



Contaminated without Consent

What's In Us?

Each one of us now has several hundred synthetic chemicals in our bodies. These chemicals were not a part of the human body chemistry before the 20th century.¹ Other chemicals from natural sources are found in unnatural concentrations in our bodies – lead and mercury are but two examples.

Since 2001, the US Centers for Disease Control (CDC) has been tracking the levels of synthetic chemicals in the blood and urine of average Americans – our so-called “body burden.” **These studies have found that all of us are contaminated with household and industrial chemicals and pesticides²** – some of which can build up (bioaccumulate) in our bodies, our blood, fat tissues, muscle, bone, brain or other organs. For example, PCBs and DDT, two persistent chemicals that have been banned for 30 years, are still found in nearly all people tested by the CDC. Other chemicals lodge in our bodies for only a short time before being excreted, but continuous exposure to such chemicals means they are usually present in our bodies.³

► How do these chemicals get into our bodies?

We inhale chemicals from the air outside and in our homes, ingest them from contaminated meat and dairy products, drink them in our water, and absorb them through our skin from everyday products. For example, the average American woman uses up to 25 cosmetics and skin care products a day, containing over 200 chemicals, most of which have not been tested for human health impacts.⁴

Surprisingly, the dust in our homes and cars is highly contaminated by chemicals from common household products and outdoor air pollution. **A study on Cape Cod found an average of 26 hormone-disrupting chemicals in household dust – chemicals commonly used in plastics, detergents, furniture, carpets, electronic equipment, pesticides and cosmetics.⁵** Small children likely ingest large quantities of household dust because of their frequent “hand to mouth” activities.



Much of the highest exposures occur at the workplace. A number of known carcinogens were discovered initially through studies of workers' diseases. Links between cancers and vinyl chloride, chimney soot, arsenic, uranium, aniline dyes, and asbestos were all first found in those exposed in their workplaces. We can think of workers as the "canaries in the mines" for chemical effects.⁶

► Unavoidable Exposure and Unpredictable Impacts

Unfortunately, these exposures are so ubiquitous that there is no way for one person to avoid them.

“This is our ‘body burden’ our chemical legacy, picked up from our possessions, passed to our children and sown across the environment. It’s the result, scientists say, of 50 years of increasing reliance on synthetic chemicals for every facet of our lives.”

— Reporter Douglas Fischer, Oakland Tribune⁹

Kenneth Korach, Director of the Environmental Disease and Medicine Program at the National Insti-

Dozens of toxic chemicals have been found in even the most careful “green shopper”⁷ and in native people who live far from industrial facilities and may have less access to consumer products.⁸

While scientists are learning a lot about the damage one chemical can do, the health impacts of exposure to hundreds of chemicals at a time is beyond the grasp of current science.

tute of Environmental Health Sciences says: “Nobody’s exposed to one thing. The problem is we haven’t done enough yet to look at combinations.”¹⁰

► Unequal Burdens

While everyone tested has been found to have dozens of toxic chemicals in their bodies, **some people have higher exposures and carry a higher burden of toxic chemicals.** Northeastern University in Boston released a study in 2005 that documented these higher exposures in low-income and people of color communities in Massachusetts; “Unequal Exposure to Ecological Hazards” concludes that communities with high minority populations face a cumulative exposure rate to environmentally hazardous facilities and sites that is over 20 times greater than low minority communities.¹¹

► Government Action is Effective

The hopeful news is that in several cases, **public policy interventions have successfully reduced our exposure to toxins and our body burdens.** The removal of lead from gasoline and its elimination from most kinds of paint have resulted in a marked decline in the lead body burden of the general population in the United States. Because lead causes lower IQ in exposed children, this reduction is a hopeful sign.¹²

In 2000, the federal government banned two



BORN CONTAMINATED

Statement by leading scientists and pediatricians¹³

“A recent study by the Environmental Working Group detected 287 commercial chemicals, pesticides, and pollutants in the umbilical cord blood from 10 newborn infants, randomly selected by the Red Cross from U.S. hospitals. **The finding of these chemicals in the bloodstreams of the youngest and most vulnerable members of our society raises issues of substantial importance to public health and points to the need for major reforms to the nation’s laws that aim to protect the public from chemical exposures.**

The study confirms that even before birth, a child is exposed to hundreds of chemical compounds, many of which could harm that child’s health and development. This is disturbing because scientific studies and empirical evidence have repeatedly shown that pre-natal and early childhood chemical exposures can be substantially more harmful than exposures that occur later in life. . . .”

“These health concerns are largely the results of gaping holes in the government safety net that allows this largely uncontrolled exposure.”¹⁴

**“We are all, in a sense,
subjects of an experiment,
with no way to buy your
way out, eat your way out
or exercise your way out.”**

— Reporter Douglas
Fischer, *Oakland Tribune*¹⁵

pesticides widely used in homes, chlorpyrifos and diazinon, which resulted in almost immediate health benefits. Exposure to these organophosphate pesticides during pregnancy is associated with lower birth weight, an important indicator of a baby's future health. Following the ban of these pesticides, there was a marked increase in birth weight that is comparable to the differences between babies born to mothers who smoke during pregnancy and babies whose mothers don't. The fact that the ban was associated with such an immediate change in birth weight and length



provides considerable evidence of cause and effect, according to a study by the Columbia Center for Children's Environmental Health.¹⁶

The good news is that public and private action to find and use safer alternatives can help protect our health and the health of our children. ■

Endnotes

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- 16 Columbia Center for Children's Environmental Health. (2004) Press Release: First Human Study to Show Benefits to Newborns from Federal ban on Home use of Two Insecticides. March 2004. [www.mailman.hs.columbia.edu/ccceh/news_events/CCCEH%20Press%20Release%20\(March22\).htm](http://www.mailman.hs.columbia.edu/ccceh/news_events/CCCEH%20Press%20Release%20(March22).htm)

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Safe Products Made Safely

*The Scientific, Economic and Common Sense
Arguments for Passing the Safer Alternatives Bill*

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