



# **New Ways to Think About Chemicals**

**Charlotte Brody, Associate Director for Health Initiatives  
BlueGreen Alliance**

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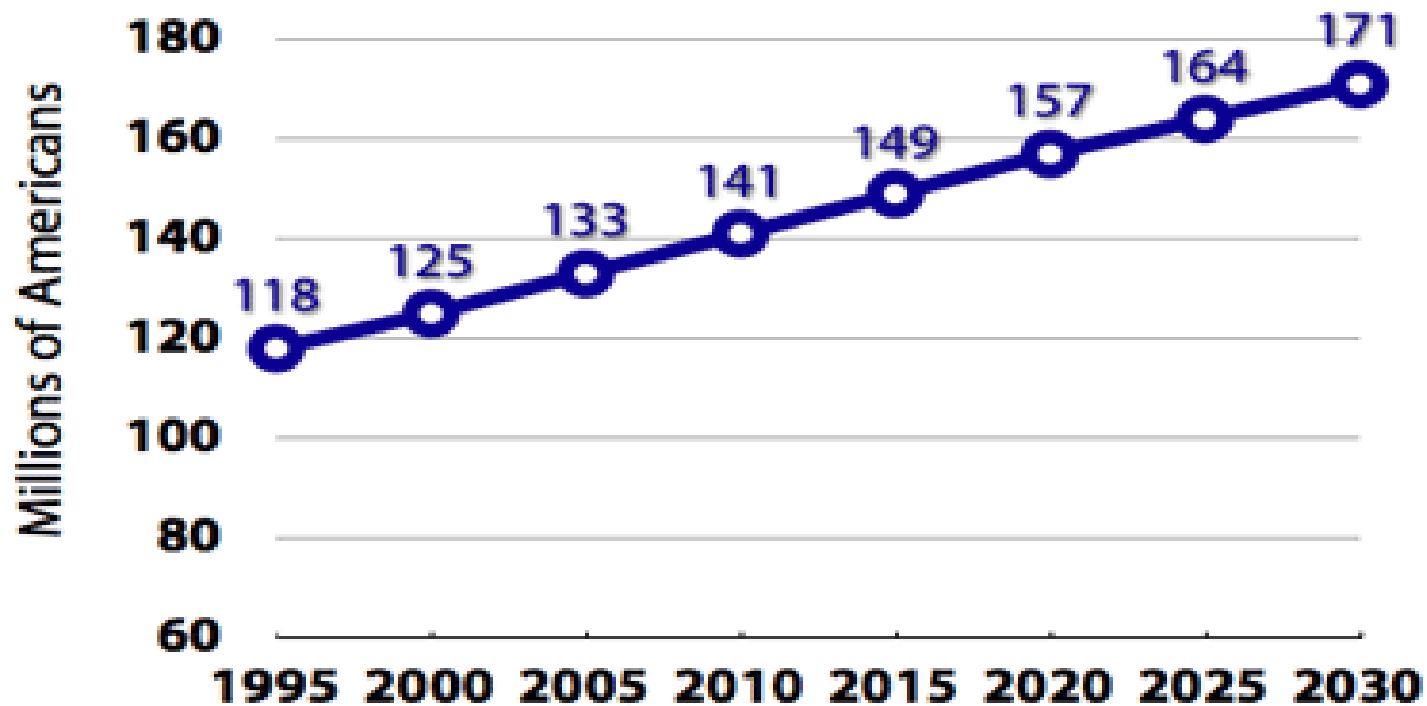
1. How science is changing what we think about the problem of chemical hazard
2. What others are doing to solve this problem
3. What we can do

- ◆ Presentations
- ◆ Small group discussions
- ◆ Small group report backs and presentations
- ◆ Discussion

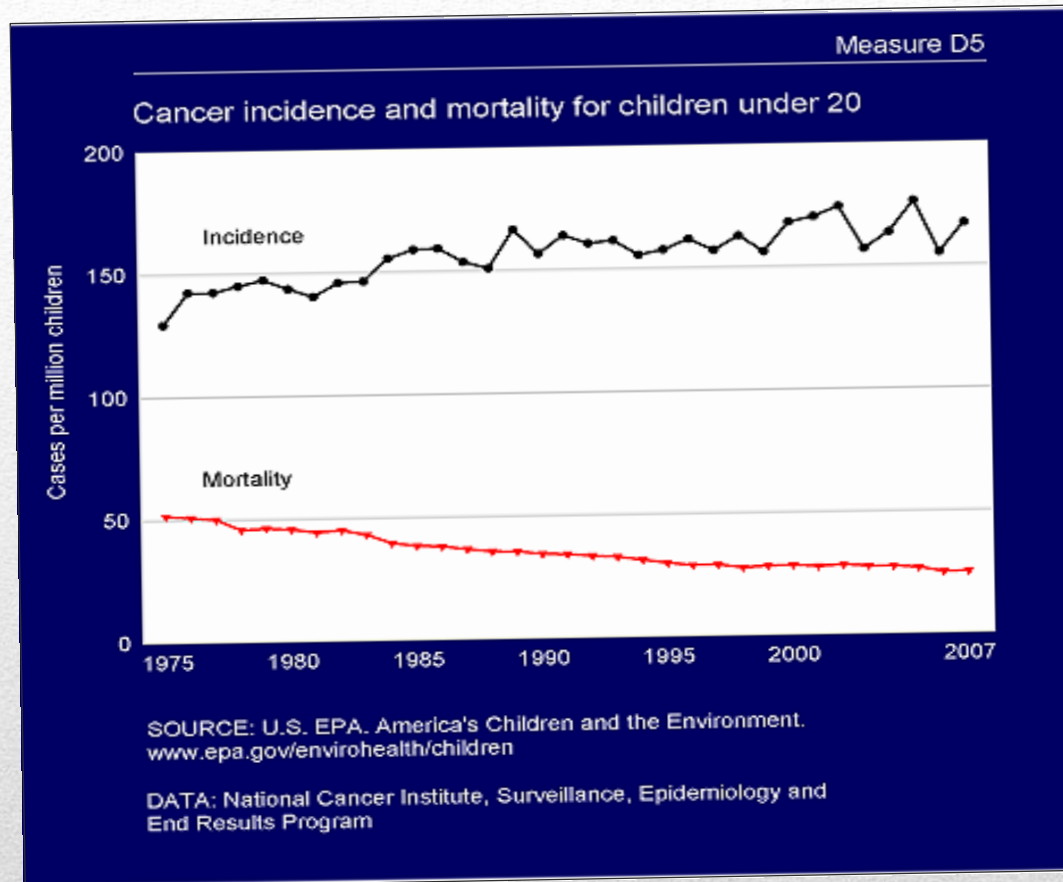
# Agenda

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## Prevalence of Chronic Disease in the U.S.



