Alliance for a Clean and Healthy Maine

Body of Evidence

A STUDY OF POLLUTION IN MAINE PEOPLE

Executive Summary

Maine people are polluted with dozens of hazardous industrial chemicals, according to a new study conducted by the Alliance for a Clean and Healthy Maine with help from the University of Southern Maine. In 2006, thirteen Maine men and women volunteered to have their bodies tested in the first-ever study of chemical pollution in Maine people. This study found a total of 46 different chemicals (of 71 tested) in samples of blood, urine, and hair. On average, each participant had measurable levels of 36 toxic chemicals in their bodies.

These findings show that Maine people are routinely exposed to hazardous industrial chemicals including phthalates from cosmetics and vinyl plastic, brominated flame retardants (PBDEs) from televisions and furniture, Teflon chemicals from stain-resistant and non-stick coatings, bisphenol A from reusable water bottles and baby bottles, and toxic metals such as lead, mercury and arsenic.

These chemicals are found in products we use every day: plastic containers, toys, furniture, fabric, automobiles, TVs and stereos, water bottles, medical supplies, and personal products like shampoo, hairspray, and perfume. They are in our homes and offices, food and water, and the air we breathe.

Scientific research shows that these chemicals are hazardous and that even tiny amounts may threaten human health. They are toxic or harmful to life and

many are slow to degrade and also build up to high levels in the food chain. Babies in the womb and young children are especially vulnerable because they are still growing. Animal and human studies have linked these chemicals to learning and developmental disabilities, endocrine system damage, changes in sexual development, reproductive harm (including decreased sperm count in men), low birth weight and some cancers.

Despite proven and suspected dangers to our health, industry is not required to demonstrate the safety of chemicals before adding them to consumer products, nor are they required to use safer alternatives to chemicals known to be hazardous.

What We Found—Pollution in People

Russell Libby, 50, lives in Mount Vernon and is an organic farmer. Along with Bettie Kettell, Russell had the most chemicals detected (41 of the 71 that were tested). He also had the greatest number of PBDEs detected (27 of 46) and relatively high levels of individual PBDEs.

Amy Graham, 35, lives in Farmington and is a children's book author and homemaker. She has two young daughters, Phoebe and Sylvie. Amy had the second-highest level of one of the PBDE's which is a breakdown product of Deca, the toxic fire retardant.

Bettie Kettell, 60, is a nurse who lives in Durham. Bettie had the highest total level of PBDE flame retardants compared to the other Maine participants. Of the 71 chemicals that were tested in this study, 41 were detected in Bettie, a tie with Russell Libby for the most chemicals.

Paulette Dingley, 48, lives in Auburn and works with the American Red Cross as a health and safety instructor. Paulette had the highest level of two types of phthalates. She also had bisphenol-A chemicals in her body several times higher than the national average.

Dana Dow, 56, lives in Waldoboro, is a Republican State Senator and also owns a furniture store. Dana had the highest levels, and most different types, of perfluorinated chemicals which are often added to furniture to provide stain resistance.

Lauralee Raymond, 28, grew up in Aroostook County and attended Bates College. She now lives in Winthrop. She and her mother both participated in this study. Lauralee had higher levels of mercury, arsenic, and each of the flame retardants than her mother. She found this surprising since her mom has had more time to build up chemicals in her body.

Charlie Schmidt, 42, is a freelance science writer from South Portland. Charlie has a Master's degree in public health and has worked as a toxicologist. Charlie brings a professional appreciation to the growing interest in human body burden, and the challenging implications for public health.

Hannah Pingree, 30, is from North Haven and is in the Maine Legislature, where she is the House Majority Leader, Hannah had the second highest level of total phthalates and second highest level of mercury in the Maine study group.

Vi Raymond, 51, moved to Winthrop after spending 40 years in Fort Kent. She is married with five grown children, including fellow participant Lauralee. Vi had the highest phthalate total, and the highest level of BADGE-4OH, of one of the bisphenol-A chemicals tested.

