



## ESTM Committee testimony

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Mr. Chairman, Committee members and staff:

Thank you for your invitation to talk about a topic near and dear to my heart -- how to prevent people getting sick or dying because of toxic chemicals.

Worksafe is a small California non-profit dedicated to eliminating all types of workplace hazards. We carry out our activities in coalition with workers, unions, scientists, and community, environmental and legal organizations. One of those is Californians for a Healthy and Green Economy or CHANGE. It has been very active around the "green chemistry" regs.

As Worksafe's occupational health and green chemistry specialist, I use my training -- including a degree in occupational hygiene -- and 30-plus years as an occupational health professional focused on prevention of all types of hazards. I have been involved for the past three years in pushing DTSC to take a true life cycle and public health approach to its green chemistry regs.

In particular Worksafe, CHANGE and our allies got DTSC to recognise:

- ✓ workers are involved at every stage of a product's life, including consumer products;
- ✓ workers use "consumer products" on the job;
- ✓ public health includes occupational health; and
- ✓ respiratory sensitizers are a key category of hazards that deserve DTSC's attention.

Of course, we pushed for more than what's in the final set of regulations. And we'd like DTSC to do more when choosing chemicals and priority products. They'll hear about that at the May 28th workshop in Oakland.

Today, I'd like to talk about why we need alternatives assessments for methylene chloride in paint strippers and isocyanates in spray foam products. We believe these offer clear examples of products and chemicals that are public health hazards, crossing the shadowy boundary between "workplaces" and "consumers". That's not to say that the other choices don't involve workers; they do. And the principles of public health apply to all DTSC's proposals.

Principles are important in public health. I'm not going to dwell on the precautionary approach, a keystone of green chemistry and primary prevention, including for occupational health and safety.

I do want to discuss some other things. First, let's be clear that workers don't ask for the hazards they face at work. They don't choose what they work with or how. As the World Health Organisation says, "occupational exposures are avoidable hazards to which individuals are involuntarily exposed". It's a kind of toxic trespass, a phrase that others have used.

I use the word "hazard" deliberately. It's about the inherent properties of something, not about the "risk" or odds that it will make someone sick or shorten their life. That's what green chemistry is about -- dealing with those hazards before they have a chance to affect someone or their environment -- and it's what public health, and its occupational health and safety component, are really about.

Second, ethically, health and safety and other public health specialists are supposed to deal with hazards using "prevention", not "controls". I've developed this "prevention triangle" based on the Belgian law to explain it. The best way to deal with hazards is to avoid using something, or get rid of it.

"Controls" such as exposure limits, protective equipment and other methods do not get rid of the hazard. They require people to give and get the right training and equipment, suppliers being transparent about the hazards in their products, and employers doing the right thing all the time. We know this doesn't happen, and that we can't control all hazards so people won't get sick or hurt.

As the prevention triangle -- based on the Belgian health and safety law -- shows, you need a firm foundation to effectively prevent illness,

disease and death. If your focus is just on limiting harm -- expecting people to do things or wear things or that equipment will always function properly -- the pyramid falls over. It doesn't have a firm foundation.

Substitution with less toxic chemicals or processes is an effective prevention tool. Yet we have too many examples of regrettable choices and "late lessons from early warnings", as the European Environment Agency tells us in two reports.

That's why we need informed substitution based on alternatives analysis -- to find out if n-hexane really is a good substitute for methylene chloride in brake cleaners, which it's not because it is a serious neurotoxin. That California story is one of the reasons for the law and regulations about green chemistry.

Given this, let's also be clear about what Cal/OSHA and OSHA do when it comes to chemicals. They do NOT require substitution of hazards or much primary prevention. They use permissible exposure limits (note the word "permissible"), work practices and protective equipment.

OSHA's special emphasis program about isocyanates (see the hand-out) is designed: "to reduce employee exposure to isocyanates shown to potentially cause work-related asthma, sensitization (respiratory, skin) and other occupational health effects." Its information about isocyanates is about "hazard identification" (again, see the hand-out). Despite the mention of eliminating chemicals, primary prevention really is not part of the picture.

The National Institute for Occupational Safety and Health (NIOSH) 2013 request for information about toluene diisocyanates asks for information about control measures, not alternatives.

The PELs in California and federally don't cover all isocyanates. Nor are they truly protective, for some people can have reactions at levels below what the best equipment can measure, and feasibility is a constraint in the political decisions made. California's process to set or revise PELs is in limbo, with sensitizers shelved since 2009.