Source: Wu, Shin-Yi *et al.* 2000. Projection of Chronic Illness Prevalence and Cost Inflation. RAND Corporation.

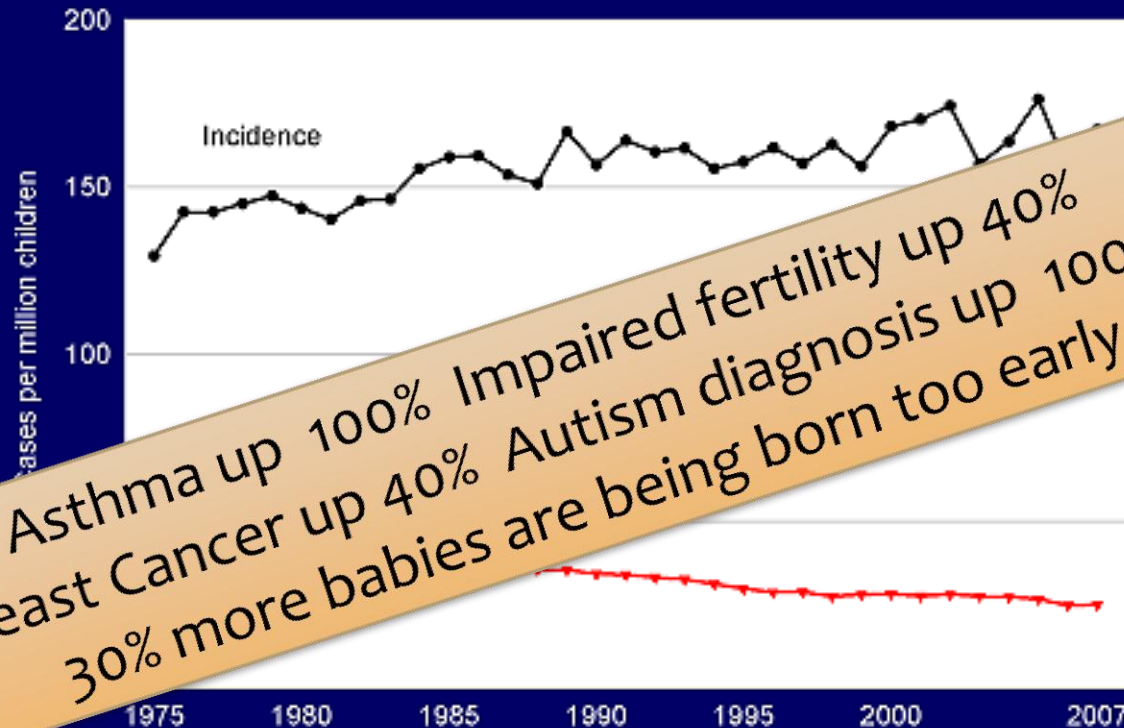


More children are *getting* cancer but fewer children are *dying* from cancer

## Cancer Incidence and Mortality in Children

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### Cancer incidence and mortality for children under 20



Asthma up 100% Impaired fertility up 40%  
Breast Cancer up 40% Autism diagnosis up 1000%  
30% more babies are being born too early

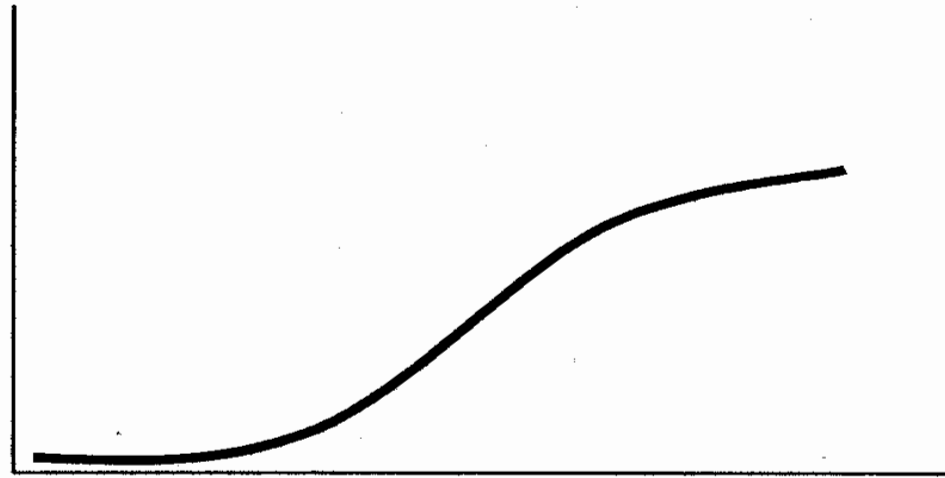
SOURCE: U.S. EPA. America's Children and the Environment.  
[www.epa.gov/envirohealth/children](http://www.epa.gov/envirohealth/children)

DATA: National Cancer Institute, Surveillance, Epidemiology and End Results Program

# The dose makes the poison

**S-Curve**

*Response*

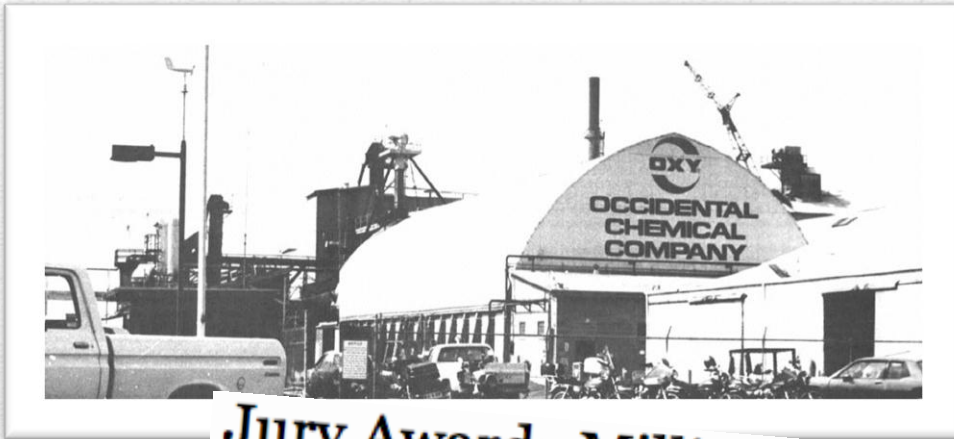


*Dose*



## **How the Reproductive Problems of Florida Panthers and American Men are Connected**


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## DBCP: Infertility

In the California workers who produced it and the Nicaraguan farmworkers who used it

### Jury Awards Millions to Farmers Sterilized by Pesticides

By Brandon Keim 

November 06, 2007 | 11:02:12 AM

Categories: [Agriculture](#), [Health](#)

A California jury yesterday awarded \$3.3 million to six Nicaraguan farm workers sterilized by pesticides made by Dow Chemical and used at Dole's banana plantations.

