FILE NAME: Goodyear (GY)

DATE: 1961 Sept 29

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The INDUSTRIAL COMMISSION OF OHIO
DIVISION OF SAFETY AND HYGIENE

September 29, 1961

Re: Goodyear Tire & Rubber Company
Akron, Ohio

1. On September 12, 1961 a visit was made to the above named company to check industrial hygiene conditions in the Pliofilm production areas. The visit was made at the request of the company.

2. Contact was made with R. A. Manning, Manager of Safety; H. P. Krieker, Manager of Compensation; Rex A. McVicker, Chairman Union Safety Committee; L. O. Ingersoll, Vice Chairman Union Safety Committee; and W. A. Sarvis, Secretary Union Safety Committee.

3. The company manufactures Pliofilm, a transparent rubber hydrochloride film, in the plant checked.

4. In the manufacture of Pliofilm, 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.

5. In the Pliofilm department, 20 people are employed on the first shift and 19 people are employed on each the second and third shifts. Since 1958, four employees from this department have died with the cause of death considered to be leukemia. Each of these people had been employed in this department for from 11 to 15 years. Pliofilm production started in about 1944 and high benzol vapor concentrations were probably present while the process was being developed. A systematic air sampling procedure was not introduced until the late 1950's, therefore concentrations of benzol vapors prior to the last few years are not accurately known.

6. Since a program to routinely determine benzol vapor concentrations at various locations has been started, vapor concentrations have been reduced until air samples now average within acceptable limits. The American Conference of Governmental Industrial Hygienists lists the threshold limit value for benzol as 25 parts of vapor per million parts of air. This value represents conditions under which it is believed that nearly all workers may be repeatedly exposed day after day, without adverse effect. Bulletin No. 203 of the Industrial Commission of Ohio lists 35 parts per million as the maximum concentration of benzol vapors to which workers may be continuously exposed.

7. Based upon air samples taken over the last couple of years, many ventilation changes have been made. At present 272,180 cfm of air is exhausted from a volume of 829,000 cubic feet. This is equivalent to nearly 20 air changes per hour.

8. Nine air samples were taken to determine benzol vapor concentrations in several areas. Results of those samples are as follows:

SAMPLE NO.	REMARKS	CONC. (ppm)*
1.	Aisle between No. 3 and No. 4 casting units.	30
2.	No. 4 Casting unit platform.	15
3.	No. 5 Casting unit platform.	15
4.	No. 5 Casting unit under hood.	45
5.	Mixing room.	0
6.	Still building, 2nd floor.	20
7.	Neutralizer platform, west side.	20
8.	West cement storage room.	20
9.	Between No. 5 casting unit and firewall.	50

60

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

Of the above samples, Nos. 1, 4 and 9 are above the ACGIH threshold limit value. Areas represented by these three samples are not areas in which an employee would spend eight hours per day, but are areas which are passed through or which would be entered for machinery adjustment or maintenance. Results of the above air samples taken in areas routinely sampled by the company are in the same range as those results obtained by the company.

9. From the air samples taken during this visit and from those taken routinely by the company, it does not appear that any employee is exposed to benzol vapor concentrations that exceed the ACGIH threshold limit value of 25 parts per million for an eight-hour daily weighted exposure. Although benzol vapor concentrations were higher in past years, it appears that vapor concentrations are now maintained within the present acceptable limits. No recommendations are made at this time.

Respectfully submitted,

DONALD W. MERSEY
Industrial Hygienist

DeWITT HUFFMAN
Industrial Hygiene Engineer

DWH/oc

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		CONC. (ppm)*
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2.	[illegible] casting unit platform.	15
3.	[illegible] casting unit platform.	15
4.	[illegible] casting unit under hood.	45
5.	Mixing room.	0
6.	Still mail in, 2nd floor.	20
7.	Neutralizer platform, west side.	20
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9.	Between No. 5 casting unit and firewall	50

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