

#### Putting Breast Cancer Out of Work

#### Shocking new information on breast cancer.



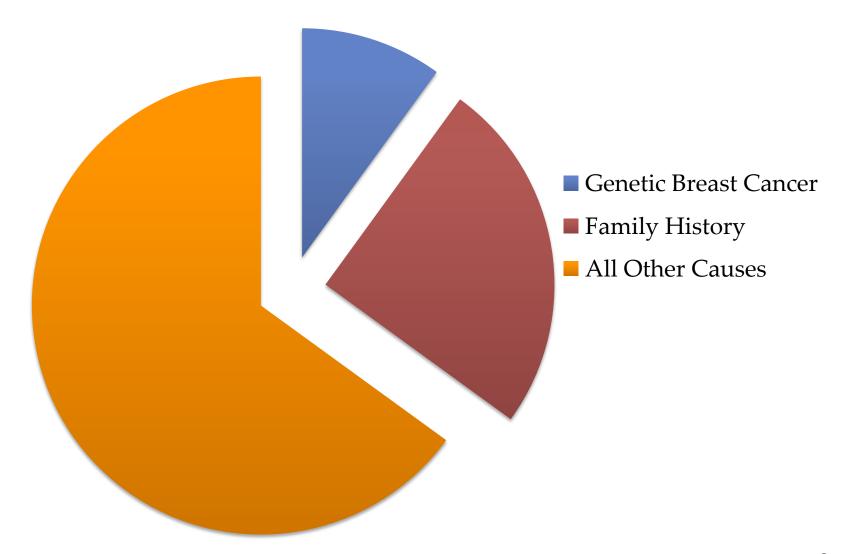




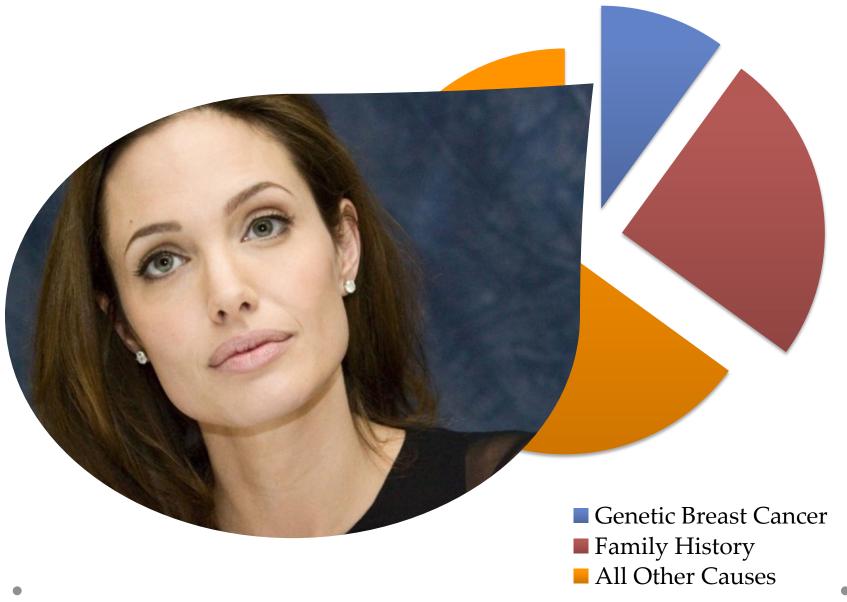


A November 2012 study that found that Ontario women who work manufacturing plastic automotive components and processing food are five times more likely to have breast cancer before menopause than other women living similar lives in the same communities.

#### The Cause of Most Breast Cancers Is Not Genes or Family History



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#### Early Detection is not Prevention

- Detecting breast cancer early may help treat it before it has a chance to spread, but it is not prevention.
- Real prevention means eliminating causes, so that disease doesn't have a chance to start.
- We can't change genetics, but we can change personal, environmental, and work factors