The plaintiffs alleged that Dow and Amvac, another chemical company, hid information about the dangers of dibromochloropropane, or DBCP: high exposures left lab animals organ-damaged, sterile and prone to birth defects. The Occupational Health and Safety Administration sets DBCP's occupational exposure limit at **one part per billion per workday**; during the 1970's and 1980's, the plaintiffs reportedly inhaled DBCP vapors and wore clothing soaked by water dripping from DBCP-treated trees.







## **Agent Orange: What We Learned From an Uncontrolled Experiment on American Soldiers and the People of Southeast Asia**

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Hodgkin's Disease, non Hodgkin's lymphoma, Prostate Cancer, Chronic B-cell Leukemia, Respiratory Cancers, Type 2 Diabetes, Ischemic Heart Disease, Parkinson's Disease

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## Breast Cancer and DDT

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Why Timing Can Matter More than Dose

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2009

## Fourth National Report on Human Exposure to Environmental Chemicals



### Executive Summary

Department of Health and Human Services  
Centers for Disease Control and Prevention



# Biomonitoring: Measuring Chemicals in People

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# MAKE ME BPA free!

Action for Children North Carolina  
 Alaska Community Action on Toxics  
 American Association on Intellectual and  
 Developmental Disabilities  
 American Nurses Association  
 American Prentice Alliance  
 Asthma Health Services  
 Asian of Reproductive Health Professionals  
 Autism Society  
 Bayview Hunter's Point Community Advocates  
 BlueGreen Alliance  
 Breast Cancer Action  
 Breast Cancer Fund  
 California Church IMPACT  
 California Environmental Rights Alliance  
 California WVC Association  
 Capital Region Action Against Breast Cancer  
 Center for Health, Environment, & Justice  
 Chicago Consortium for Reproductive Health  
 in Minority Communities  
 Children's Alliance of New Hampshire  
 Children Now  
 Clean New York  
 Clean Production Action  
 Clean Water Action  
 Coalition for a Safe & Healthy Connection  
 Government  
 Connecticut Voices for Children  
 Consortium for Reproductive Environmental  
 Health in Minority Communities  
 Consumers Union  
 Empire State Consumer Project  
 Environmental California  
 Environmental Health Trust  
 Environment BWA  
 Environmental Justice Action Group of Western  
 New York  
 Environmental Working Group  
 First Focus  
 Friends of the Earth US  
 Greenpeace  
 Healthy Building Network  
 Healthy Child Healthy World  
 Health Public Interest Research Group  
 Informal Green Solutions  
 Institute of Neuroendocrinology & Neurological  
 Disorders  
 Iowa Breast Cancer Education  
 Learning Disabilities Association of America  
 Maryland Public Interest Research Group  
 Massachusetts Breast Cancer Coalition  
 Massachusetts State for Children's Physical Health  
 Minnesota Public Interest Research Group  
 NCI/NIH: Mothers of Faith Against the Spray  
 MOPS - Making Our Kids Safe  
 MoniRising  
 Movement Strategy Center  
 National Assembly on School-Based Health Care  
 National WVC Association  
 National Resources Council of Maine  
 National Resources Defense Council  
 New Mexico Voice for Children  
 Nursing Mothers Council  
 Physicians for Social Responsibility  
 Physicians for Social Responsibility - Los Angeles  
 Planned Parenthood For Health  
 Rachel's Friends Breast Cancer Coalition  
 Teens Turning Green  
 Tennessee Environmental Council  
 The Arctic Appraisal Project  
 The Endocrine Disruption Exchange  
 The Leukemia Council  
 Toxics Action Center Campaign  
 United Biochemists  
 U.S. Public Interest Research Group  
 Vermont Public Interest Research Group  
 Voice for Vermont's Children  
 Washington Toxics Coalition  
 Wisconsin Public Interest Research Group  
 Women's Environmental Institute  
 Women's Voice for the Earth  
 Worldwide, Inc.



**BPA is a synthetic estrogen linked to obesity, neurological disorders, early puberty, and increased risk of breast and prostate cancer.**

**We don't need BPA in infant food packaging when there are safer alternatives on the market!**

**Support Senator Feinstein's amendment to the Food Safety Modernization Act to eliminate bisphenol A from infant formula and baby food packaging, baby bottles and sippy cups.**

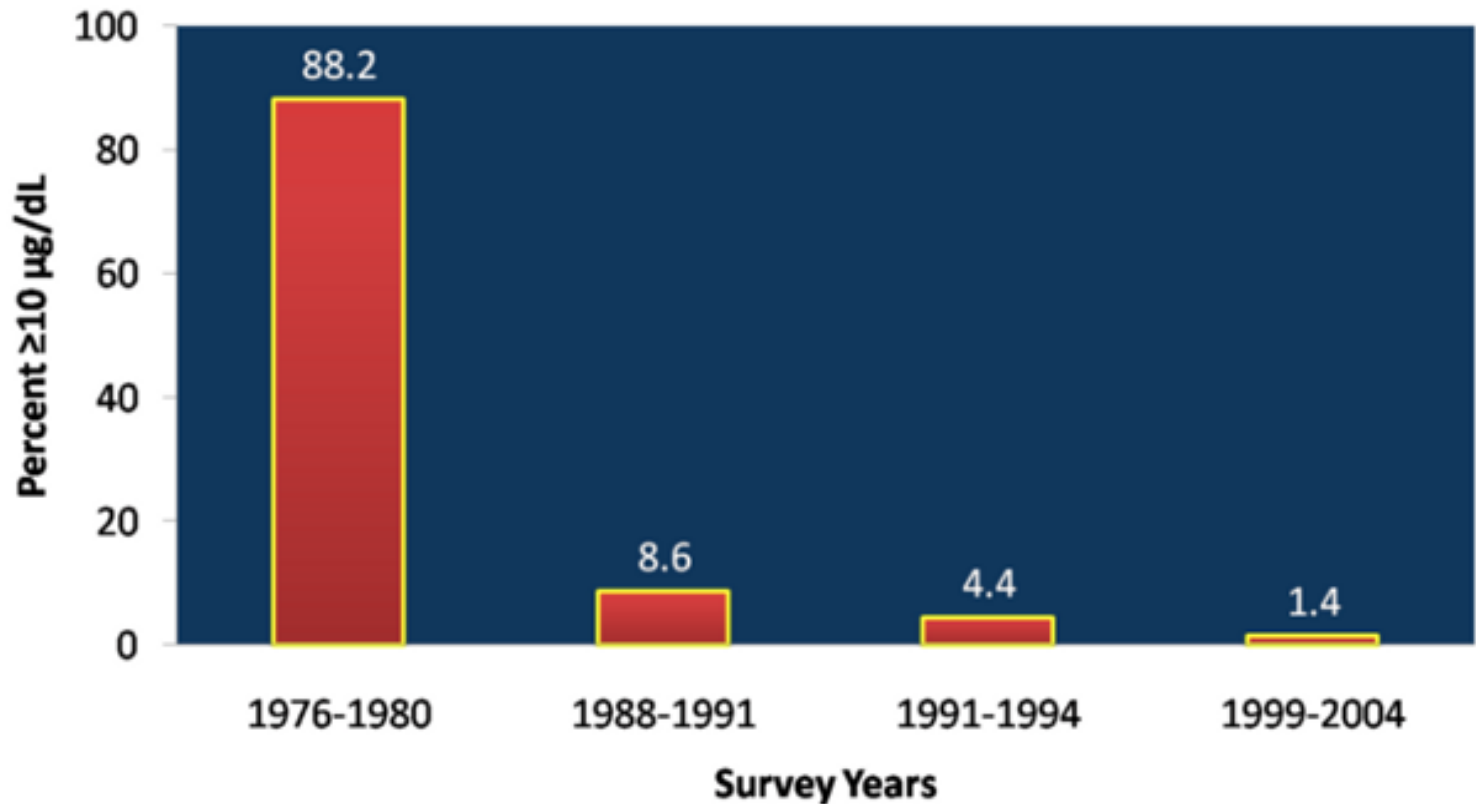
**Senators: Please don't gamble with our children's health.**

