

**RESPONSE TO OPINION PIECE BY DR. HENRY I. MILLER ("California's Bad Chemistry")
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As scientists who carry out research on the synthesis, use, and fate of chemicals, we respectfully disagree with our colleague Henry Miller in his July 14 opinion piece on California's Green Chemistry Initiative, a proactive effort that has the potential to establish a scientifically robust process for identifying unsafe chemicals in consumer products and stimulating the development of safer alternatives. While there are some areas of the draft regulations that can and should be improved, Miller's criticisms are not substantive.

Almost every day another consumer product is found to contain chemicals that none of us would knowingly want our children, or ourselves, to be exposed to. Chemical after chemical is banned, often to be replaced by a substitute chemical that poses risks that are similar to or worse than the original, or that are unknown. Banning individual chemicals is ineffective and expensive. We need a systematic process in place to identify those chemicals of greatest concern, provide an analysis of safer alternatives, and give consumers and businesses vital information about the products they purchase.

Dr. Miller criticizes California's draft regulation as ignoring "unintended consequences". But this regulation was designed to avoid the "unintended consequences" that occur when substitute chemicals turn out to be harmful. California will specifically require that any substitute chemical go through the same analysis required of the original chemical. It's a "win-win-win": the consumer gets a better product, the manufacturer avoids a costly recall, and Californians do not suffer years of exposure before finding out that a replacement chemical was a "regrettable substitute."

While Miller raises the point that "the dose makes the poison," it is well recognized in toxicology that many factors affect dose, such as the conditions under which a chemical is used. Evidence is also mounting that some chemicals, such as endocrine disruptors, have toxic effects at minute doses (parts per trillion). Clearly it makes sense to prioritize chemicals based on their potential for exposure and toxicity. And that is precisely the point of the draft regulation's "Guiding Precepts" (Section 36301.1): *"prioritization processes should seek to identify and give priority to those chemicals...that pose the greatest public health and environmental threats, are most prevalently distributed...and for which there is the greatest potential for consumers or environmental receptors to be exposed ... in quantities that can result in public health or environmental harm."*

Another principle outlined in the draft regulation is that solvents be phased-out "when possible." The solvents in question are not benign solvents, such as water, but rather toxic organic solvents that threaten groundwater supplies. Some of these solvents cause cancer. The reality is that we can no longer afford incidents of groundwater contamination. Those of us who have been involved in the cleanup of these sites know all too well how expensive and difficult they can be. It makes no economic sense to continue to use toxic and persistent solvents when safer alternatives are available.

The draft regulations apply to all consumer products sold --not manufactured -- in California, so it is not clear how these regulations could selectively affect manufacturing or jobs in the state,

as Miller asserts. The same requirements apply, regardless of the place where the products are manufactured. Moreover, consumers are increasingly demanding safer products, and foresighted manufacturers are responding to that demand. For example, Cereplast, a manufacturer of bio-based sustainable plastics, predicts revenue growth of 190 percent this year. Clorox, a California-based company, doubled the size of its natural cleaning product line and its Green Works line now has 47 percent of the growing natural cleaning products market. WalMart says that green products continually drive its sales growth.

In regulating and managing toxic chemicals, government and industry have historically responded reactively: waiting until damage has occurred before taking action. Superfund sites and current events in the Gulf of Mexico highlight the disastrous economic and environmental consequences of such a course. The public (individuals, communities, businesses, governments) pay the externalized costs of the widespread use of hazardous substances and our lack of reliable information regarding the majority of chemicals in commerce.

We need to think differently. California's Green Chemistry Initiative "thinks ahead". It has the potential to create a safety net for consumers, incentives for innovators to develop and market safer products, and markets for those products.

Sincerely,

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The Rationalist

California's Bad Chemistry

Henry I. Miller, 07.14.10, 12:35 PM ET

If California is truly a public policy bellwether for the nation, America's economy is in even greater peril than we realized. Last month California regulators released proposed regulations under Gov. Arnold Schwarzenegger's Green Chemistry Initiative (GCI), a plan for a comprehensive statewide chemical monitoring system. The rules doom the initiative to failure: They will raise the costs of consumer goods and create an environment poisonous to business and job growth while doing nothing to protect Californians.

In theory, the concept of green chemistry--the goal of which is to ensure the use of the safest possible chemicals in industrial and commercial production--could be beneficial. Indeed, the GCI was developed in order to avoid costly and overly broad chemical bans that could burden industry and create chaos in the marketplace.

But the devil will be in the details, and, this being California, the details reveal that extreme green activists dictated the crafting of the proposed rules. The GCI gets several things wrong, and the implications are dire: At a time when California needs desperately to kick-start its

economy by creating growth and jobs, these new rules will drive businesses away and deepen the state's fiscal woes.

The proposal disregards both basic science and common sense. For example, it provides a list of "Green Chemistry Principles," which include phasing out the use of "solvents." Yet this is clearly an unreasonable goal. The regulators appear not to know that solvents include liquids such as water, vinegar and oils.

The draft regulation also calls for the prioritization of so-called chemicals of concern, or COCs. But the draft proposal is written in such a way that virtually any chemical substance could be identified as a COC. For example, the proposal includes pages-long lists of factors that will be considered when listing a chemical and that include the mere existence of a chemical in certain environments like households indoors.

However, the presence of a chemical in a home or other environment does not indicate harm. The drafters have ignored the cardinal rule of toxicology: The dose makes the poison. Human beings are not only surrounded by chemicals, but they are composed of them. Our bodies contain radioactive isotopes of hydrogen, carbon, potassium and other elements, but these are of no concern--and in any case, there would be precious little we could do about them anyway. Only certain chemicals at certain exposures are worth our attention, but California's regulation-writers have either forgotten this or never learned it.

The broader and more important issue is that regulators have failed to consider the potential for unintended consequences. Hastily crafted, wrongheaded regulations make matters worse if they change incentives so that consumers are forced to use more costly goods with no public health benefit, or if they substitute for an acceptable status quo alternative products that create unanticipated harms.

Regulators have also failed to establish priorities in order to require more urgent evaluation of chemicals that have undergone less scientific study. There are hundreds of chemicals in use that have been studied by myriad scientific bodies and found to be safe and useful. It is the chemicals that haven't been studied as closely and about which there is uncertainty that should be the focus of regulators. Putting it another way, a sensible policy would focus on relatively untested and unevaluated chemicals instead of on substances that have been used safely for decades or longer and are known to be safe.

California has turned in recent years into an antibusiness state, raising costs and making it increasingly difficult to establish and grow businesses and hire new workers. Now the cash-strapped state is putting the full burden of this regulation on--you guessed it--manufacturers.

Regulation shifts the margins of profitability. Private companies will be forced to pay for the programs even though under the current structure the GCI won't protect consumers and may even harm them by encouraging the use of less tested and more poorly understood products. This is regulatory policy run amok.

Some manufacturers will undoubtedly flee the state while those who remain will be forced to pass the increased regulatory costs on to customers. Eventually consumers will pick up the tab.

That will make products more expensive and the businesses less competitive, and possibly expose consumers to harmful products in the bargain.

Fortunately, it's not too late. The draft rules are subject to comment and discussion before being implemented. Lawmakers should revisit the basic underlying principles before moving ahead. But I'm not holding my breath.

Dr. Miller is a physician and molecular biologist and a fellow at Stanford University's Hoover Institution and at the Competitive Enterprise Institute. He was an official at the NIH and FDA and is the author of To America's Health: A Proposal to Reform the FDA.

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