We can reduce the chemical part of the breast cancer problem

# Putting Cancer Out of Work

# Putting Infertility Out of Work

# Putting Diabetes Out of Work

# Putting Birth Defects Out of Work

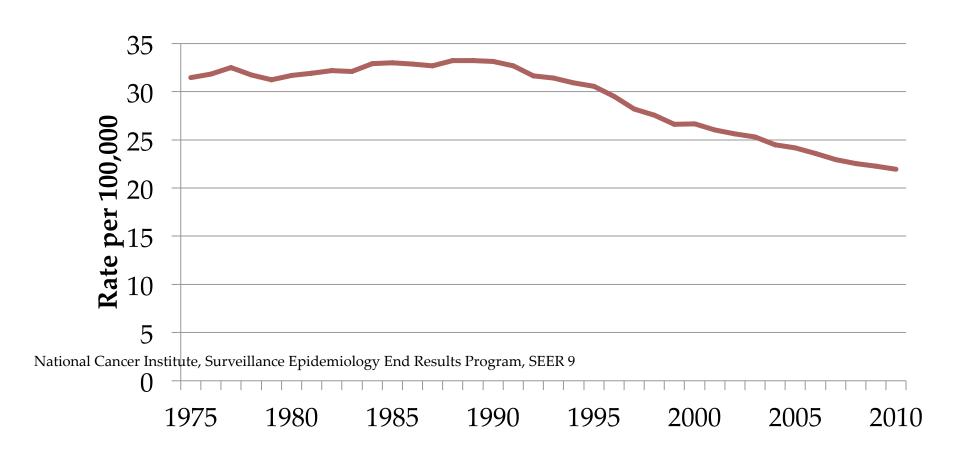
#### Today's Objectives

- > To explain the relationship between chemicals, breast cancer and other diseases.
- ➤ To describe how the new science linking chemicals and human health should mean new laws and policies.
- ➤ To discuss how if Congress won't act, we need to do it ourselves and become Do It Ourselves Chemical Policy Reformers.
- > To familiarize ourselves with informational resources on chemicals and their effects, such as MSDS, SDS and ChemHAT.
- > To use these resources to identify an improvement we can make in our workplace.

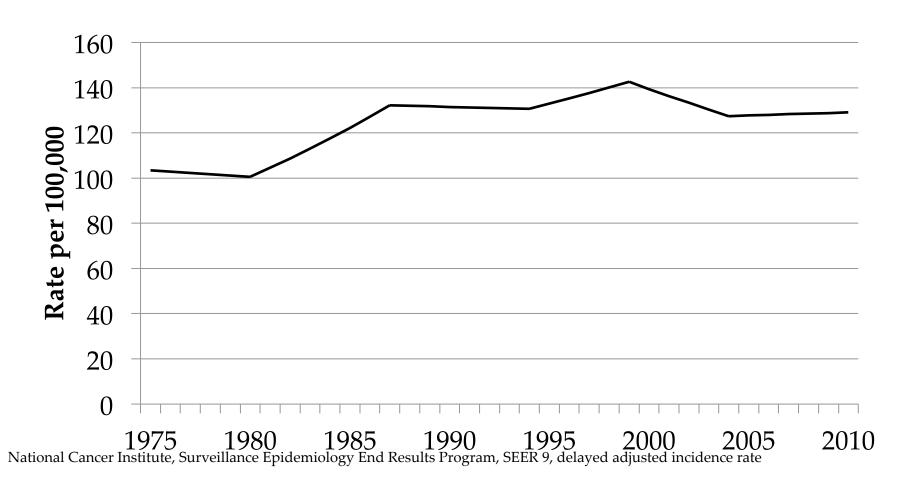
What's the connection between breast cancer and chemicals and other diseases?



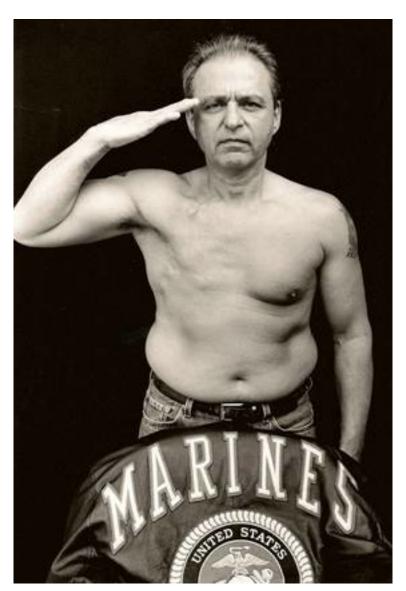
U.S. Breast Cancer Mortality Rate, 1975-2010

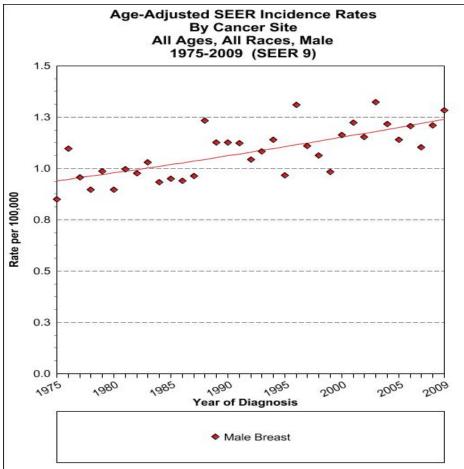


#### U.S. Breast Cancer Incidence Rates, 1975-2010



#### and breast cancer is increasing in men too





Cancer sites include invasive cases only unless otherwise noted.
Rates are per 100,000 and are age-adjusted to the 2000 US Std Population (19 age groups Census P25-1130). Regression lines are calculated using the Joinpoint Regression Program
Version 3.5, April 2011, National Cancer Institute.
Incidence source: SEER 9 areas (San Francisco, Connecticut, Detroit, Hawaii, Iowa, New Mexico,

Seattle, Utah, and Atlanta).



#### Small Group Exercise #1

- Break into small groups
- Pick a reporter
- Using the small group activity method, read the fact sheet that's been assigned to you
- Prepare these questions for report back:
  - What have these 5 new studies told us about breast cancer as an occupational disease?
  - 2. What can we do to prevent occupational breast cancer?

### Alternative Exercise 1 Tackling Toxic Chemical Myths



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### There are at least four subtypes of breast cancer.