See [www.breastcancerfund.org/](http://www.breastcancerfund.org/)  
 MakeMeBPA-Free for a full list of the  
 nonprofit organizations representing  
 39.7 million Americans who support  
 getting BPA out of infant food packaging.



CDC reports that Bisphenol A (BPA) is in more than 90% of the American people


and Perchlorate is in all of us



**Figure 1. Percentage of children 1–5 years old in the U.S population with elevated blood lead levels ( $\geq 10\mu\text{g/dL}$ ).<sup>1</sup>**

From the CDC's 2009 Fourth National Report on Human Exposure to Environmental Chemicals

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Why do we think the increase in chronic disease has anything to do with toxic chemicals? Because in the last 40 years we've learned:

**S**ome chemicals that were considered safe have turned out to be really dangerous, leading to many different types of disease, many years after exposure.

**A**nimal studies and wildlife tragedies can predict harm in humans.

**T**he timing of exposure can be the most important factor in whether a chemical is dangerous.

**E**veryone in the United States is contaminated by toxic chemicals.

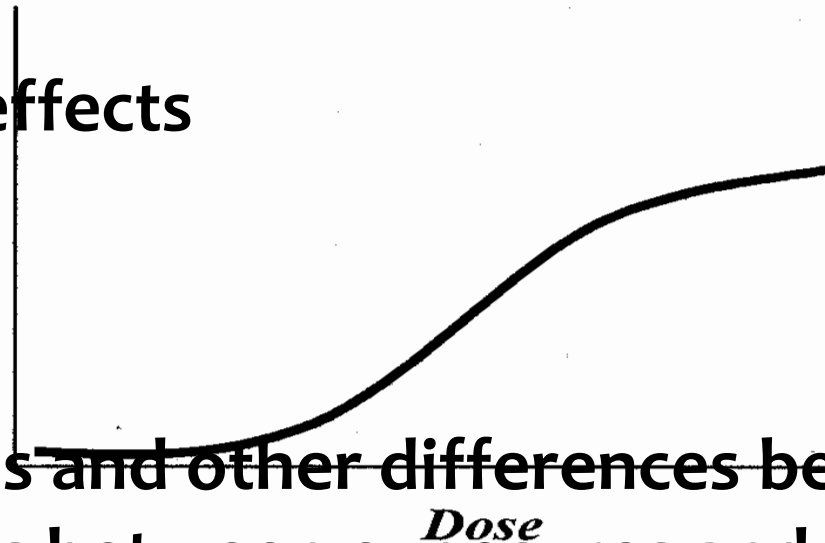
**P**ublic policies can reduce our bodies' burden of chemicals.

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# The dose is just one part of the poison

**S-Curve**



- Low dose effects
- *Response*  
Mixtures
- Synergies
- Timing
- Sensitivities and other differences between people
- Long delays between exposures and visible effects, including multigenerational effects