OSHA recognised its limitations last year by publishing an on-line toolkit for transitioning to safer chemicals. I've given you a copy of the front page. The press release about it points out that PELs "are out-of-date and inadequately protective for the small number of chemicals that are regulated in the workplace."

"We know that the most efficient and effective way to protect workers from hazardous chemicals is by eliminating or replacing those chemicals with safer alternatives whenever possible," said Dr. David Michaels, assistant secretary of labor for occupational safety and health (i.e., the head of federal OSHA).

That's what the green chemistry regs tell DTSC to do: get manufacturers and suppliers to pay attention to "safer alternatives". Alternatives analysis is not a new way to do that. Companies already are using tools such as the Green Screen and the IC2 and BizNGO's alternatives analysis documents.

Methylene chloride in paint strippers is a kind of poster child for a toxic chemical that poses serious hazards and for which we can answer that essential question about -- is it necessary? -- with an emphatic "no".

The Occupational Health Branch in the Department of Public Health has produced materials about the chemical's many well-recognized hazards and, more importantly, less toxic replacements in paint strippers. I recommend you use their poster and list of alternatives and share them with others. (see the hand-outs)

It would be great to have similar materials about isocyanates, wherever and however they're present. We don't -- yet. Thanks to DTSC's efforts, we could have this kind of primary prevention information -- and energy efficiency too. (As a Canadian, I know why that's important; for health reasons, I chose other methods than isocyanate foams to achieve that in my own home.)

We do know that isocyanates have been recognized for a variety of serious hazards, some of them summarized in EPA's action plans for TDI and MDI. We know that workers do get sick and have died from using them, that firefighters must deal with their toxic combustion products, and that there is not enough information available about off-gassing after applications.

We do know that people are warned to use heavy-duty protective gear in using spray foam and other isocyanate-containing products, and that industry data shows the air around spray foam applicators contains isocyanates at levels above the PELs.

A study released yesterday names TDI and methylene chloride as two of 17 chemicals studies have linked to breast cancer.

And, we also know -- based on some quick phone calls and on-line searches -- that spray foams do not need to include isocyanates. The industry itself is reported to be looking for alternatives. Virginia Tech researchers -- and others -- are looking at soy alternatives; the theory behind their work came from California's Barry Sharpless about 15 years ago. The Toxics Use Reduction Institute gave a Massachusetts professor money to investigate non-isocyanates. Databases such as Substitute it now (SIN) have options, including mortar.

And there are independent resources like the Warner Babcock Institute, where one of green chemistry's founding fathers has ideas about replacements for isocyanates.

We know that the Communications Workers of America union persuaded AT&T to stop using TDI in a foam product and is working with the company to find less toxic replacements from Sweden and elsewhere. In the process, they learned how a proper alternatives analysis would have done more than change packaging to reduce exposure; it would have replaced isocyanates with something less toxic.

In other words, another spray foam world is possible.

I want to make two final points. First, as an occupational health professional, I really object to the false options of toxic products being "necessary", especially for a laudable goal like energy efficiency, or workers and the public's health getting short shrift. We can have both.

We know that from the long struggle to ban asbestos, for example, and other late lessons from early warnings. We know that green chemistry and toxic use reduction efforts in general, work (see the recent TURI report about Massachusetts' use of chemicals).

Second, there's a missing ingredient in DTSC's approach, one that's connected to my last point. Inspired by the post- WWII GI bill, "just transition" is a way to support workers and communities when public health prevention efforts lead to job losses. It should lead to truly green jobs that are healthy and sustainable for workers, consumers and their communities, not choices that leave workers sick, injured or dead before their time. It responds to the false options of health or the economy.

From a public health perspective, it's taken far too long to get the green chemistry law and regs this far. The delays and spurious debates about the problem need to stop. It's time for solutions. It's time for industry to acknowledge its responsibility to stop poisoning

people and our environments, to stop its four-dog defence (see hand-out) that delays public health prevention efforts while putting profits ahead of public good and externalizing the costs of their choices.

Borrowing from a Green Ribbon Science Panel member's mantra, it's time to deal with toxics -- methylene chloride, isocyanates, flame retardants and more -- this way:

- ✓ think big
- ✓ think solutions
- ✓ think tools
- ✓ think collective action
- ✓ think justice

Thanks. I'd be happy to answer questions, now or in my written submission.