- Luminal A
- Luminal B
- HER-2 positive
- Basal like breast cancer (triple negative)
  - Most aggressive, most difficult to treat
  - Occurs most often in younger women, women with lower economic status, Black and Latina women

Slide from the Breast Cancer Fund www,breastcancerfund.org

**Breast Cancer** and other diseases are caused by the interaction of genes and environment



#### The Breast Cancer Resilience Scale

Strong Union

Pregnancy

Happiness Exercise

Healthy Diet

Radiation

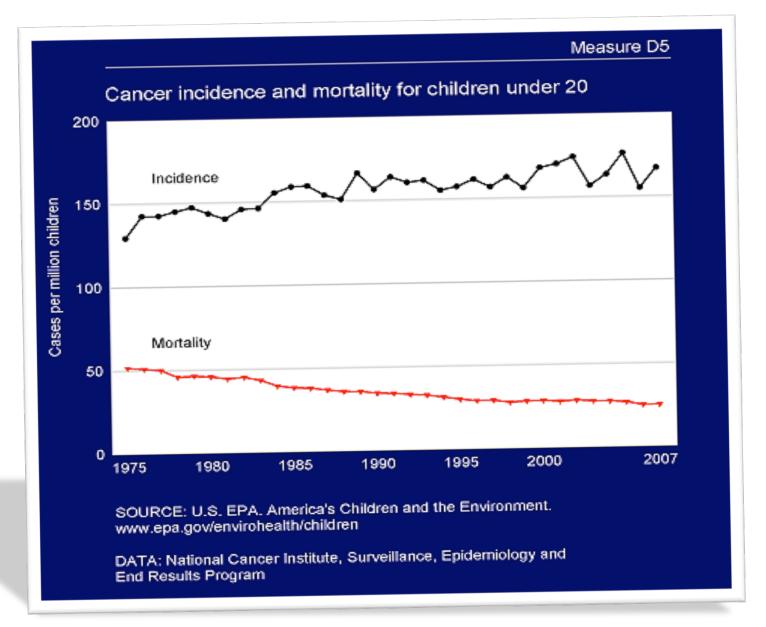
Alcohol Abuse

Tobacco

Night Shift

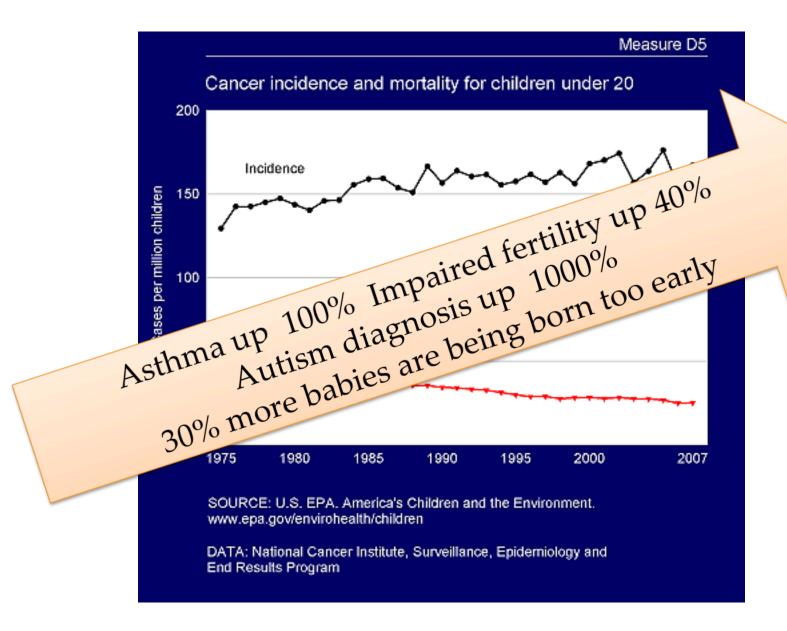
Chemicals



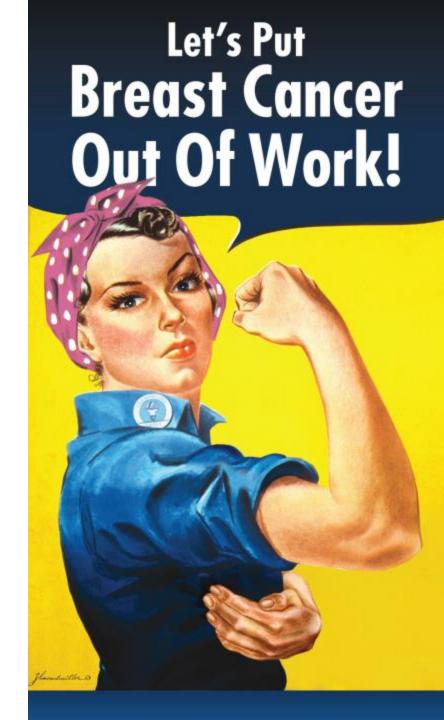