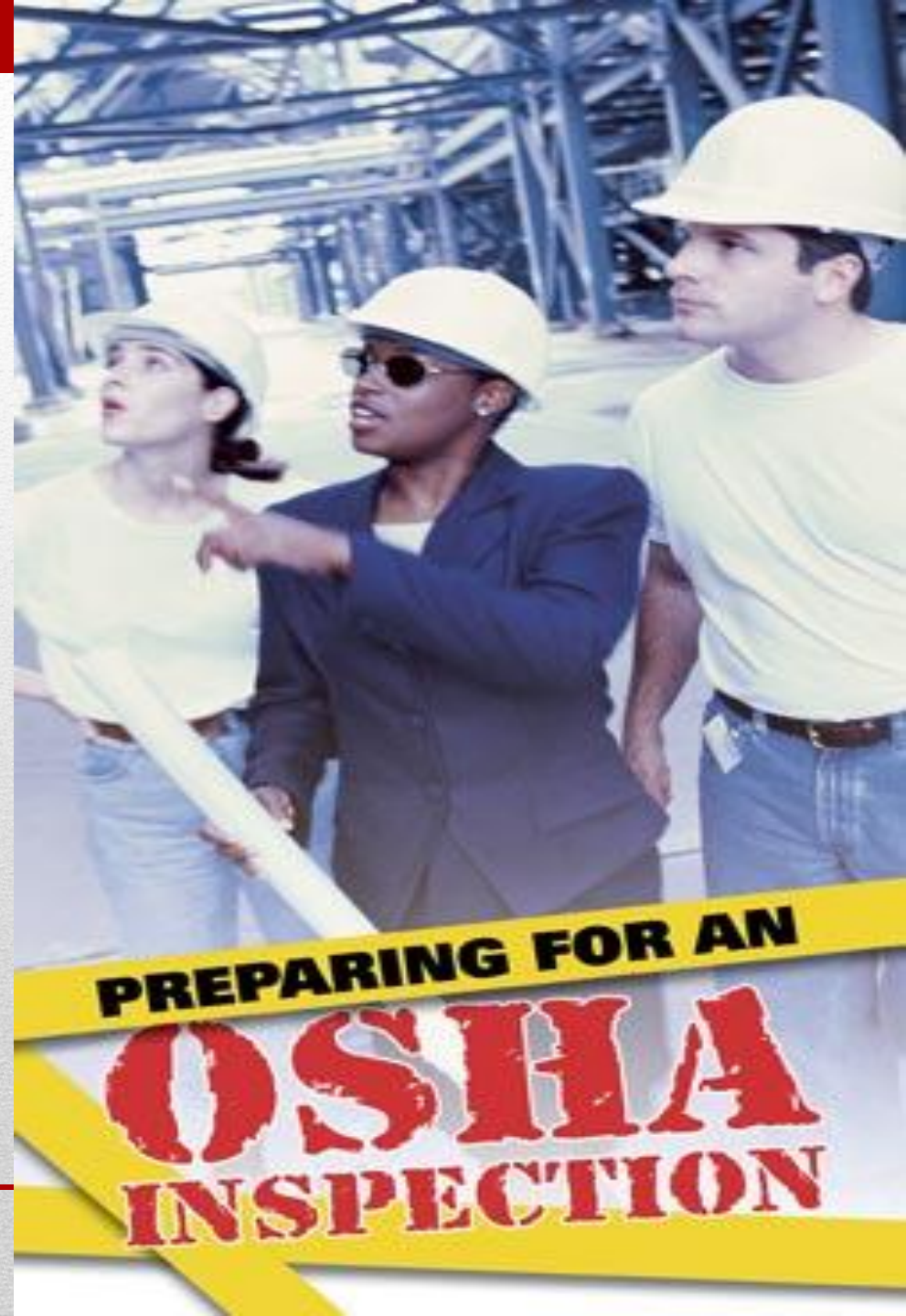


So why are our occupational safety and health and chemical management laws lost in the 1970s?

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**The Occupational Safety and Health Administration is supposed to “ensure safe and healthful working conditions for working men and women.”**

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Early OSHA rules are credited with preventing 400,000 workplace deaths

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<b>Current OSHA Penalties</b>	<b>Are Too Low</b>
<b>Average serious OSHA violation</b>	<b>\$ 965</b>
<b>Average penalty for violating COBRA health insurance law</b>	<b>\$ 33,917</b>
<b>Maximum penalty for a serious OSHA violation</b>	<b>\$ 7,000</b>
<b>Maximum penalty for violating the South Pacific Tuna Act</b>	<b>\$ 350,000</b>

# The Toxic Substances Control Act (TSCA)

**80,000** different chemicals have been produced and used since TSCA became law in 1976.

**62,000** of these chemicals were grandfathered in when TSCA became law with no requirement that they be tested and shown to be safe.

In the **36** years that TSCA has been the federal law on chemicals, EPA has required testing on just **200** chemicals.

When EPA was prevented from using TSCA to restrict asbestos **21** years ago, it gave up trying.

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**GOOD JOBS | SAFE JOBS**



**WORKERS MEMORIAL DAY • APRIL 28 • AFL-CIO**

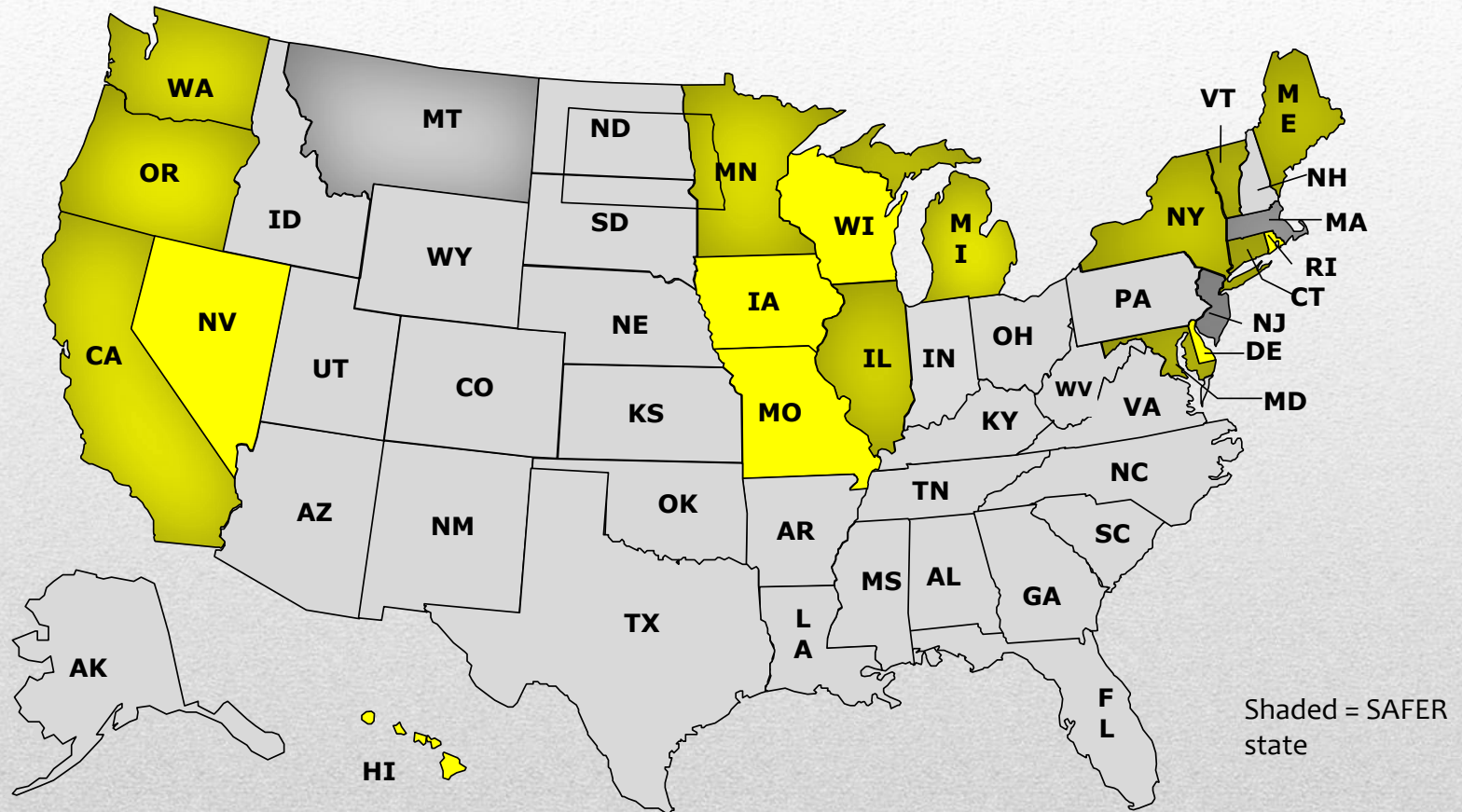




Left, Robert Caplin For The New York Times; Dave Williams/Wichita Eagle, via Associated Press

David H. Koch, left, and Charles G. Koch have long used their wallets to promote fiscal conservatism and combat regulation.

