



EPA Must Finish the Job of Protecting People from Dioxin

After nearly 30 years of delays caused by pressure from chemicals and defense industries, the US Environmental Protection Agency (EPA) is moving forward on setting a safety limit for exposure to dioxin, a ubiquitous, highly toxic and carcinogenic chemical that people of all ages ingest daily with their food - starting at a mother's breast. The Environmental Working Group applauds the EPA for taking significant steps to set a long-overdue exposure limit for dioxin, a byproduct of combustion and various industrial processes that is found everywhere in the environment and in people's bodies. EWG researchers say, however, that the allowable exposure levels may well need to be tightened in the future because of growing evidence that dioxin is even more dangerous than scientists had thought.

Nine animal studies conducted between 1973 and 2008 show that dioxin is harmful at levels even lower than in the human studies on which EPA based its proposal. Those human studies, conducted in 2008, explored the toxic legacy of a 1976 chemical plant explosion in Seveso, Italy, which exposed thousands of people to dioxin in unprecedented intensity and left large quantities of the chemical in the soil.

There is an urgent need for EPA to finalize its assessment and the safety standard that is part of it. EWG research found that the amount of dioxin a nursing infant ingests daily is up to 77 times higher than the level the agency has defined as harmless to the endocrine and immune systems. For cancer risk, the situation is even more dire: the general public is exposed to up to 1,200 times more dioxin than regulatory agencies typically consider safe. Only when EPA finally issues these long-delayed safety standards can public health agencies finish the job of reducing industrial emissions and cleaning up the food supply and the environment in order to protect the health of Americans.

EWG has submitted its analyses and recommendations to EPA's Science Advisory Board, which scheduled two public meetings in Washington in July and October 2010 to discuss EPA's long-awaited "Reanalysis of Key Issues Related to Dioxin Toxicity."

Chlorinated dioxins form as an unintended byproduct of waste incineration and a variety of industrial processes, including smelting, chlorine paper bleaching and pesticide manufacturing. Burning household waste and even forest fires can also produce dioxins. Sometimes described as the most toxic contaminant ever found, dioxin has been linked to multiple outbreaks of disease and cancer triggered by high-level exposures at least as far back as 1949.

More recently, scientists have recognized that continuous, low-dose exposure to dioxin-like compounds, which include the notorious PCB's, is also a health threat. EPA's "reanalysis" noted that these low-level exposures are all but unavoidable because dioxins are widespread in the environment, break down very slowly, build up in the food chain and accumulate in the tissues of animals, especially in fat. As a consequence, exposures begin in the womb when dioxins cross the placenta, and newborn infants begin to ingest them from the very first days of life.

The EPA, which began its efforts to set safety limits for dioxin exposure almost 30 years ago, is focusing on a particular form called tetrachlorodibenzo-p-dioxin, or TCDD, the most toxic and best studied of this family of chemicals. EWG's analysis noted that TCDD "has been associated with a panoply of adverse health effect in people," including heart disease, diabetes, cancer, endometriosis, early menopause, reduced testosterone and thyroid hormones, immune system disorders and abnormalities of the skin, teeth and nails.

EWG supports EPA's risk assessment approach to the available science, which was informed by a 2006 evaluation the agency sought from the National Academy of Sciences. However, EWG's analysis finds that a 130-pound adult who eats a cheeseburger and drinks a glass of milk can consume a third of EPA's proposed safe daily dose of dioxin and dioxin-like compounds..."

In comments to EPA, EWG writes that the primary source of dioxin contamination in people is food, starting with breast milk and formula for infants and continuing to dioxin exposure from meat, dairy products, fish and shellfish..." Because children consume more food than adults in relation to their body weight, EWG's Dr. Olga Naidenko has found ([see EWG analysis](#)):

Infants and children 1-to-10 years of age are the groups with the highest relative dietary exposure.

Breast-fed infants in particular receive a high dose of dioxin during the first months of their life, when breast milk is their only, or primary, food source... developmental and/or early-life dioxin exposure has been linked to neurological alterations, including effects on hearing, psychomotor function, cognition and gender-specific behaviors; effects on the reproductive organs; and hormonal changes.

Despite these concerns, breast milk is still considered by pediatricians to be the best food for infants by far. The presence of dioxin in breast milk (and formula as well) makes it even more important that EPA complete its assessment and begin to take measures to help reduce exposures across the population.

EWG is urging the Science Advisory Board and the EPA to move ahead rapidly "to establish a safety level for dioxin that will truly protect the health of Americans, particularly the youngest and most vulnerable."