

From the Desk of
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October 23, 1995

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Attached are the handouts I picked up at the ADPH/ATSDR community meeting in Anniston, AL, on October 19. Also distributed at the meeting 1 was "ATSDR Case Studies in Environmental Medicine, POLYCHLORINATED BIPHENYL (PCB) TOXICITY, June 1990".

Two page "Questions and Answers"

One page "Statement of Intent" and reply envelope

Two page "ATSDR Community Assistance Panels"

Two page "ATSDR POLYCHLORINATED BIPHENYLS (PCBS), April 1993

Two pages of "Hazardous Substances & Public Health" Vol. 5(2),

Spring 1995, featuring article on PCBS in Brunswick, GA.

DSW 133194

STLCOPCB4033152

Questions & Answers

What is an exposure investigation?

~~An exposure investigation is a public health approach to evaluate whether~~
people have been exposed to hazardous chemicals.

Why is it being done in my neighborhood?

Earlier this year, soil and sediment in the neighborhood were tested and high levels of PCBs were present. We are concerned that people may have been exposed to the contaminated soil and sediment. The purpose of the assessment is to determine whether you have been exposed and provide you with information to reduce your exposure to PCBs.

Who is conducting the exposure investigation?

The Alabama Department of Public Health is conducting the exposure investigation with the assistance of the Agency for Toxic Substances and Disease Registry and other state and federal agencies.

What type of samples will be collected?

Samples will be taken of soil and house dust. When permission is given by the Alabama Department of Public Health, blood samples will be taken by the University of Alabama at Birmingham.

Who is collecting the samples?

Blood samples will be collected by the University of Alabama at Birmingham. Soil samples will be collected by the Alabama Department of Environmental Management. House dust samples will be collected by the Environmental Response Team from the U.S. Environmental Protection Agency.

What will the sampling involve?

Blood sampling should take no more than 10 minutes. A nurse or phlebotomist (one who draws blood for analysis or transfusion) will take about 3cc (a little more than 1 teaspoon) of blood from a vein with a needle. The sample will be tested for PCBs and then destroyed. Results will be reported to the Alabama Department of Public Health.

Soil sampling should take no more than 30 minutes. Two samples of soil will be taken from the resident's yard. Each sample will be about 1 pound (1 cup) and will be taken from the top 3 inches of soil. If soil under grass is used, the grass will be removed first. Holes made by taking samples will be filled immediately.

Dust samples should take no more than 10 minutes. Small samples of house dust will be taken from a bedroom, another frequently used room

(living room), and near the entrance. Vacuum cleaners will be used to take samples.

You will also be asked to answer questions about your activities (job, hobbies, etc.) ~~which might bring them into contact with contamination.~~

~~What will the sampling cost me?~~

Nothing. Sampling is offered free of charge to participating residents.

What will I learn from the test results?

You will learn from blood sampling whether you have been exposed to PCBs. You will learn from soil and dust sampling if you have PCBs in your yard or home. If your test results are high, we will suggest methods to reduce your exposure. Your local physician will be provided information on PCB exposure so that you may contact them for consultation. Consultation with the Agency for Toxic Substances and Disease Registry (ATSDR) will also be available free of charge.

What won't I learn from the test results?

You **will not** learn the exact amount or type of PCBs, how long you were exposed, or if you will develop harmful health effects.

You **might not** learn all of the sources of PCBs. Other exposures may occur from an individual's occupation, diet, or recreational activities.

Will my name and test results be confidential?

Yes, your name, address, phone number, test results, and any other information you give **will be confidential at all times**. We will not give out or use your name or any other identifying information except to provide you with your test results, to contact you to discuss your activity evaluation, or to arrange for an in-home evaluation.

If I want to participate, what should I do?

If you want to participate, you should tell the Alabama Department of Public Health. You may fill out a statement of intent or call them at 1-800-338-8374. They will schedule testing and order supplies. Before samples can be taken, you must also sign consent forms.

How will I get the results?

Your test results will be mailed to your home address.

How can I get more information?

For information about the investigation or PCBs, please call Brian Hughes, Ph.D. at 1-800-338-8374 or write ADPH, Division of Epidemiology, 434 Monroe Street, Montgomery, AL, 36130-3017.

STATEMENT OF INTENT

To help us plan how many tests to schedule and how much testing equipment to bring, please answer the following questions.

Do you plan to participate in the PCB exposure investigation?

_____ YES _____ NO

If yes, please check each activity you would like done.

