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## ***Safer chemicals will aid economy, UC study says: Tough state laws could promote new form of green industry***

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By Suzanne Bohan, Staff Writer

Circa-1970s federal laws governing the production and use of hazardous chemicals require so little health testing that 4,400 workers' deaths in California are attributed annually to chemical exposures, according to a University of California report released today.

Roughly 208,000 workers in the state each year also cope with illnesses from exposure to chemicals, as do 240,000 California children at any given time, added the report. The costs, in medical expenses and lost wages and benefits, reach \$2.6 billion.

The gist of the problem is that a 1976 federal law, called the Toxic Substances Control Act, requires limited or no human health testing for 81,000 chemicals listed in its inventory, according to Michael Wilson, an environmental health scientist at the University of California, Berkeley, and a co-author of the study.

Nor does the law demand labeling that informs consumers and businesses about the potential health and environmental effects of these chemicals.

"People often believe when they go to the hardware stores or department store that these products they're buying have been tested and certified by a government agency," Wilson said. "But that's not the case. We're way behind on our chemical policy."

Adopting tough state laws governing the production and distribution of chemicals won't only save lives and prevent suffering — it will spur economic development in California by promoting a new form of green industry, the study backers emphasize.

"This report, for the first time, puts cost estimates on the consequences for Californians of current chemical policies," stated John Balmes, a UC San Francisco professor of medicine and director of the Center for Occupational and Environmental Health at UC Berkeley.

"Creating new jobs and investment opportunities can go hand-in-hand with protecting human health and the environment," Balmes continued. "(Californians) have been doing

this with vehicle emissions and energy use, and this new report makes it obvious we need to do the same with chemicals."

Wilson said that the European Union recently adopted sweeping reforms to more closely regulate the chemical industry and demand health and environmental studies on their products. Canada is also more closely scrutinizing data on roughly 23,000 chemicals.

Businesses wanting to adopt cleaner practices are also hampered by this lack of information about the chemicals they purchase, the report added.

Scientists at UCLA also co-authored the study "Green Chemistry: Cornerstone to a Sustainable California." The research was funded by the California Environmental Protection Agency, the National Institute for Occupational Safety and Health, the U.S. Centers for Disease Control and Prevention, and the UC Office of the President.

But with ingenuity and innovation, new chemicals could be developed which are less poisonous and degrade more quickly in the environment. This approach is called "green chemistry," and the field focuses not on better cleanup technologies, but creating more benign products in the first place.

"This is a fundamental shift in the way we think about designing chemicals," Wilson said.

A call Wednesday afternoon to the American Chemistry Council was not returned. Its Web site, however, stated that the chemistry industry "is going above and beyond government requirements for environmental protection."

Venture capitalists and businesses are eager to invest in this new industry, according to Wilson. "They are poised to do this," he said. But first they need state policies that support the cost of developing cleaner chemical products by leveling the playing field on the market, he added.

These "green" chemicals, which would also be tested for human health and environmental effects before their release, would be more costly than their more toxic counterparts lacking safety studies that are now on the market.

The investment firm Kleiner Perkins Caufield & Byers in Menlo Park, for instance, has a Greentech team interested in such opportunities, said Megan Schwarzman, a UC Berkeley scientist who also co-authored the study.

"This is a place where California can really step out in front," said Wilson. "There's just a huge opportunity for California to be the first mover on what we call a modern, comprehensive chemical policy."

With chemicals like methylene chloride and toluene showing up in breast milk, 148 chemicals found in the blood and urine of a representative sample of Americans in 2005, and 61 of 85 of the state's largest landfills leaking chemicals into groundwater, there's an urgent need to reduce chemical releases into the environment, Wilson emphasized.

The report outlines numerous steps for developing public policies to support green chemical development, including creating market-based incentives for producing less toxic chemicals.

The report also comes out one week ahead of the scheduled release Wednesday of a Schwarzenegger Administration report on its Green Chemistry Initiative, which it launched last spring.

"We're moving in the same direction," said Sam Delson, spokesman for the Office of Environmental Health Hazard Assessment, which is involved in the state's initiative. "The state believes in green chemistry."

To view the report, visit [coeh.berkeley.edu/greenchemistry/briefing](http://coeh.berkeley.edu/greenchemistry/briefing).