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DIVISION OF SAFETY AND HYGIENE
INDUSTRIAL COMMISSION OF OHIO

September 8, 1955

Re: Goodyear Tire & Rubber Co.
Akron, Ohio

James H. Fluker, Superintendent
Division of Safety and Hygiene
Columbus, Ohio

1. On September 7, 1955, the writer visited the above named company's Plant No. 3, to check conditions in connection with a possible ammonia hazard in the foam rubber department.
2. Contact was made with E. A. Kelsen, Industrial Hygienist, and J. J. Kubicki, Safety Engineer.
3. This company manufactures foam rubber from latex in the department which had been cited to this Division by one of its employees.
4. The various raw materials required for the manufacture of foam rubber are compounded in a building approximately 90' x 150' with a hip roof which is approximately 20' to the eaves. Artificial latex contains ammonia as a stabilizer at the time it is brought to the plant. Various ingredients, most of which are in a dry form, are mixed with this latex in various types of equipment. At times a quantity of ammonium hydroxide is added to prevent the latex from becoming acid. Some of the mixes are prepared in ball mills, some in colloidal mills, and others in large mixing tanks. The writer found that a pail was used to handle ammonia from a drum to the ball mills and to the colloidal mills from time to time. During the period the writer was in the plant no ammonia was handled in that manner. The ball mills and colloidal mills are not exhausted. The mixing tanks are all connected to mechanical exhaust units which are used to remove the excess ammonia at the tank. The ball mills are operated closed. The only time any ammonia can get into the atmosphere from these units is at the time the raw materials are introduced into the mill. The colloidal mills are small open units approximately 4' in diameter and 3' deep. Motor driven mixing units are used in conjunction with a pump which takes suction from the bottom of the tank and returns the mixture tangentially at the top. These units are open. None of them were being operated with a high quantity of ammonia at the time of the visit.
5. There was a small amount of ammonia perceptible to the nose in the atmosphere in certain areas. Many of the outside windows were open. The amount of ammonia was not sufficient to make the eyes smart. The writer had planned to take some tests but found that the equipment did not operate properly.
6. The amount of ammonia in the atmosphere at the time of the visit did not appear to the writer to be in the order of 100 ppm which is the maximum allowed concentration. The writer was told that at times the concentration is higher. One source of ammonia vapor which is felt could be partially eliminated was found in the use of open pails for handling the ammonia from the drum to the mixer. This could be eliminated easily by the use of closed-top pails so that the only time any ammonia vapor could get into the atmosphere would be at the time when the ammonia is drawn from the drum and when it is poured into the mixer. It would be simple to provide pails with a closed top.
7. The writer plans to return to the plant at another time with operating equipment to test the amount of ammonia in the atmosphere.

Respectfully submitted,

Lester H. Merritt,
Industrial Hygiene Engineer.

LHM:xxx

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