# Toxics Legislation Passed 2003 – 2011



- 81 chemical safety laws adopted 2003-2011 in 18 states encompassing 41% of US population
- \* Eleven Republican and Seventeen Democratic Governors signed bills
- \* Bills passed with support from over 3/4 of Republican legislators (76%), and nearly all Democrats (99%)



# BizNGO Guiding Principles for Chemicals Policy

## Endorsers include ...

- Brooks Sports
- Catholic Healthcare West
- Construction Specialties, Inc.
- Health Care Without Harm
- Hewlett-Packard Company
- Hospira, Inc.
- Kaiser Permanente
- Method
- Novation
- Perkins+Will
- Practice Greenhealth
- Premier, Inc.
- Seventh Generation
- Staples, Inc.
- Whole Foods Market, Inc.

1. Know and disclose  
product chemistry

2. Assess and avoid hazards

3. Commit to continuous  
improvement

4. Support public policies and  
industry standards



**BizNGO**

FOR SAFER CHEMICALS AND SUSTAINABLE MATERIALS



Donate | Sign Up! | Email Us | Español vía Google

Google™ Custom Search Search X powered by Google™

Product Search All Departments GO
HealthyStuff Home Toys Children's Products Pets Cars Apparel & Accessories Home Improvement



Get these NIFTY SOCKS! When You Donate \$30 or more to Healthy Stuff (made with organic cotton)

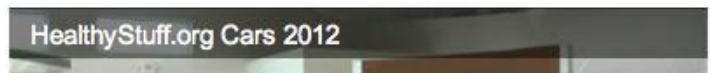
TAKE ACTION! Demand Safer Chemicals for Your Family

Safer Chemicals Healthy Families JOIN A NATIONWIDE EFFORT TO PASS SMART FEDERAL POLICIES THAT PROTECT US FROM TOXIC CHEMICALS

SUPPORT OUR WORK PRESS ROOM HEALTHYSTUFF TO-GO

HealthyStuff News

New Guide to Toxic Chemicals in Cars Helps Consumers Avoid "New Car Smell" As Major Source of Indoor Air





**Want a free Cosmetics Guide?**  
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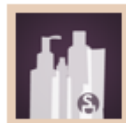



Hair Care | Hair-loss Treatment

Showing 1 - 10 of 55 results See more: 1 2 3 4 5 6 Next>

Essential Tips and Facts

See that long list of ingredients on the back of the bottle? Some probably aren't as safe as you'd hope.

- 1 [Top tips for safer products](#)
- 2 [Frequently asked questions \(FAQs\)](#)
- 3 [What's new in Skin Deep®?](#)
- 4 [Myths on cosmetic safety](#)
- 5 [User's guide to Skin Deep®](#)

	product	Product type(s)	Score ▲
1.	 <b>Rogaine Men's Easy-To-Use Foam</b>	Hair-loss Treatment	 <b>Data: Fair</b>
2.	 <b>Jason Natural Cosmetics Thin to Thick Extra Volume Conditioner</b>	Conditioner, Hair-loss Treatment	 <b>Data: Limited</b>
	 <b>SUNO</b>		



Search scientific product & company ratings...

- Personal Care ▾
- Food ▾
- Household ▾
- Babies & Kids ▾
- Pet Food ▾
- Apparel ▾
- Electronics ▾
- Appliances ▾
- Cars ▾
- Companies ▾

Find safe, healthy, green & ethical products based on scientific ratings.

How it Works



- Video Introduction
- Purchase Analyzer
- Your Personal Filter
- Transparency Toolbar
- Mobile App

High Rated

Low Rated

**6.8** Aquaphor Baby Gentle Wash & Shampoo

**4.2** Curls Peek-A-boo Tearless Shampoo



## Plum: Public Library of Materials

*a resource for chemical and material hazard information*

BETA

[Home](#) [About](#) [Lists](#) [Browse](#) [Details](#)Search 

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### Welcome to Plum

Use Plum to discover, reference, and browse through chemical substances believed to be hazardous by various regulatory and scientific agencies.





EMBARGOED UNTIL 12:01 A.M. ON WEDNESDAY, MAY 11.

# The Economic Benefits of a Green Chemical Industry in the United States

Renewing Manufacturing Jobs While Protecting Health and the Environment

James Heintz and Robert Pollin  
Political Economy Research Institute (PERI)  
University of Massachusetts, Amherst



