

52nd ALL-OHIO SAFETY CONGRESS & EXHIBIT

APRIL 20-22, 1982

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PLAINTIFF'S EXHIBIT

K-1914

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Legal Section
Industrial Commission of Ohio
246 N. High Street
Columbus, Ohio 43215

OD# 18174-22
James Reed
Owens-Illinois
Columbus, Ohio

Attn: Judy Spencer

Dear Ms. Spencer:

On January 14, 1982 a visit was made to Owens-Illinois, Columbus to investigate the conditions under which the claimant worked.

The claimant alleges that his condition; congestive heart failure with pulmonary edema, anemia secondary to gastrointestinal bleeding, hypertension and renal failure, was a result of his exposures primarily to lead and arsenic while employed at Owens-Illinois.

The claimant started to work at Owens-Illinois on February 2, 1955 as a parts server andlehr loader in the Sealing department. Due to the length of employment and the different jobs classifications the claimant was employed in, I have attached a copy of the claimant's employment record that was obtained from company officials.

According to company officials, the claimant was not exposed to lead or arsenic while employed in the Sealing, Forming, Automatic polishing, Quality control, and Color finishing departments. This investigation agrees with that statement inasmuch those departments are involved only with hardened glass, not the raw materials. All grinding and sanding in these departments is performed by wet methods to reduce dust exposures. The claimant could have been exposed to lead and arsenic while working as a general laborer in the maintenance department. However, the claimant was only employed at that classification for four days in March of 1958. His exposures during this period would have been of a relatively short duration, considering the total length of employment, and of little significance in this claim.

The claimant's exposures to lead and arsenic started when he transferred to the batch and furance department on June 12, 1972, as on utility worker. He worked in this department for almost two years. On May 13, 1974 he transferred to the forming department-

ment. Then on March 25, 1975, the claimant once again transferred back into the Batch and Furnace department. He remained in this department until he retired on August 1, 1981. While working in the Batch and Furnace department, the claimant was classified as an utility worker, fork lift operator, equipment operator and a furnace and fore hearth helper.

Over the years the company has implemented biological monitoring, engineering controls and respiratory protection to protect workers against exposure to lead and arsenic. Chest x-rays and blood leads have been collected from employees in the batch and furnace department since 1963. In December of 1973 a computerized batch system was installed. Respirator usage for all employees in this department was made mandatory in 1975. However, prior to 1975, only jobs that were dusty required respirators. In February of 1980, employees were quantitatively fit tested to insure proper respiratory protection. The company has periodically collected air samples in the batch and furnace department to determine the employees' exposures.

The claimant's blood lead results are contained in this file. The blood leads ranged from 110 micrograms per 100 milliliters of whole blood ($\mu\text{g}/100\text{ ml}$) in April of 1976 to 32 $\mu\text{g}/100\text{ ml}$ in 1981. There are noted discrepancies in the reported blood lead levels. In the letter from Dr. Kauffman dated May 28, 1981, the claimant's blood lead level was 24 $\mu\text{g}/100\text{ ml}$ in May of 1976. While, another page in this file signed by the claimant indicates his blood lead level for the same month was 100 $\mu\text{g}/100\text{ ml}$.

Blood lead levels are considered normal when less than 40 $\mu\text{g}/100\text{ ml}$, acceptable between 40 and 80 $\mu\text{g}/100\text{ ml}$, excessive between 80 and 120 $\mu\text{g}/100\text{ ml}$, and dangerous above 120 $\mu\text{g}/100\text{ ml}$. 80 $\mu\text{g}/100\text{ ml}$ is considered to be the biological threshold value.

The results of personal air samples conducted by the company and during an investigation conducted by the Occupational Safety and Health Administration (OSHA) indicate excessive exposures to lead and arsenic. The company's samples were collected from within the claimant's breathing zone. The results are attached to this report. While the OSHA samples were collected from within the breathing zones of employees working in the batch and furnace department.

"Lead is one of the most common contaminants of the environment. It accumulates in the bone and other tissues with age. The important routes of absorption in man are the gastrointestinal tract and the lungs. Dermal absorption is relatively insignificant in most cases.

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The effects of lead poisoning are cumulative and result in a large variety of health problems beginning with nonspecific symptoms such as fatigue, dizziness, cramps, and headaches and eventually leading to a variety of disorders that can end in paralysis, brain damage, and death."¹

"Many organs and systems are adversely affected by lead. The four major targets organs and systems are; the central nervous system, the peripheral nerves, the kidney and the hematopoietic system."² Due to the great amounts of information available on the biological effects of lead poisoning, I have attached the information to this report.

The claimant was also exposed to excessive amounts of arsenic." Arsenic is an irritant to the skin and to the mucous membranes and can cause acute and chronic poisoning. Acute arsenic poisoning rarely occurs in industry. Chronic arsenic poisoning induces numerous skin manifestations which include overgrowth of the horny layer of the epidermis (hyperkeratosis), sensitization, and possible loss of hair and nails. In addition, skin cancer may be associated with chronic arsenic poisoning. Arsenic may also have a depressant effect on the bone marrow, erythropoiesis and myelopoiesis (the process of blood cell formation)."³

In summary, the claimant was exposed to excessive amounts of lead and arsenic while employed at Owens-Illinois. However, the blood lead results do indicate levels that are generally considered to be safe. This would indicate that the respiratory protection worn by the employee was effectively reducing the claimant's actual exposures. If the claimant did in fact have heart disease causing narrowing of the arteries whereby reducing the available oxygen content to the body. Then the claimant's blood lead levels could have been significant enough for some degree of poisoning to occur.

Respectively,

Bill Adams

Bill Adams
Industrial Hygienist

BA/nh

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1. National Institute for Occupational Safety and Health, 1979.
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p. 99
2. Cassarett and Doull, 1980, Toxicology, the Basic Science of
Poisons, New York, MacMillan Publishing Company Inc., p. 418
3. National Institute for Occupational Safety and Health, 1979.
A Guide to the Work Relatedness of Disease. Cincinnati, NIOSH 99.

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