#### Cancer Incidence and Mortality in Children

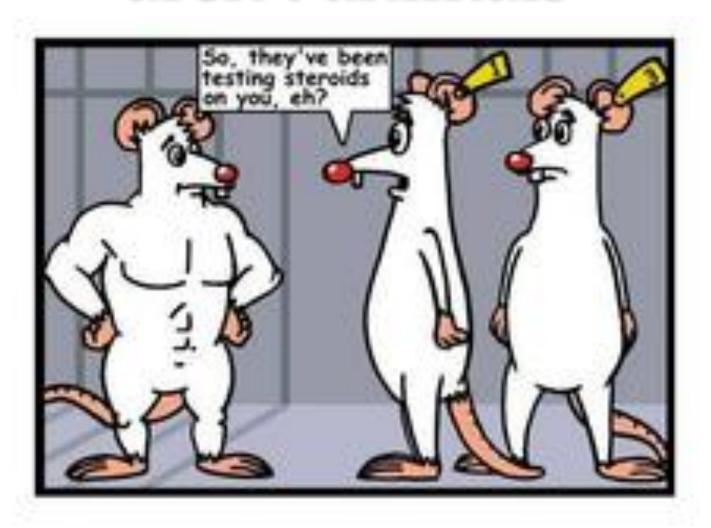
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The scientific understanding of how and why chemicals are making us sick has changed dramatically since the 1970s

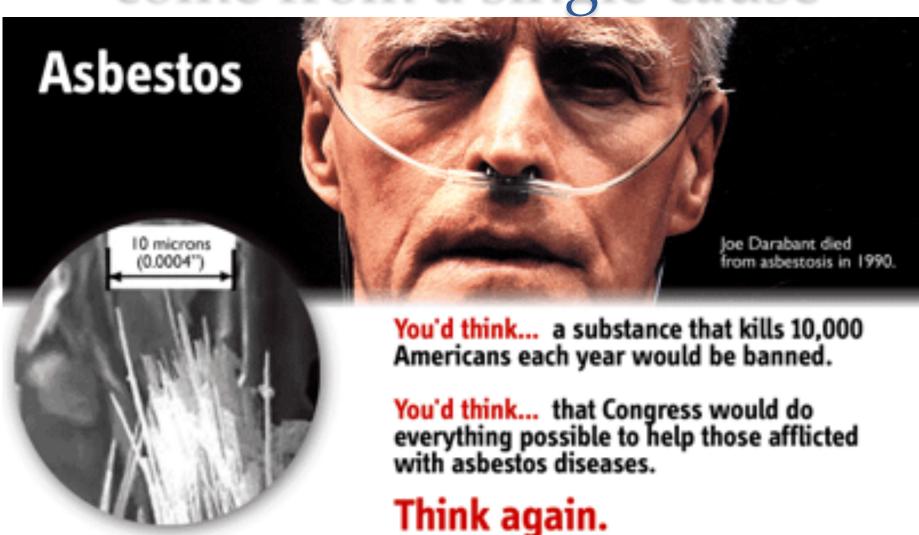


### Old thinking: People aren't animals

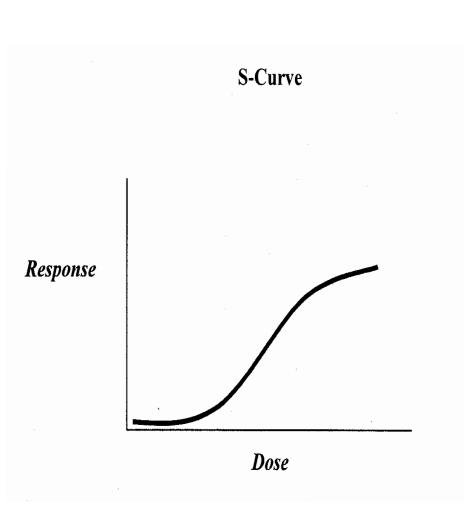


**2**6

### Old thinking: Unique diseases come from a single cause



### Old thinking: The dose makes the poison





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#### Old thinking: When the science proves cause, we make new protective policies