Commissioned by  
**BLUEGREEN**  
ALLIANCE

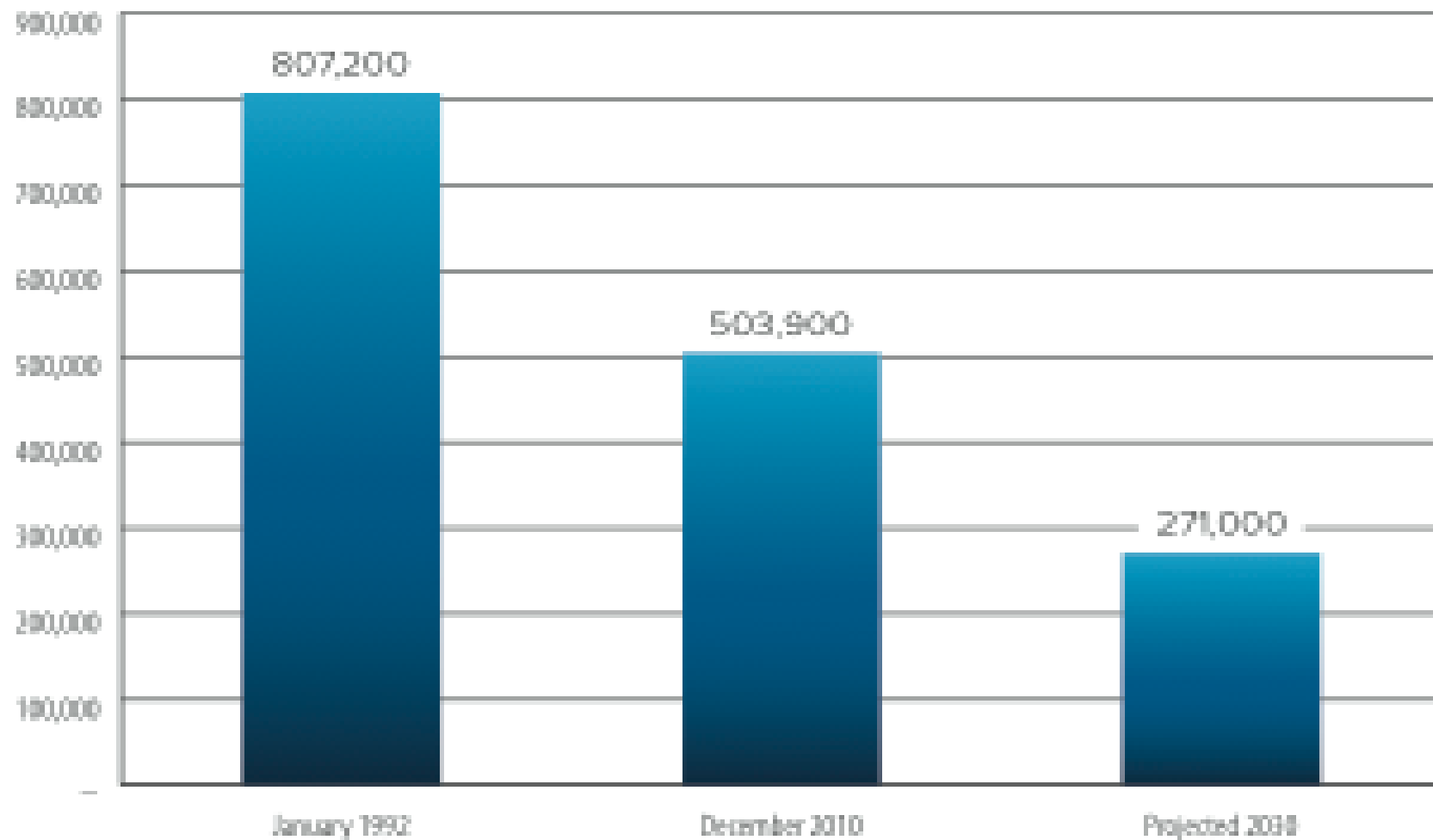


- ◆ The chemical industry is an important part of U.S. manufacturing, contributing \$273 billion to GDP (\$390 billion if we include the plastics sector).
- ◆ But employment in the chemical industry has been declining sharply over the past few decades, despite the fact that the value of production has been growing 4% per year.

# The U.S. Chemical Industry Today

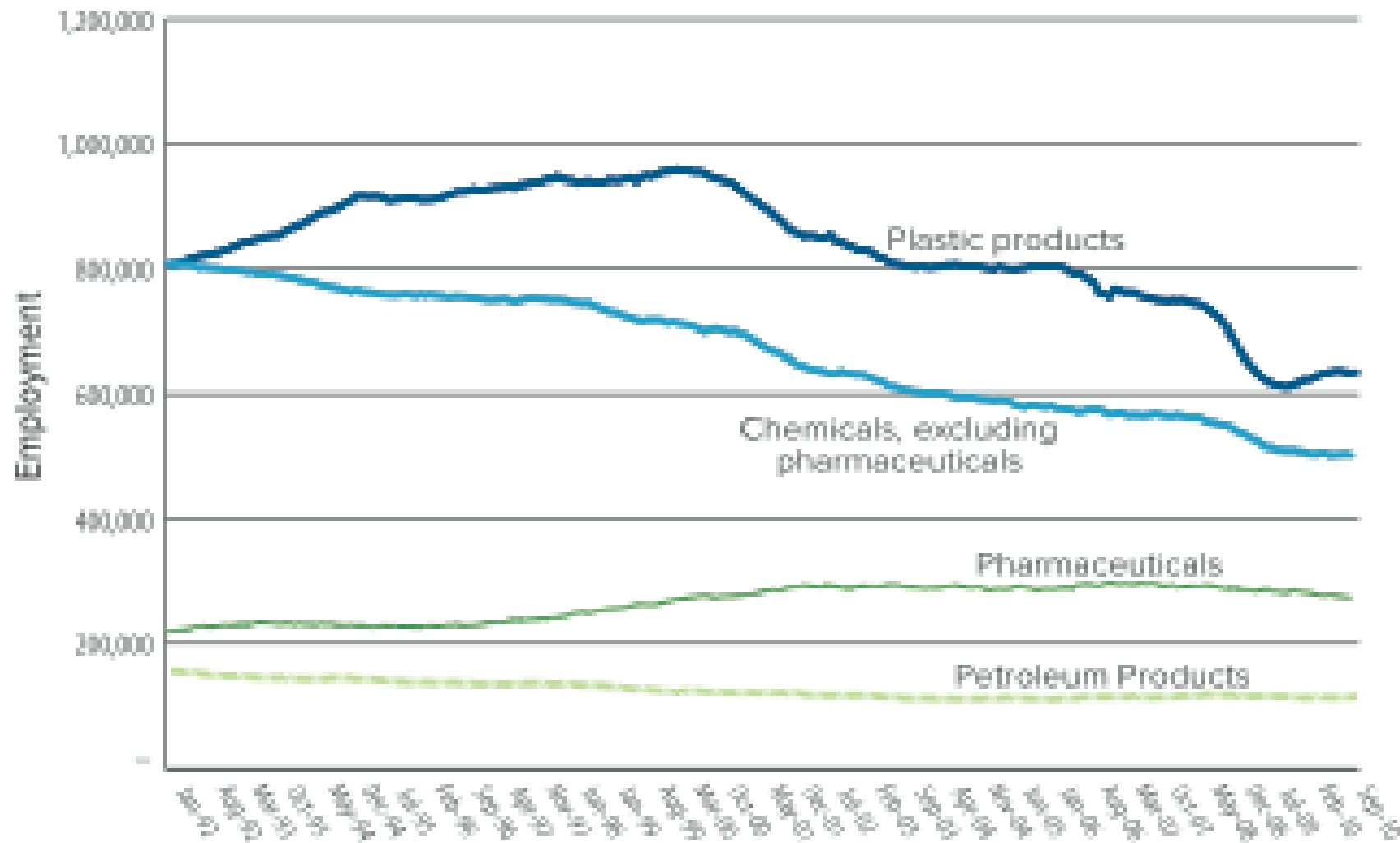
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## Non-Pharmaceutical Chemical Employment, Actual and Projected Jobs (1992, 2010, and 2030).



