride. Excess HCl is removed by neutralizing with soda ash. The solution is then pumped through a filter press to remove solids. Water is added to the rubber hydrochloride cement and benzol is stripped out. The rubber hydrochloride is put on a coating machine and the liquid including residual benzol is evaporated to form a film.

The Pliofile operation was transferred from Plant 1 to Plant C in 1943. From April 5, 1950 to May 7, 1952 the decedent was on salary. As a supervisory employee during this period he went throughout the Pliofile production areas and also performed office duties.

The decedent's primary job in the Pliofile Department was at a coating machine as a casting operator or helper. The approximate times an operator or helper spends in various areas is as follows:

Time	Location
1. 0.1	2. Casting platforms
2. 0.1	3. Drier
3. 0.3	4. Instrument panel
4. 0.2	5. Small dock in area
5. 0.2	6. Casting unit hood
6. 0.1	7. General casting room area
7. 0.2	8. Filter presses
8. 0.7	9. Lunch and washrooms
9. 0.1	10. Intermediate filter presses
10. 0.3	11. Barrel room

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A systematic air sampling procedure was not used in this department until about 1958, therefore, concentrations of benzol vapors prior to the last few years are not accurately known. It has been estimated that concentrations in working areas were probably about at the MAC value accepted at that time, 100 ppm. Since 1958 ventilation changes have been made which have substantially lowered benzol concentrations.

The major portion of the decedent's time was spent in the location of Item Nos. 1 and 6. Benzol vapor exposures in these areas from April, 1958 to May, 1961 are given below. There are five casting machines on which the decedent could have worked.

<u>Casting platform</u>	<u>No. of Air Samples</u>	<u>Range (PPM)</u>	<u>Average (PPM)</u>
1.	34	5-100	41
2.	39	5-100	39
3.	44	0-100	12
4.	31	5-100	39
5.	36	5-100	34

* Parts of benzol vapor per million parts of air by volume.

A total of 61 samples taken between the various casting units and representative of conditions in the general casting room area vary from 0 to 100 ppm. with an average benzol vapor concentration of about 30 ppm. Of the above air samples, those taken within the last couple of years show benzol concentrations to be substantially lower than they were in 1958 when the systematic sampling procedure was started.

About 50 to 60 air samples taken in the Pliofilin Department for a one month period in about 1951 shortly after full scale production was started in Plant C showed benzol vapor concentrations during that period to vary from 0 to 400 ppm. with an average of about 70 ppm. It appears that ventilation improvements have generally kept average benzol vapor concentrations to which employees in this department are exposed within existing chemical limit values. This value for benzol, however, has been decreased from 100 to 50 to 35 to 25 ppm.

It appears that the decedent was probably associated with the late development stages of Pliofilin manufacture. His exposure to benzol vapors during this early period are unknown but concentrations were probably much higher during this period than after the production process was developed and more adequate engineering controls were used to control benzol vapor concentrations.

Very truly yours,

DEWALD W. BUNSEY
Industrial Hygienist

DMR/ea

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