Eric Stirling, 32, owns and operates a sporting camp on First West Branch Pond, near the Appalachian Trail in the unorganized territory TA-R12. Eric had the highest level of mercury found among the study participants and his total arsenic amount was above the normal exposure level.

Denyse Wilson, 39, is a writing instructor. She is married with two children, Cecil and Francine. Denyse had the highest inorganic arsenic and arsenic(III) levels of all study participants.

Elise Roux, 18, is a senior at Cheverus High School in Portland. She lives in Windham. Elise had the highest level of bisphenol-A, about ten times the national average, and the second highest levels of BADGE-4OH.

Regina Creeley, 54, lives in Hudson and is a special education instructor. Regina had the highest total arsenic level of all study participants.

The Chemicals Detected In This Study Are Found In Products Throughout Your Home...

What Does The Body Of Evidence Study Tell Us?

1. *People are routinely exposed to many hazardous chemicals.*
2. *These chemicals pose a potentially serious threat to human health.*
3. *Everyday products and materials are a major source of chemical exposure.*
4. *The safety system for industrial chemicals in broken.*

Most of these chemicals that enter our environment are manufactured by the chemical industry and added to the thousands of items in daily commerce that support our modern lifestyle. Yet industry is not required to prove that a chemical is safe before it is manufactured, sold, or used in consumer products. Nor are product makers required to use the safest alternatives, even when non-toxic substitutes are effective, available and affordable. Under our current system, thousands of toxic chemicals have been "grandfathered" in without adequate health and safety testing. And government is handcuffed with undue burden to prove harm before any precautionary actions can be taken to prevent chemical exposure. If this system was working, we would not find hazardous chemicals in people's bodies.

We can get these chemicals out of our homes—& keep them out of our bodies

The chemicals used in products throughout our homes were never intended to end up in our bodies but we now know that they are. The safety system for industrial chemicals is broken. New laws are needed to ensure that the products on store shelves are safe for our families.

To prevent pollution in Maine people, government should enact comprehensive safer chemicals policy at the state and federal level. Three actions are needed to close the gaps in our broken chemical system;

Close The Safety Gap

- Phase out the most harmful chemicals in favor of safer alternatives, for example Deca-BDE in electronics and furniture, and phthalates and bisphenol A in baby products.
- Search for safer substitutes for all chemicals shown to be hazardous.
- Require that all industrial chemicals be proven safe, especially for children.

Close The Data Gap

- Honor the public's right-to-know which hazardous chemicals are in what products.
- Require manufacturers to provide health and safety data on all industrial chemicals.
- Require that chemical manufacturers test and prove the safety of all industrial chemicals in commerce.

Close The Technology Gap

- Invest in research and development of bio-based plastics from Maine potatoes and other "green chemistry" solutions that will boost the state's economy.
- Establish a research center within the University of Maine System to assess hazards and alternatives for harmful chemicals.

The Body of Evidence study is a project of the Alliance for a Clean and Healthy Maine. The Alliance for a Clean and Healthy Maine is a coalition of Maine-based organizations committed to protecting human health from toxic chemical exposure. Forty-five organizations have endorsed the Alliance, representing health-affected children, workers, doctors, public health professionals, environmentalists and impacted communities.

Alliance for a Clean & Healthy Maine, Steering Committee:

Environmental Health Strategy Center, Learning Disabilities Association of Maine, Maine Labor Group on Health, Maine Organic Farmers and Gardeners Association, Maine People's Alliance, Maine Public Health Association, Natural Resources Council of Maine, Physicians for Social Responsibility - Maine Chapter, and Toxics Action Center Campaigns

For more information about campaigns to improve environmental health in Maine or for a full copy of the Body of Evidence report check out the Alliance for a Clean and Healthy Maine at

www.CleanAndHealthyMe.org

Alliance for a Clean and Healthy Maine | (207) 772-2181 | One Pleasant Street, Fourth Floor, Portland, Maine 04101