



Bulletin No. 5

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## Alaska Division of Public Health Enters Cooperative Agreement with the Agency for Toxic Substances and Disease Registry

The Federal Agency For Toxic Substances and Disease Registry (ATSDR) has funded the State of Alaska to conduct environmental public health assessment activities and health consultations. The three-year cooperative agreement represents ATSDR's commitment to build our state's capacity to respond to environmental health concerns. Historically, ATSDR staff in Atlanta and Region 10 (based in Seattle) have responded to Alaskan inquiries working in close cooperation with Alaska's Department of Environmental Conservation (ADEC). The new grant has enabled the Alaska Division of Public Health to hire an environmental toxicologist and an environmental epidemiologist. The new team will work in close collaboration with ADEC and ATSDR (Region 10 and Atlanta) staff. In addition, the program will identify opportunities to coordinate and collaborate activities with other health agencies in the state.

The environmental health program (EHP) is responsible for responding to agencies, communities, or groups of individuals regarding requests for information relating to the possible human health effects resulting from actual or potential exposure to chemical toxicants.

The EHP will conduct epidemiologic field investigations when indicated and provide toxicological expertise on the adverse health effects of chemical substances on biological systems. In addition to health consultations and assessments, the EHP has been requested to assist in the development of a Statewide "Unified Plan for Handling Hazardous Materials."

Some examples of specific activities include:

- Assessment of exposure to the volatile organic compounds from gasoline vapors and car emissions.
- Evaluation of the status of Alaska's National Priority List (NPL Superfund) Sites.
- Examination of the levels of arctic environmental contaminants in the subsistence food chain.
- Evaluation of fluorocarbon ski wax exposure and respirator use among Nordic Ski Coaches and athletes.

For more information regarding the program contact either Rafael Ponce, Ph.D., Environmental Toxicologist, or Grace Egeland, Ph.D., Environmental Epidemiologist and Program Coordinator at the Section of Epidemiology, phone 907-561-4406.

### **Ambient Air Benzene Levels in Government Hill: ATSDR Health Consultation, November 4, 1994. Summary**

Residents of Government Hill neighborhood of Anchorage expressed concern over exposures to hazardous substances from the nearby Anchorage Fuel Terminal. The Government Hill Community Council requested ATSDR to evaluate available air monitoring data and to assess the potential public health hazards. Air monitoring data were available from Alaska Department of Environmental Conservation (ADEC) and from the Municipality of Anchorage.

ADEC conducted air monitoring in Government Hill from April 1993 to June 1994. The ambient air concentrations of benzene, toluene, ethylbenzene, and xylenes were continuously monitored using gas chromatography. In addition, ten-minute samples were collected hourly. On days when seven or more hourly samples were available, the results were averaged together to obtain a "daily" value.

The Municipality of Anchorage conducted ambient air monitoring data of benzene at three stations in the Government Hill area as well as at eight other locations throughout the city. A 24-hour sample was collected every 12th day using a stainless steel canister.

Maximum daily levels found by ADEC were 4.4 ppb for benzene, 7.8 ppb for toluene, 1.3 ppb for ethylbenzene, and 4.8 ppb for m,p-xylene. The range of benzene levels detected by the Municipality of Anchorage during a 24-hour period was 0.08 to 8.72 ppb. By comparison, benzene concentrations as high as 28.8 ppb were observed in other sampling stations in the city.

The concentrations of toluene, ethylbenzene, and xylenes were well below levels of health concern. The concentrations of benzene detected in the daily and monthly ambient air samples are comparable to or less than the benzene concentrations detected in ambient air samples from other urban areas in the United States (1). **The levels observed in the ambient air from Government Hill have not been demonstrated to cause adverse health effects in humans or animals (1).**

There are no regulatory standards for benzene in ambient air. In the work place, the National Institute of Occupational Safety and Health recommends that indoor air concentrations of benzene not exceed 100 ppb for an 8-hour workday or 1,000 ppb for a 15-minute interval.

#### Reference:

1. ATSDR; Toxicological Profile for Benzene; April 1993.

(Contributed by Ken Orloff, Ph.D., Senior Toxicologist, ATSDR, Atlanta, Georgia.)