

Questions & Answers
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1. Why conduct a health study of Monsanto employees exposed to PDCB?

PDCB has produced tumors in mice and male rats in studies where the animals were given high doses of the material. Monsanto and several regulatory agencies do not believe these findings in animals are relevant to humans. Nevertheless, the company feels a responsibility to investigate the matter more definitively, especially since Monsanto's data is more extensive and complete than anyone else is likely to have.

2. Why aren't the PDCB animal studies relevant to humans? Aren't animal studies often used to identify health risks?

Animal studies are frequently used to identify health risks. However, for the PDCB animal studies, the types of tumors found, the way they were formed, and the means of exposure are all different from human experience.

3. How were the employees exposed to PDCB identified for the study?

Payroll records were used to identify Monsanto employees who held production jobs in Department 224 between 1946 and 1975. The same kind of records will be used to expand the study to the periods 1941-1946 and 1975-1989.

4. How were the deceased workers in the study identified?

All PDCB-exposed workers in the study were traced by using various government records and credit bureaus. Once a worker was reported to have died, a copy of the worker's death certificate was ordered from the vital statistics agency in the state where the death occurred. Information from these sources is often used by epidemiologists to determine the status of workers in health studies.

5. Why was St. Clair County, Illinois, used as the reference population?

St. Clair County, Illinois, was used as the reference population for the study because it represents the area where most Krummrich employees have resided during the past 40 years. By using St. Clair County, instead of the national population, the comparison is less likely to be biased by regional differences in mortality.

6. Have there been any other studies of workers exposed to PDCB?

This is the first health study of workers exposed to PDCB. The preliminary results of this study do not indicate any statistically significant exposure-related health effects for the Krummrich employees who worked in Department 224 between 1946 and 1975.

This study did identify five cases of leukemia in the group of employees studied, compared to an expected rate of 2.1. This difference is not believed to be related to PDCB because several different types of leukemia were involved and there was no relationship between different exposure levels and leukemia.

7. Why expand the study of workers exposed to PDCB?

When this study was initiated in 1987, the records needed to identify all employees at the Krummrich plant were not available. Since then, the Department of Medical and Health Sciences has obtained additional government records for the period 1941 to 1989. This will allow the epidemiologists to expand the study and include additional workers who were exposed to PDCB before 1946 and after 1975. The extended period, from 1941 to 1989, covers the entire period that the old building was used to process PDCB blocks where PDCB exposures were highest.

The expanded study will provide additional information on whether there is any relationship between PDCB exposure and disease, including leukemia. It is scheduled to be completed in August, 1992.

Another study, currently in progress, is examining whether any health effects have resulted from benzene exposure at the Krummrich Plant. The results of this study may indicate whether the leukemia deaths observed in the PDCB study are related to benzene exposure, since benzene is considered by some authorities to be a cause of one form of leukemia (acute myelocytic leukemia) in humans.

8. Why does expanded study include a more detailed exposure assessment for PDCB?

One way of determining if PDCB exposure increases the risk of disease is to look for an exposure-response relationship. In other words, the risk of disease might increase with increasing exposure to PDCB if long-term exposure to PDCB is harmful. A more detailed exposure assessment will allow the study team to group jobs by PDCB exposure levels from lowest to highest to look for any exposure-response relationships.

9. Who is on the study team?

Epidemiologists, toxicologists, physicians and industrial hygienists from Monsanto's corporate Environmental Safety and Health Department and the Krummrich Plant.

10. Why will the expanded study take another year to complete?

Before the data can be analyzed, the epidemiologist working with industrial hygienists must first identify all employees who have been exposed to PDCB and then determine if they are still living. The first task requires the epidemiologist to abstract work history information from employee records. The second task requires feedback from outside, government agencies. Either task can take as long as a year to complete.

11. How will the study results be communicated?

Once the study is completed, the results will be reviewed by other scientists and will be shared with employees and retirees who have been exposed to PDCB, plant management, and union officials. Where required by government regulations, a copy of the results will be sent to the Environmental Protection Agency and National Institute for Occupational Safety and Health. The results also will be submitted to a peer-reviewed scientific journal.

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