DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE
PUBLIC HEALTH SERVICE
CENTER FOR DISEASE CONTROL

NATIONAL INSTITUTE FOR OCCUPATIONAL
SAFETY AND HEALTH
5600 FISHERS LANE
ROCKVILLE, MARYLAND 20852

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Dr. W. B. Papageorge
Manager, Product Acceptability
Specialty & Process Chemicals
Monsanto Industrial Chemicals Co.
800 N. Lindbergh Boulevard
St. Louis, MO 63166

Dear Colleague:

In a June 24, 1976 letter, Mobil Oil Corporation advised the National Institute for Occupational Safety and Health (NIOSH) of a possible association between occupational exposure to polychlorinated biphenyls (PCBs) and cancer in humans. Mobil Oil reported preliminary results of an epidemiologic analysis based on medical records of employees exposed to PCBs at their Paulsboro, New Jersey plant. This study was conducted by Professor Anita K. Bahn (School of Medicine, University of Pennsylvania) and is being reported by Dr. Bahn in a letter to the editor of the New England Journal of Medicine, August 19, 1976.

The study included two cohorts of Mobil employees who were reported to have had varying exposure to Aroclor 1254 (a mixture of PCBs). The cohort of research and development employees was exposed to PCBs between 1949 and 1957 and the cohort of refinery plant employees between 1953 and 1958. The extent of exposure of these workers to other chemicals is not known. The cancer incidence among these workers for the period 1957 through 1975 was determined using Mobil medical records. Because medical records for 37 employees were incomplete, these workers were excluded from this analysis.

Among the 92 workers in these two cohorts for whom adequate medical records were available, eight cancers (in seven workers) were observed between 1957 and 1975. Of these eight cancers, three were malignant melanoma and two were cancer of the pancreas. This is significantly more skin cancer (melanoma) and pancreatic cancer than would be expected in a population of this size (based on the Third National Cancer Survey). The remaining cancers were found at three other sites in two employees; sarcoma of the right thigh and multiple myeloma in one employee, and recto-sigmoid cancer in the other.

DSW 308174

NIOSH is unaware of any other published animal or human data which suggest a correlation between exposure to PCBs and skin (melanoma) or pancreatic cancer. However, hepatomas (mice, Aroclor 1254) and hepatocellular carcinomas (mice, Kanechlor 500; rats, Aroclor 1260) have been reported in PCB feeding studies of laboratory animals.

Background information on PCBs has been summarized in the NIOSH Current Intelligence Bulletin on Polychlorinated Biphenyls issued to the occupational health community on November 3, 1975, and subsequently published in the Journal of Occupational Medicine, Volume 18, pages 109-113, February 1976. Since the NIOSH Bulletin was first issued, a number of large firms have introduced products (e.g., butylated monochlorodiphenyl oxide and dimethyl siloxane polymer) claimed to be fire resistant dielectrics which can serve as alternatives to PCBs. In addition, one of the large domestic transformer manufacturers announced that it will cease using PCBs as fire resistant transformer fluids at the end of this year. NIOSH would like to stress that alternatives for PCBs should be thoroughly studied to assess the consequences they may pose to human health.

To aid in evaluating PCBs as a potential occupational health problem, NIOSH would welcome receiving reports of studies regarding the possible association between exposure to PCBs and human cancer.

Your cooperation in this matter is appreciated.

Sincerely yours,

John F. Finklea, M.D.
Director

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