

The Chemical Deluge

Ahh, those “spring-fresh” fragrances wafting from our soaps, shower gels and a thousand other personal products...

They may seem — and smell — innocent enough, but don’t breathe too deeply. “There can be as many as 100 chemicals in a single fragrance,” reported the Environmental Health Association of Nova Scotia in its *Guide to Less Toxic Products*.¹ In 1989, the guide said, the US National Institute of Occupational Safety and Health evaluated 2,983 fragrance chemicals for health effects and identified 884 as toxic

We have chemicals linked to cancer, both known carcinogens and suspected carcinogens, inside all the bodies of people who live in North America.

— Sandra Steingraber

substances. You will probably never see the ingredient list for these fragrances on a product container — they’re exempt from disclosure as trade secrets.²

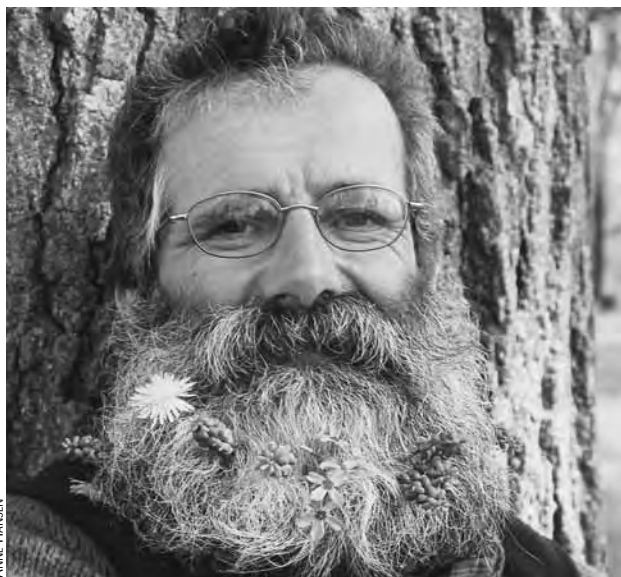
Fragrances are just one small slice of a huge chemical industry that contributes considerably to our burden of chronic disease, including many cancers.

Statistics about the raw chemicals that become part and parcel of our daily lives are almost unfathomable. Every day, the United States produces or imports 42 billion pounds of chemicals, with 90% procured from non-renewable fossil fuels. This is the equivalent of 623,000 gasoline tanker trucks — each carrying 8,000 gallons — stretching from San Francisco to Washington DC and back if placed end to end.³ Global chemical production is expected to double every 25 years for the foreseeable future (California’s 2006 *Green Chemistry Report*).

And now add these facts: the majority of the 100,000 chemicals in commercial use did not exist before World War II. Every year another 1,800 new compounds are created in laboratories. Nature, which has evolved slowly over millions of years, has little capacity to accommodate these novelties.

And more: over the next three decades, 600 new hazardous waste sites will appear *every month* in the United States, adding 216,000 new sites to the 77,000 already on the map in early 2006.⁴

The air, water and our food are also dumping grounds for chemical wastes. We know from scores of body burden tests that hundreds of chemicals



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“From age 14-28, I did the pesticide applications on our family farm. Almost every pesticide I used then is now banned as carcinogenic.” Henry Kock, pesticide-free activist, born in 1952, died of brain cancer on Christmas Day 2005.

released into the environment end up in humans and other living creatures. The California *Green Chemistry Report* concluded that workers pay the highest price of all. Every month 1,900 workers in California alone are diagnosed with deadly chronic diseases, including cancers that are linked to chemical exposures in occupational settings.⁵ Nearly all are preventable.

And yet some prominent cancer experts, such as professors Bruce Ames, at the University of California, Berkeley, and Stephen Safe, at Texas A&M University, reject the idea that man-made chemicals play much of a role in cancer incidence. Safe has worked directly for industry in a number of instances. Both contend we have chemophobia and that natural carcinogens play a far larger role in causing cancer than most imagine.

Natural carcinogens are not rarities — we encounter hundreds of them in our daily lives. Cosmic radiation, radon gas and certain substances in plants and food are carcinogenic, such as aflatoxins in moldy corn, cheese and nuts.⁶ We also know that some biologic agents can cause cancer, such as the Epstein-Barr and Hepatitis B and C viruses.⁷ And when we dig down under the Earth's green mantle, substances such as asbestos, uranium, arsenic, silica and beryllium are exposed that cause cancer when they are extracted, refined and used in society.

The debate should not be about natural versus synthetic carcinogens. It should be about reducing our uses of and exposures to all cancer-causing agents. Humans have evolved to cope with many natural carcinogens at levels they are commonly encountered; it is the new synthetic

But aren't they tested for health and safety? Think again!

Studies by Environmental Defense and the US Environmental Protection Agency have found that the vast majority of chemicals in widespread commercial use lack basic toxicity data in the public record. There are close to 3,000 chemicals (excluding polymers and inorganic chemicals) that the US produces or imports in quantities of over 1 million pounds per year. The EPA has reviewed the publicly available data on these chemicals and concluded that most may have never been tested to determine how toxic they are to humans or the environment. When the EPA evaluated all 2,863 of the "high production volume" chemicals, they found that only 7% had publicly available results for all eight of the standard, basic screening tests. Almost half (43%) had no data in any test category.⁹

ones that are more problematic. How we have increased exposures to natural cancer-causing materials, such as asbestos and radon, also affects our risk.

Professor John Wargo of Yale University wrote:

If anything, an awareness of our exposure to natural carcinogens (especially in plants) should generate greater urgency toward eliminating the avoidable synthetic ones. Unlike their synthetic counterparts, plant-generated chemicals do not spill into waterways, pollute groundwater, contaminate sport fish, waft up from dump-sites or drift into other continents. Presumably, natural carcinogens have not skyrocketed in production over the past half century. They cannot explain the coincident rise in cancer rates.⁸

The big question: When will the human experiment with man-made carcinogens stop?