_____ Soil sample in your yard

_____ Dust sample in your home

_____ Blood sample for #_____ people in your home

_____ Questionnaire of activities

NAME _____

ADDRESS _____

PHONE _____

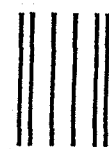
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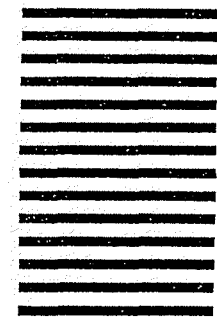
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FIRST CLASS PERMIT NO. 127 MONTGOMERY, ALABAMA

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ALABAMA DEPARTMENT OF PUBLIC HEALTH
DIVISION OF EPIDEMIOLOGY
ATTN: RISK ASSESSMENT BRANCH
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This fact sheet was developed to provide the public with information about Community Assistance Panels, or CAPs. ATSDR hopes it is helpful to you in understanding what a CAP is and how it works. You may have questions the fact sheet doesn't answer or need more information about ATSDR and its activities. A contact person is listed at the end of the fact sheet.

What is ATSDR?

ATSDR is the **Agency for Toxic Substances and Disease Registry**, a federal public health agency. ATSDR is part of the Public Health Service in the U.S. Department of Health and Human Services. ATSDR is not a regulatory agency like the U.S. Environmental Protection Agency. Created by Superfund legislation in 1980, ATSDR's mission is to **prevent exposure and adverse human health effects and diminished quality of life associated with exposure to hazardous substances from waste sites, unplanned releases, and other sources of pollution present in the environment.** Through its programs—including surveillance, registries, health studies, environmental health education, and applied substance-specific research—and by working with other federal, state, and local government agencies, ATSDR acts to protect public health.



What Is a CAP?

ATSDR is evaluating the possible public health impact of environmental contamination in your area. To help, ATSDR may form a Community Assistance Panel, or CAP. The CAP is a way for the community to participate directly in ATSDR's evaluation and make sure community concerns are addressed in any ATSDR report.

The CAP will assist ATSDR by sharing community concerns and health information. ATSDR will assist the CAP and the community in understanding technical environmental and health information and public health decisions. The CAP will not direct ATSDR's activities. Instead, CAP members will work with ATSDR to gather and review community health concerns, provide information on how people might have been or might now be exposed to hazardous substances, and inform ATSDR on ways to involve the community in its activities.

The CAP will usually meet once a month—but meetings may be more or less often, as needed. Meetings will generally last 1-3 hours. ATSDR cannot reimburse for expenses or pay panel members for participating. All CAP meetings are open to the public, and everyone who comes to meetings will have an opportunity to speak.

Who Is Eligible for the CAP?

ATSDR will choose CAP members who:

- ☐ Are at least 18 years of age
- ☐ Reflect area residents' various viewpoints, as ATSDR understands them
- ☐ Have understanding or knowledge of the site, the contaminants of concern, and/or the community's health concerns
- ☐ Are permanent residents of the affected area

Are You Interested in Being a CAP Member?

If you are interested in serving on a CAP in your community, please contact the person listed below.

Fact sheets are available on Public Health Assessments, Public Health Advisories, Health Consultations, and other ATSDR activities. If you want to know more about ATSDR, or if you have health concerns or information to share about ways people might have been or might now be exposed to hazardous substances, please contact the person listed below.

For more information, call or write:

Community Involvement Specialist
ATSDR-Division of Health Assessment and Consultation
1600 Clifton Road, NE (E32)
Atlanta, Georgia 30333
24-hour, toll-free message service
1-800-447-4784, then dial 329-1175

DSW 133200



POLYCHLORINATED BIPHENYLS (PCBs)

Agency for Toxic Substances and Disease Registry

April 1993

This fact sheet answers the most frequently asked health questions about PCBs. For more information, you may call 404-639-6000. This fact sheet is one in a series of summaries about hazardous substances and their health effects. This information is important because this substance may harm you. The effects of exposure to any hazardous substance depend on the dose, the duration, how you are exposed, personal traits and habits, and whether other chemicals are present.

SUMMARY: Exposure to polychlorinated biphenyls (PCBs) happens mostly from eating contaminated foods or breathing contaminated workplace air. High exposures to PCBs can damage the skin, eyes, and lungs. PCBs have been found in at least 349 of 1,300 National Priorities List sites identified by the Environmental Protection Agency.

What are polychlorinated biphenyls (PCBs)? (Pronounced pol'e - klo'ri - nāt - ed - bi - fe'nils)

PCBs are a group of industrial chemicals that share a common structure. They are oily liquids or solids, clear to light yellow in color, and with no smell or taste. They don't occur naturally in the environment. Aroclor is a popular trade name of a commercial PCB mixture.