Old thinking: The U.S. has the most protective laws in the world



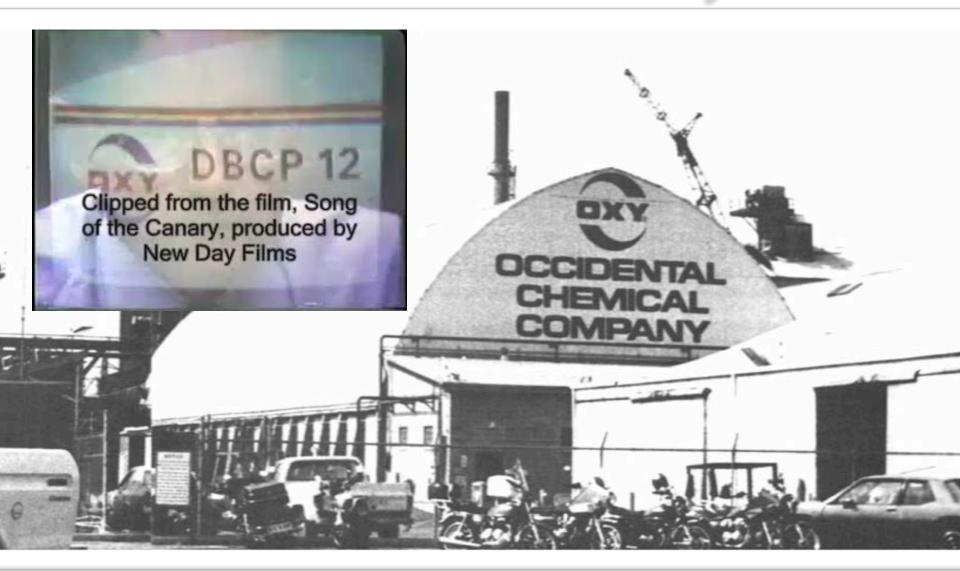
#### Small Group Exercise #2

- Break into 7 small groups
- Pick a reporter
- Each group will be assigned a different factsheet.
- Read the fact sheet that's been assigned to you and prepare for your report-back:
  - Summarize your factsheet for the group
  - Answer the questions at the end of your factsheet



How the Reproductive Problems of Florida Panthers and American Men Connected

#### DBCP: Infertility



### Old thinking: People aren't animals





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

# Old thinking: Unique diseases come from a single cause



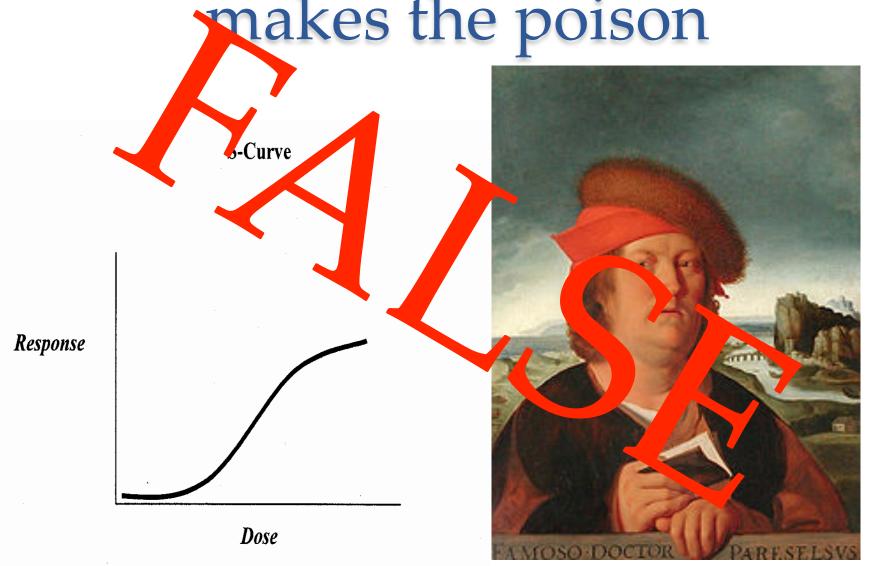


Breast Cancer and DDT: Sometimes Timing Matters More Than Dose

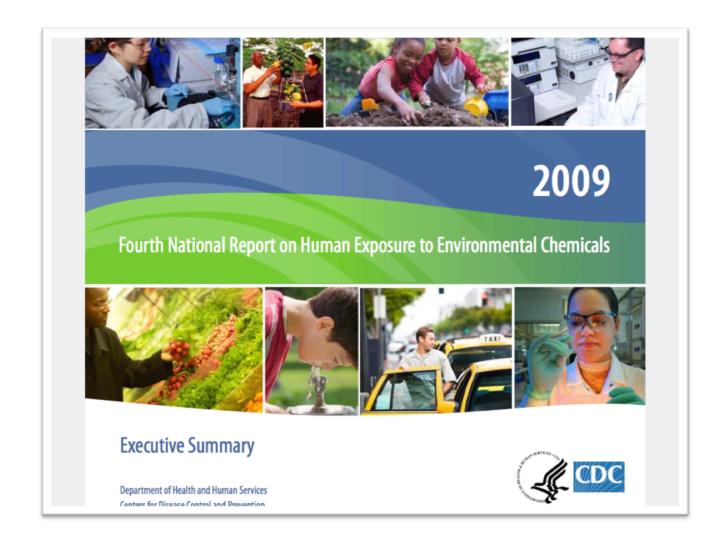


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Old thinking: The dose makes the poison



# Biomonitoring tells us that we all are being exposed to toxic chemicals



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#### Mother's Lips

#### Father's Color Hair

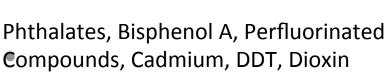


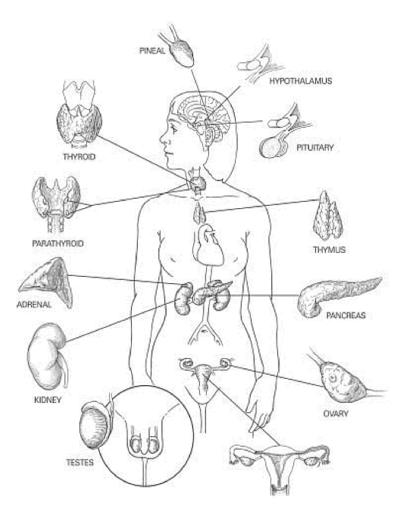
Chemical
Industry's
lead,
mercury,
PFCs, PBDE,
PCBs,
dioxin, BPA
and
perchlorates

