

TESTIMONY of Michael P. Wilson, Ph.D, MPH

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before

The Assembly Committee on Environmental Safety and Toxic Materials
Honorable Bob Wieckowski, Chair

and

The Assembly Committee on Health
Honorable William Monning, Chair

Oversight Hearing

On the Implementation of the California Green Chemistry Initiative

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Advancing Green Chemistry: The Role of Information in the Marketplace

Chairman Wieckowski, Chairman Monning, Vice Chairman Miller, Mr. Feuer, members of the Committees, thank you very much for giving me this opportunity to speak with you today on the implementation of the California Green Chemistry Initiative.

I am Dr. Michael Wilson and I am an environmental health scientist at the University of California, Berkeley, Center for Occupational and Environmental Health, and I serve as Associate Director of Integrative Sciences for the UC Berkeley Center for Green Chemistry. I also serve as a member of the Green Ribbon Science Panel convened under AB 1879 to advise DTSC on implementation of the Green Chemistry Initiative. I'm speaking today from my technical experience, but my comments are my own and do not necessarily reflect the views of other members of the Panel, the Berkeley Center for Green Chemistry, or the University of California.

In the spirit of Mr. Feuer and Mr. Miller's suggestion, my comments will focus on three initial elements that DTSC can and should implement as quickly as possible within its authorities under AB 1879.

The six planks of the Green Chemistry Initiative proposed by DTSC in its final report in 2009, as described by Secretary Adams, include a number of concrete and visionary strategies to address the chemical data gap, safety gap, and technology gap that we identified in our 2006 report to the California Legislature and in our 2008 report to

California EPA, which was subsequently signed by 130 UC scientists and faculty members from seven UC campuses. Important components of the Initiative were codified into law under AB1879 and SB509, which together represent the nation's first effort by a state to craft a more comprehensive, modern approach to chemicals policy.

Together, these laws have the potential to drive much-needed information on chemical hazards into the market, they have the potential to steadily reduce the commercial use of toxic substances, and they could create the market and regulatory conditions in California that are needed to spark investment by companies in the science of safer chemicals, products and industrial processes, known collectively as green chemistry.

These laws, and perhaps others that will follow in the context of the Green Chemistry Initiative, could put California out on the front end, the *prevention* end, of hazardous waste, workplace exposures, air and water pollution, hazardous consumer products, and the disproportionate exposures that occur in the state's most economically disadvantaged communities and dangerous workplaces.

The laws also represent what is indisputably an appropriate role for government in California today; that is, to make sure that (1) the market has sufficient information to function properly, and (2) the production of goods and services does not come at the expense of public or environmental health.

And the fact is, as California's population grows 50% by 2050, from 36 to 55 million people, we simply have to make this work. If we look at just the hazardous waste slice of the health and environmental picture, for example, on our current trajectory, the US EPA is expecting the need for 600 new hazardous waste sites nationwide, each month of each year leading up to 2033, which is as far out as EPA has projected. Half of the chemical substances at existing sites have been identified by the CDC as known or suspected carcinogens or teratogens, meaning that they are linked to cancer or birth defects. At this point, this is an inescapable legacy to future generations.

In California, DTSC projects that the clean-up of existing hazardous waste sites will require 400 years at the current rate. About 70% of the largest sites have breached their containment and are quietly leaking into the state's groundwater.

California is spending \$30 million each year in both insurance payments and general fund moneys simply to *monitor* the rate at which chemicals are leaking into the groundwater around these sites. These costs will continue in perpetuity and ultimately transfer fully to the state.

A recent article in the journal *Pediatrics* found that nearly 12,000 children end up in emergency rooms each year in the U.S. due to injuries from household cleaning products

alone. The researchers found that the most at risk are under 5 years of age. Every one of these injuries is preventable: imagine if cleaning products were non-toxic.

These acute injuries among children, of course, do not capture the impact – both human and economic – of chronic diseases, including various cancers, reproductive health effects, neurotoxic effects, and hormone disrupting effects, as Dr. Woodruff described for example, nor do they capture the disproportionate health costs of exposures that occur among people who live or work in the most highly polluted communities and workplaces.

Mr. Chairmen and members, to be clear, these are not theoretical risks, and future generations will judge our actions accordingly. Much is at stake, and as the nation's most populous and innovative state, and with global chemical production growing at rate four times faster than global population, we have a responsibility, and now an opportunity, to do the very best we can.

With AB 1879 and SB 509, there is a lot in motion. The Office of Environmental Health Hazard Assessment (OEHHA) is developing the Toxics Information Clearinghouse to implement SB 509, and over the last 2 years, DTSC worked extraordinarily hard to develop the 1st draft regulations to implement AB 1879. DTSC encountered technical barriers as well as a great deal of input from both trade associations and environmental health advocacy groups, with both expressing pointed concern over key aspects of the regulatory language.

In its final draft regulations, the Administration drifted from the letter and spirit of AB 1879 and ultimately landed on an overly narrow process for identifying, prioritizing, and taking action on chemicals of concern, among other shortcomings.

We have all learned a lot over the 2 year process, and we are now at a place where the Department can effectively reframe its approach to the most important elements of the regulations.

I will focus my remarks on DTSC's role and discuss what I see as the 3 most critical elements that the Department must put in place through the implementing regulations in order to meet the letter and spirit of AB 1879. These are the bare necessities for accomplishing the process called for by the statute. They are the essential three legs of the stool that DTSC will need in order to identify, prioritize, and take action on chemicals of concern. There may be ways that the Legislature can support the Department in taking these steps.