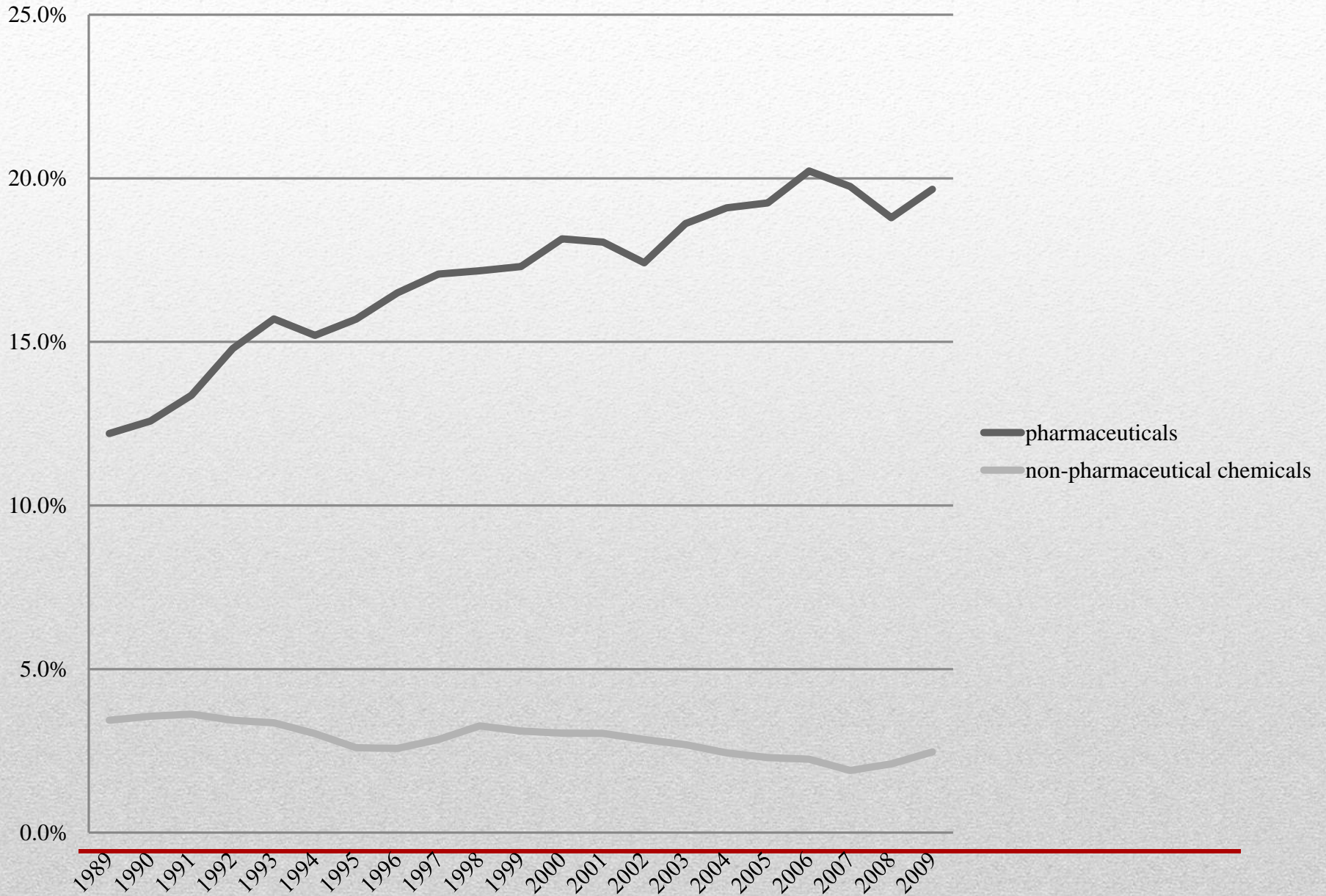
Source: U.S. Bureau of Labor Statistics. For 2030 projections, see full report.

## Trends in Employment in the U.S. Chemical, Petroleum, and Plastics Products Industries, 1992-2010



Source: U.S. Bureau of Labor Statistics.

**(17) Research and development expenditures as a percent of total output, 1989-2009.**



- ◆ Lowering handling, storage, and disposal costs
- ◆ Ensuring access to global markets
- ◆ Reducing waste by using inputs more efficiently
- ◆ Moving away from fossil fuel based inputs
- ◆ Meeting consumer demands for safer products
- ◆ Protecting shareholder value

Greener Chemistry & Regulatory Reform  
Supports Competitiveness

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# ChemHAT.org

Chemical Hazard and Alternatives Information

- ABOUT US
- DATA SOURCES
- KEY TO SYMBOLS
- VOCABULARY
- HOME/SEARCH



## Chemical Name Goes Here

### How can this chemical affect my health?

#### ■ ACUTE (SHORT-TERM) HEALTH EFFECTS



**Poisonous** - There will be a brief description of approximately ten to fifteen words right here, no more than four lines long.



**Triggers Asthma** - There will be a brief description of approximately ten to fifteen words right here, up to four lines long.



**Throat/Breathing Problems** - There will be a brief description of approximately ten to fifteen words right here, up to four lines long.



**Skin Rash/Irritation** - There will be a brief description of approximately ten to fifteen words right here, up to four lines long.

#### ■ CHRONIC (LONG-TERM) HEALTH EFFECTS



**Throat/Breathing Problems** - Brief description of approximately ten to fifteen words right here, up to four lines long.



**Skin Rash/Irritation** - There will be a brief description of approximately ten to fifteen words right here, up to four lines long.

### How is this chemical commonly used?

• Most Common Use #1

• Most Common Use #2

• [More Common Uses](#)







Poison



Triggers Asthma



Throat/  
Breathing Problems



Causes Cancer



Ingestion



Gloves Required



Birth Defects



Inhalation



Safety Glasses Required



Affects Reproductive System and/or Disrupts Hormones



Skin Contact



Respirator Required



Toxic to the Brain/ Nervous System



Skin Absorption



Safety Shoes Required



Other Health Effects (Heart/Liver/Kidney/Blood)



Protective Equipment Required



Causes Asthma



Substitution





Decaffeinate coffee with benzene



In 1970s benzene replaced with dichloromethane



Decaffeinate coffee with water or carbon dioxide



Manufacture IV bags and tubes using polyvinyl chloride and DEHP



Switch production to lighter, stronger polypropylene plastic that do not contain chemicals of concern and does not need a moisture overwrap



Produce glass for electronics using arsenic to remove air bubbles



Maintain liquid glass at higher temperature for longer periods



Joining the ChemHAT Design Team

Your health and safety committee has decided to convince your company to switch from using a dangerous chemical to a safer alternative.

What information would you need ChemHAT to provide to help you get your employer to do the right thing?

<http://chemhat.violadigital.com/>

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