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## Two Ways to Make Hormones

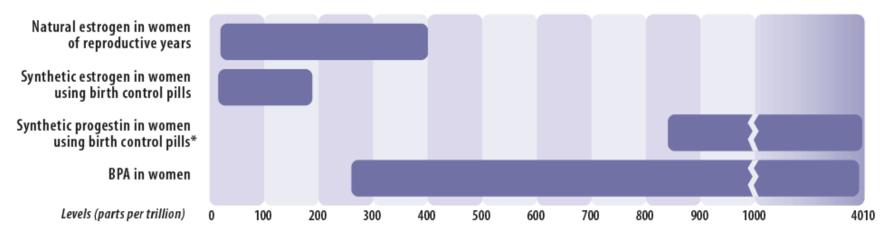






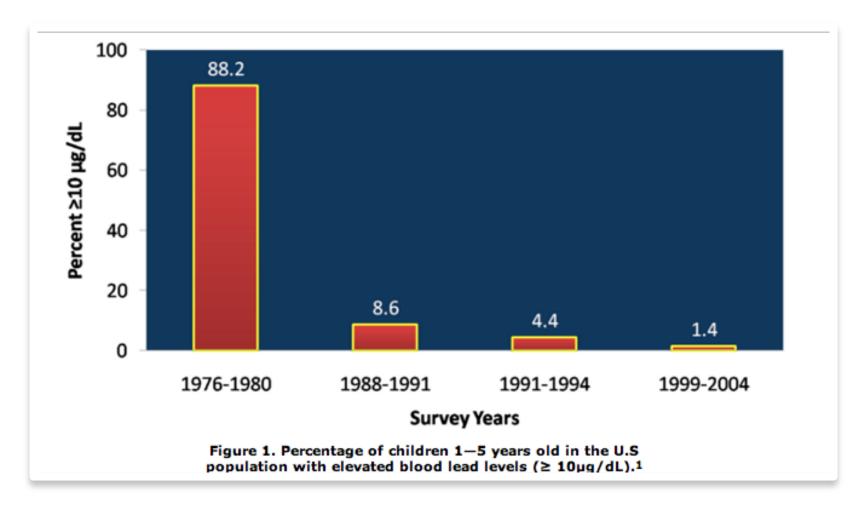
Estrogen, Testosterone, Insulin, Progesterone, Thyroxine and others

# Hormones: Tiny doses control communication and coordination of body tissues



<sup>\*</sup> Levels of 3-keto-desogestrel, the metabolite of desogestrel.