PCBs don't burn easily. In the past, they were widely used as coolants, insulating materials, and lubricants in electrical equipment like transformers and capacitors. The U.S. stopped making them in 1977 because of the health effects associated with exposure. As levels in the environment increased, the potential for harmful effects increased.

Pre-1977 products may still contain PCBs. These include old fluorescent lighting fixtures, electrical devices or appliances with PCB capacitors, old microscope oil, and hydraulic fluids.

What happens to PCBs when they enter the environment?

- ☐ They enter air as solid or liquid aerosols or vapor and can stay in air more than 10 days.
- ☐ When in air, they can travel long distances in the wind.
- ☐ They move from air to soil and water when it snows or rains.
- ☐ Most stick tightly to soil particles; a small amount dissolves in water.

- ☐ They take several years to break down in soil.
- ☐ They are stored in the bodies of fish and seafood.
- ☐ Levels in fish can be many thousands of times higher than the levels in water.

How might I be exposed to PCBs?

- ☐ Breathing workplace air (indoor air around electrical parts or outdoor air at waste sites)
- ☐ Drinking water, skin contact with soil, or breathing air that is contaminated from nearby waste sites
- ☐ Eating fatty foods such as fish, seafood, dairy, or fatty meats contaminated with PCBs
- ☐ Breast milk from mothers exposed to PCBs.

How can PCBs affect my health?

Most of what we know about the human health effects of PCBs comes from studies on workers. Levels in the workplace are usually much higher than at other places. Workers are exposed to PCBs from breathing air and contact with their skin.

Exposures to PCBs at levels found in the workplace and over a long time may cause harmful effects to the skin (acne, rashes, and coloring of the nails and skin) and eyes (redness, burning, irritation, and discharge). PCBs in the diet of animals produced similar effects. PCBs may also irritate the nose and lungs.

Repeated skin contact to PCBs in rabbits caused liver, kidney, and skin damage. A single, large exposure to skin

caused death in rabbits. Rats and other animals that breathed very high levels of PCBs over several months had liver and kidney damage. It is not clear if these effects would happen in people at similar levels of exposure.

Rats that ate large amounts of PCBs for a short period had mild liver damage; some died. Smaller amounts over several weeks or months caused liver, stomach, and thyroid gland injuries, anemia, acne, and reduced the ability to have offspring. Similar effects occurred in different laboratory animals.

How likely are PCBs to cause cancer?

The Department of Health and Human Services (1991) has determined that PCBs may reasonably be anticipated to be carcinogens. This is based on animal studies. Studies in workers do not provide enough information to know with any certainty if PCBs cause cancer in humans.

Is there a medical test to show whether I've been exposed to PCBs?

Tests are available for PCBs in blood, body fat, and breast milk. Blood tests are the best method for detecting recent exposures to large amounts. These tests are not routinely performed at your doctor's office.

High levels in your body fluids indicate exposure to high levels of PCBs. These tests can't determine the exact amount or type of PCBs, how long you were exposed, or if you will develop harmful health effects. Most people have small but measurable amounts of PCBs in their blood, fat, and breast milk.

Has the federal government made recommendations to protect human health?

The U.S. Environmental Protection Agency (EPA) recommends PCBs levels in lakes and streams be no higher than 0.001 parts of PCB per billion parts of water (0.001 ppb) to prevent cancer. PCBs in drinking water

should be no higher than 4 milligrams per liter of water (4 mg/L) for adults, and 1 mg/L for children to prevent noncancer harmful effects. EPA regulates the transport, storage, or disposal of PCBs. EPA limits the amount of PCBs in publicly owned waste water treatment plants, and requires industry to report release of 1 pound or more.

The Food and Drug Administration (FDA) requires milk, eggs, other dairy products, poultry fat, fish, shellfish, and infant foods to contain no more than 0.2-3 parts of PCBs per million parts of food (0.2-3 ppm) to prevent noncancer harmful effects.

The National Institute for Occupational Safety and Health (NIOSH) recommends workers not breathe air with more than 0.001 milligrams of PCBs per cubic meter of air (0.001 mg/m³) for a 10-hour workday, 40-hour workweek.

The Occupational Safety and Health Administration (OSHA) requires workplace exposure limits of 0.5 mg/m³ (54 percent chlorine) or 1 mg/m³ (42 percent chlorine) for an 8-hour workday to protect workers from noncancer harmful health effects.

Glossary

Carcinogen: Substance that can cause cancer.

