



**BUREAU OF
WORKERS' COMPENSATION**

Division of Safety & Hygiene, Oliver R. Ocasak Government Office Bldg.
Room 403, 161 South High Street, Akron, Ohio 44308

PLAINTIFF'S
EXHIBIT
BRK-284

Phone: (216) 379-3370

April 18, 1991

Ms. Judy Spencer
Legal Section
Industrial Commission of Ohio
30 W. Spring Street, 9th Floor
Columbus, OH 43266-0581

OD 39085-22
Donald Bohrer
General Motors Corp.
Fisher Guide Division
Elyria, OH 44035

Dear Ms. Spencer:

Per your request, an industrial hygiene evaluation was conducted for the above claim of occupationally induced chronic obstructive pulmonary disease. Mr. Bohrer alleges that he was exposed to toluene diisocyanate (TDI) when he worked in Department 5 of the Fisher Guide plant. The Fisher Guide plant in Elyria stopped production in 1988 and a site visit could not be conducted. On April 8, 1991, a visit was made to the General Motors plant in Parma, Ohio, to discuss the claim with Mr. Peter Crowell, Benefits Administrator, and Ms. Oksana Iammarino, Workers Compensation Department. Mr. Crowell had worked at the Fisher Guide Elyria plant prior to its closing and he had personal knowledge of the plant's manufacturing processes.

The Fisher Guide plant manufactured various products throughout the years, including urethane foam seats, wheel covers, and various types of engines and die castings. Mr. Crowell stated that General Motors has denied the claim because of statements made by the claimant in his pre-employment physical indicating he had a history of sinus problems and asthma. There were also statements made by the claimant to the company doctor indicating that his work duties did not cause his medical problems and he wanted to continue working in Department 5. The company doctor's medical records are included in the facsimile file.

According to company records, the claimant was hired by Fisher Guide on August 29, 1967, as a machine operator in the steel manufacturing department. In 1970, the claimant was transferred to Department 5. Except for periods of lay-off or sick leave, Mr. Bohrer worked in Department 5 until May, 1983, when he transferred back to the steel manufacturing department. In January of 1989, the claimant transferred to the Parma plant where he currently is working.

The manufacture of urethane foam seats was conducted in Department 5. This department was located at the back of the plant and was separated by walls from the rest of the plant. The department consisted of the foam line which was computerized. The line consisted of a conveyor with molds which were filled with the polyurethane. The molds would then go through the oven for curing. After curing the products were removed from the molds, trimmed and put into wire baskets. All the molding materials came from bulk storage and no mixing was done by the department employees. During the 13 years the claimant worked in Department 5 he performed various duties on the foam line.

Toluene diisocyanate is commonly used in the production of polyurethane foams and plastics and the company does not deny its use in the Department 5 process. The company had regularly monitored the TDI levels in Department 5 as far back as the 1960's. The company strived to maintain levels below 5 parts per billion (ppb). Mr. Crowell indicated that the company has collected a large quantity of records which are still maintained. Mr. Crowell also indicated that there were special procedures set in the case of a spill. The area would be evacuated and a special team would clean the area. The claimant was not involved in this type of cleaning procedures.

Toluene diisocyanate (TDI) is a strong irritant of the eyes, mucous membranes, and skin and is a potent sensitizer of the respiratory tract. Exposure of humans to sufficient concentrations causes irritation of the eyes, nose, and throat; a choking sensation; and a productive cough of paroxysmal type, often with retrosternal soreness and chest pain.(1)

Although the acute effects may be severe, their importance is overshadowed by respiratory sensitization in susceptible people; this has occurred after repeated exposure to TDI at levels of 0.02 ppm and below. The onset of symptoms of sensitization may be insidious, becoming progressively more pronounced with continued exposure over a period of days to months. Initial symptoms are often nocturnal dyspnea or nocturnal cough with progression to asthmatic bronchitis.(1)

In another pattern of sensitization response, a worker who has had only minimal upper respiratory symptoms or no apparent effects from several weeks of low-level exposure may suddenly develop an acute asthmatic reaction to the same or slightly higher level. The asthmatic reaction may be severe, sometimes resulting in status asthmaticus, which may be fatal if exposure continues. (1)

Once sensitized, some workers may continue to exhibit effects for several years after removal from TDI exposures. Weill showed that FEV and FEF percents continued to decline for 2-3 years after removals from TDI exposure. Adams reported that some workers 2-17 years after last exposure complained of cough, phlegm production, breathlessness, and wheezing. Innocenti reported that chronic bronchitis developed after 40 months in 6 (24%) workers removed from TDI exposure. McKerrow reported on workers with chronic bronchitis and chronic mucopurulent bronchitis over a period of 2.5 years following TDI exposure.(2) For more information pertaining to the toxicology of TDI please see the enclosure with this report.

In summary, the claimant worked in Department 5 of the Fisher Guide Plant for approximately 13 years. Toluene diisocyanate (TDI) was used in Department 5 in the manufacture of polyurethane foam seats. TDI is a strong irritant of the eyes, mucous membranes, and skin and is a potent sensitizer of the respiratory tract. Continued exposure of affected workers to TDI vapor may result in asthmatic bronchitis, broncho-pneumonia, chronic bronchitis and emphysema. Although there was a potential for exposures to TDI the company has denied the claim due to the claimant's previous history of asthma and sinus problems.

Sincerely,

Natalie Reno

Natalie Reno
Industrial Hygienist

References

1. Chemical Hazards of the Workplace, 2nd edition, Nick H. Proctor, et al, 1988, pg. 479.
2. Documentation of the Threshold Limit Values, American Conference of Governmental Industrial Hygienists, 1986, pp. 280-285.