I'll list the 3 critical elements and then describe each in a little more detail:

(1) First, to get started, DTSC should create an *initial* list of chemicals of concern using established lists of well-studied chemicals. There are currently about 3,000 such chemicals widely recognized by authoritative bodies around the world.

(2) Second, DTSC should obtain – from producers – information on products that contain one or more chemicals of concern, and should ensure that the market has access to this information.

(3) And third, DTSC should put in place a set of regulatory actions that are calibrated to address the most hazardous products first and to advantage safer alternatives in the marketplace. In doing this, DTSC should develop standard methods for conducting alternatives assessment and make those methods available to the market.

The goal of these three steps is to:

Gather and link information to understand what chemicals of concern are sold in what products, place as much of that information as possible into the market, and use regulatory tools and alternatives assessment methods to move the most hazardous products out of the market and speed the development and adoption of safer alternatives.

Let's look briefly at a couple issues in each of these three key elements:

1) DTSC should create an *initial* list of chemicals of concern using established lists of well-studied chemicals. There are about 3,000 such chemicals widely recognized by authoritative bodies around the world.

Two key points:

A) Well-studied chemicals listed as hazardous for various reasons by the Agency for Research on Cancer, the National Toxicology Program and others are a start, but they represent a baseline, not full implementation of AB 1879. After all, the objective of 1879 is to shift the market toward safer substances, including those that we don't know much about as yet.

We don't want to get stuck focusing only on known hazards, which will cause the market to introduce new chemicals that are simply less studied but may be equally toxic, or toxic in different ways. We need a vehicle for preventing unintended consequences.

But this is a way to start, and surprisingly, no government has taken this step to date, though WalMart has developed their GreenWERKs program with EDF to avoid purchasing products that contain about 3,500 chemicals of concern.

So this should not be seen as a static list. A mechanism will be needed in the regulations to keep the list of chemicals of concern current. UC Berkeley is developing this publicly available database that we are calling the Public Library of Materials, or Plum, which may be of use to DTSC.

B) There really is no dispute about the fact that these are hazardous chemicals, but formally listing them will send an important market signal that companies can count on and know is not going to change year-to-year. This is the predictability that businesses need to take real steps in changing processes and product formulations.

(2) The second key element, again, is that DTSC should obtain – from producers – information on products that contain one or more chemicals of concern, and should ensure that the market has access to this information.

A) The information needed is what chemicals of concern are being sold in what products, and how many of those products are being sold in California for what purpose. Without that information, it's not possible to identify and prioritize chemicals and products of concern, but of course, that is exactly what DTSC is required to do under the statute. It is therefore necessary for DTSC to collect this information from producers.

B) Placing this information into the market means making it readily available to businesses that purchase the 164 million pounds of chemical products that are bought and sold each day in California, according to the Air Resources Board. DTSC is essentially picking up what WalMart and a number of other large companies are now doing to screen chemicals in products and is putting those tools into the hands of small and medium-sized businesses across the state, as well as large institutional purchasers like cities, counties, and universities. Putting the information into the market also means making it easily available to the public, which will allow third parties to package the information in a form that is useful to consumers.

C) Will DTSC need clarity on the nature and extent of the information they should request and place in the public domain? Most likely, yes.

3) And finally, the third key element, again, is that DTSC should put in place a set of regulatory actions that are calibrated to address the most hazardous products first and to advantage safer alternatives in the marketplace. In doing this, DTSC should develop standard methods for alternatives assessment for use by the market.

A) The GCI was billed as a replacement for single-chemical bans, so DTSC needs to have a suite of tools to take action efficiently and quickly on known hazards, as well as on emerging threats that come to its attention. But while

regulatory action can include phase-outs and bans, our 2006 report and the legislation itself lists more than a dozen other ways the Department can take action to effect change. The goal is to identify hazardous products, make those hazards known to the market, regulate them as needed, and steadily advantage the market position of safer products.

Better information on chemical toxicity will be sufficient to motivate many companies in California to remove hazardous chemicals from their operations and products. After all, doing so will reduce a substantial burden of liability and risk associated with the use of toxic substances. The experience in California also shows us that some companies, which we will call the laggards, will also need clear and enforceable regulatory signals to take these steps, and DTSC needs to be adequately equipped to deliver these signals.

B) The regulations are built around alternatives assessment, but that requirement isn't yet matched with effective tools. DTSC may need to seek expert input on developing the most appropriate and useable measures for conducting alternatives assessments that balance thoroughness with ease of implementation. The role of alternatives assessment is to inform decision-making and avoid regrettable substitutions.

These three recommendations fall squarely within the framework recommended by the University of California reports in 2006 and 2008, and they establish concrete means for DTSC to meet the letter and intent of AB 1879.

Again, The goal of these three recommendations is to gather and link information to understand what chemicals of concern are sold in what products, place as much of that information as possible into the market, and use regulatory tools and alternatives assessment methods to move the most hazardous products out of the market and speed the development and adoption of safer alternatives.

These three key elements will allow DTSC to move quickly in implementing an initial phase of AB 1879, and they will send a clear signal to the market that businesses can be assured will not change year-to-year. California needs to provide this degree of predictability if the state is seeking to move businesses toward reducing and eliminating chemicals of concern from their operations. A clearly defined set of chemicals of concern – and better information in the market about those chemicals – will give businesses the information they need to reduce toxics liabilities and risk; some will use the information to leverage new competitive advantage.

Mr. Chairmen and members, thank you very much for you attention and I would be happy to take any questions at this point.

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