PPM: Parts per million

Milligram (mg): One thousandth of a gram.

References

Agency for Toxic Substances and Disease Registry (ATSDR). 1993. Toxicological profile for selected polychlorinated biphenyls (PCBs). Atlanta: U.S. Department of Health and Human Services, Public Health Service.

Agency for Toxic Substances and Disease Registry (ATSDR). 1993. Case studies in environmental medicine: PCBs toxicity. Atlanta: U.S. Department of Health and Human Services, Public Health Service.

Where can I get more information?

ATSDR can tell you where to find occupational and environmental health clinics. Their specialists can recognize, evaluate, and treat illnesses resulting from exposure to hazardous substances. You can also contact your community or state health or environmental quality department if you have any more questions or concerns. For more information, contact: Agency for Toxic Substances and Disease Registry, Division of Toxicology, 1600 Clifton Road NE, Mailstop E-29, Atlanta, GA 30333. Phone: 404-639-6000.



Hazardous Substances

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Public Health

Protecting the Public Health



WELCOME Second International Congress on Hazardous Waste

Welcome to Atlanta and the second International Congress on Hazardous Waste: Impact on Human and Ecological Health. We at the Agency for Toxic Substances and Disease Registry (ATSDR) look forward to the opportunity to meet our colleagues in various disciplines and to share knowledge about the ecological and health effects of hazardous waste. Sharing what we have learned through research will take us many steps closer to understanding harmful exposures and finding ways to prevent them.

As you know, the impact of hazardous waste is truly international. Globally, soil, water, and air are polluted with hazardous waste, and as a consequence, the health of many people, as well as that of other species, is endangered. Furthermore, we are in danger of losing whole ecosystems and the great diversity of species in some parts of the world because of environmental degradation.

At the original congress in 1993, representatives of many nations discussed the problems of hazardous waste: producing and managing it, shipping and storing it, and disposing of it. The impact of hazardous waste was reflected in the need to develop emergency measures, right-to-know laws, and international agreements that emerged from important meetings such as the UN Conference on

Environment and Development.

This congress represents a commitment on the part of ATSDR and its cosponsors to advance the science and understanding of hazardous waste and to continue our efforts to improve public health practices and ecology. Since 1993, new findings have contributed to our understanding of the problem's magnitude:

- Although epidemiologic findings are still unfolding, when sites are evaluated in aggregate, proximity to hazardous waste sites seems to be associated with a small to moderate increased risk of some kinds of birth defects and, less well documented, some specific cancers. These kinds of studies need replication and, in particular, better exposure data.
- Health investigations of communities around some individual hazardous waste sites have found increases in the risk of birth defects, neurotoxic disorders, dermatitis, leukemia, cardiovascular abnormalities, respiratory dysfunction, and immune disorders. As with all ecologic epidemiology findings, better exposure data are needed.
- Site remediation doesn't necessarily resolve all public health

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Mercury and PCBs From LCP Site Contaminate Waterways: Residents Warned Not To Eat Fish

One of the South's most hazardous waste sites, Linden Chemicals and Plastics (LCP), lies just west of the small town of Brunswick, Georgia, a US Environmental Protection Agency (EPA) official declared after finding high levels of mercury, polychlorinated biphenyls (PCBs), and lead in soil and water.

"This is certainly one of the worst sites we have here in the Southeast, in terms of mercury and PCB contamination," said Paul Peronard, an EPA on-site coordinator. Ranking the site a 9.5 on a pollution scale of 1 to 10, he added: "I've never seen anything this bad."

Thousands of pounds of mercury and PCBs from the LCP site have contaminated the tidal marshlands around the 550-acre site. Other contaminants of concern are lead, barium, volatile organic compounds (VOCs), and polyaromatic hydrocarbons (PAHs). Because the marshes drain into the Turtle River and Purvis Creek, health officials have warned the area's 3,259 residents not to consume fish or shellfish caught there.

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U.S. DEPARTMENT OF HEALTH AND HUMAN SERVICES
Public Health Service

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Welcome Congress

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concerns. An increasing body of evidence indicates that past exposures to hazardous substances can cause latent adverse health effects. These findings highlight the need for continuing surveillance of exposed populations.

Serious gaps still exist in scientific knowledge about the toxicity, bioavailability, exposure, and human health effects of individual hazardous substances and mixtures of these

substances released from sites and during emergency events, and that's why this second congress is necessary. We are here to fill in some of those gaps.