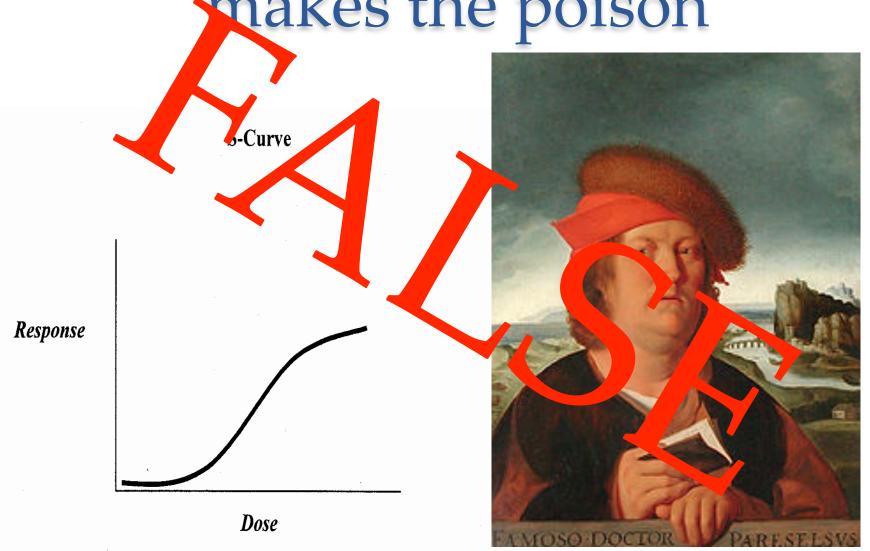


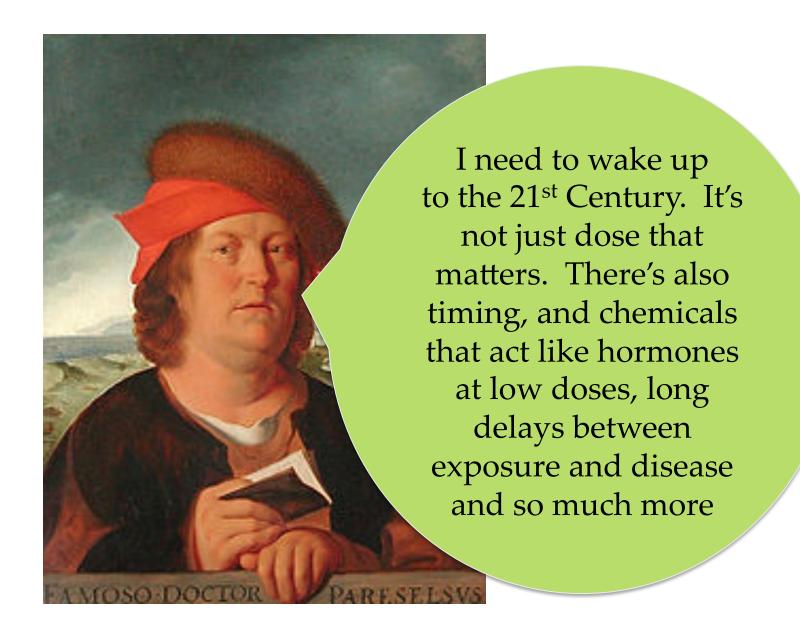


#### From the CDC's 2009 Fourth National Report on Human Exposure to Environmental Chemicals

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Old thinking: The dose makes the poison





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Our occupational safety and health and chemical management laws lost in the 1970s

## OSHA is Out of Date



40 Years of OSHA

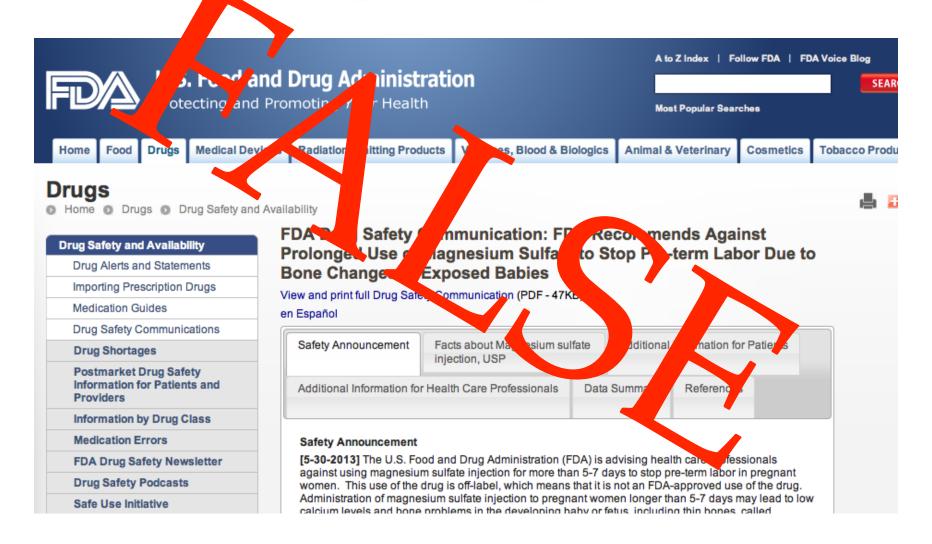
80,000 Chemicals

16
Permissible
Exposure
Limits
(PELs)

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Current OSHA Penalties	Are Too Low
Maximum penalty for a serious OSHA violation	\$ 7,000
Maximum penalty for willful and repeated violation	\$ 70,000
Maximum USDA penalty if dairy company doesn't pay milk advertising fees	\$ 130,000
Maximum FCC fine for broadcasting indecent content	\$ 325,000

## Old thinking: When the science proves cause, we make new protective policies



● **5**1

TSCA is less protective than laws in Europe and Japan





David and Julia Koch

#### 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 37 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 23 years ago, it gave up trying.

Old thinkin The U.S. has the most protective laws in the world





More than 40,000 Americans die prematurely each year from exposure to toxic substances at work — 10 times as many as those who die from occupational injuries How do we act on the new science with or without Congress?

How can we join the Do It Ourselves
Chemical Policy
Reformers?





Will she be the one in eight that gets breast cancer?



"...genetic and environmental factors individually contribute and interact with each other to increase breast cancer risk."

Breast Cancer and the Environment: Prioritizing Prevention



Family history
Genes
High birth weight
Dense breasts



Lifetime exposure estrogen and progesterone



Unhealthy diet and excessive tobacco and alcohol use



Night shift work
Second hand smoke
Radiation



Vinyl chloride Acrylonitrile Styrene **BPA Phthalates Brominated** flame retardants



Fake leather vinyl backpack Acrylic sweater Polystyrene food container BPA lined food cans Phthalates in personal care products Flame retardants in foam, electronics and fabric