The central theme of this congress is *preventing* the adverse impact of hazardous waste on human health and ecology. Once we know the consequences of hazardous substances use, then we can explore what preventive measures must be taken. If such difficult problems are to be

overcome, it will be through the efforts of the concerned, competent, and caring people we will be hearing from over the next four days. We welcome you to our city. ■

Barry L. Johnson, PhD, Assistant Surgeon General
Assistant Administrator, Agency for Toxic Substances and Disease Registry

LCP Site

Continued from page 1

The site has been the location of several industrial operations since 1919, when Atlantic Refining Company (now ARCO) operated an oil refinery there. Waste from the refinery was treated, stored, and disposed from 1920 to 1937. From 1937 to 1950, the Georgia Power Company bought parts of the site and operated an oil-fired power plant.

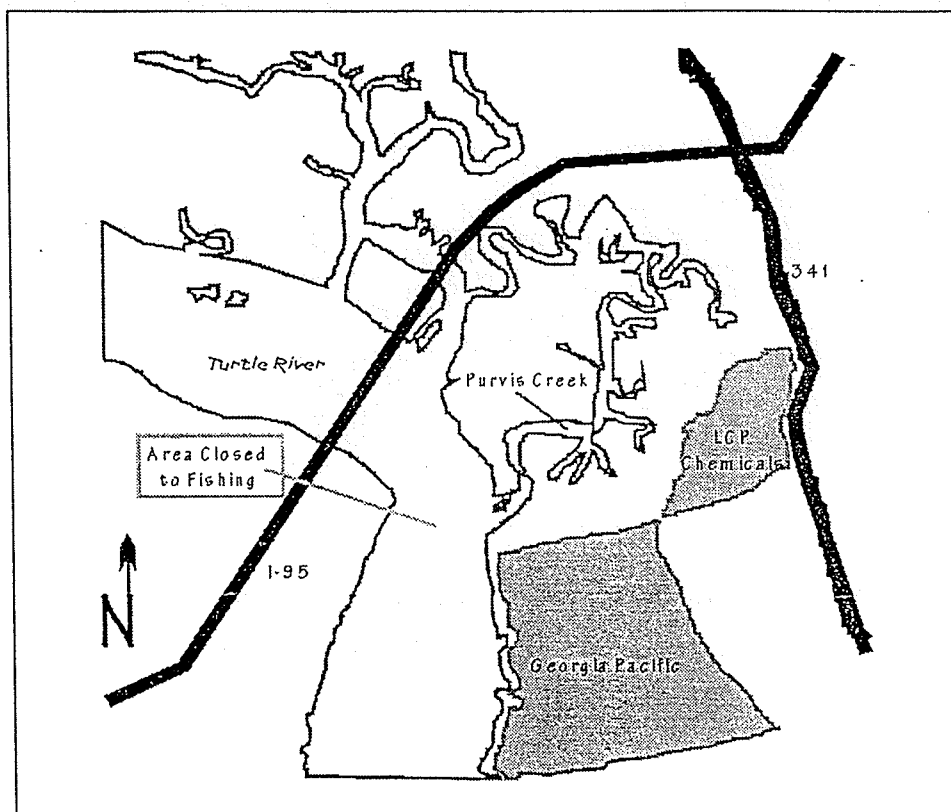
In 1941, Dixie Paints and Varnish Co. operated a paint manufacturing facility on part of the site. In 1955, Allied Chemical, a division of Hanlin Group Inc., purchased the site except for 2.9 acres of the Georgia Power property and manufactured chlorine, sodium hydroxide, and muriatic acid until 1979. The Hanlin Group, through its wholly owned subsidiary, LCP Chemicals-Georgia Inc., purchased the site and maintained operations until 1994.

Officials have found mercury concentrations as high as 12,500 parts per million (ppm) and PCBs as high as 3,600 ppm in drainage canals. Pockets of pure elemental mercury have also been found on the site. The EPA's recommended maximum safe level for mercury is 2 ppm; at 20 ppm, mercury is highly toxic, and long-term exposure can cause adverse health effects to the brain, kidneys,

and developing fetuses. The maximum safe level for PCBs is .0005 ppm; at 25 ppm, PCBs are considered unsafe for human contact. Studies suggest that PCBs are carcinogens that cause acne-like rashes and may cause liver cancer and reproductive health effects. EPA officials fear that more than 17,000 pounds of PCBs and 200,000 pounds of mercury may have seeped into marshes and other

areas around the site. It is estimated that the containment costs of the site will be between \$20 and \$50 million during the first 2 years of cleanup.

EPA and the Agency for Toxic Substances and Disease Registry are working with state officials and local physicians to identify public health problems that may be associated with the LCP site contamination. ■



Map of LCP site area