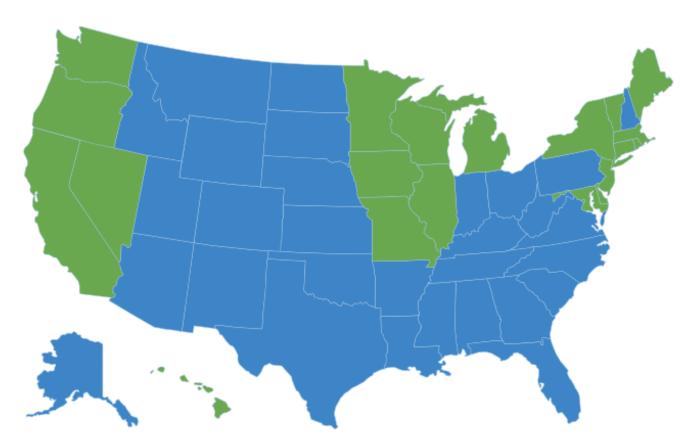
# REDUCE THE CHANCE OF BREAST CANCER BY:

Eliminating exposure to chemical hazards



Genetics and the environment will still be a factor but by reducing the chemical risk factors, we can reduce the cancer risk.

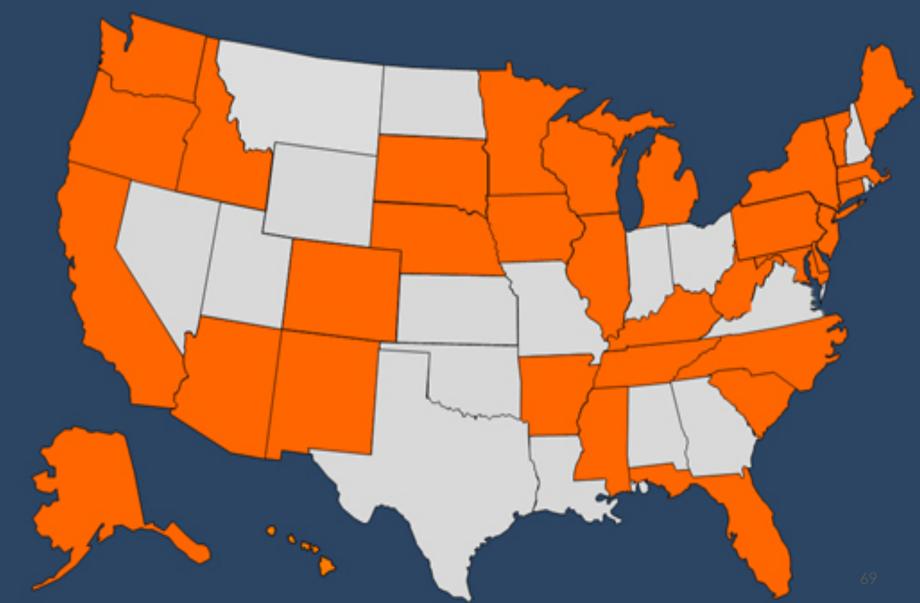
# 20 States have passed 100 laws restricting chemicals



States in green have passed one or more laws

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States considering Toxic Chemicals Policies in 2014







GreenScreen for Safer **Chemicals** helping companies, workers and product designers find and use safer chemicals

#### The 4 GreenScreen Benchmarks

All chemicals can be assessed for their hazards and put into one of four benchmarks





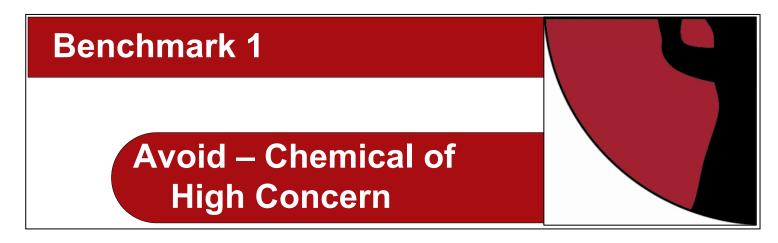




**←**Identifies High Hazard Chemicals

### GreenScreen Benchmarking

 Benchmark 1 identifies chemicals of high concern (carcinogens, hormone disrupting chemicals, chemicals that cause birth defects, etc...



# Moving away from hazardous chemicals - yes! But how can companies avoid using substitutes that are equally hazardous?



Ø ZDHC

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#### **CURRENT MEMBERS COMMITTED TO ZDHC**















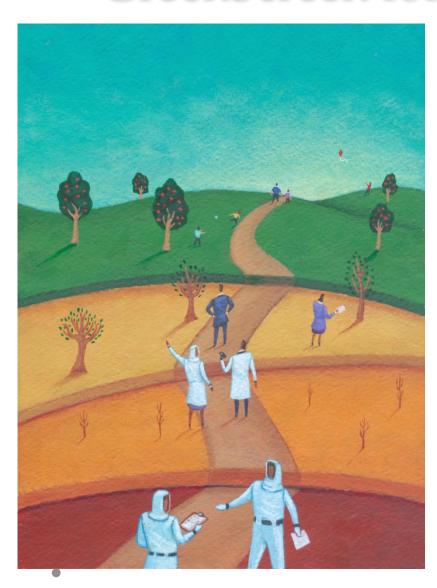








## GreenScreen for Safer Chemicals



- Companies can demand suppliers only use ingredients that are Benchmark 2 or higher to ensure substitutes are not another carcinogen or chemical of high concern
- This what Hewlett-Packard demands from their plastics suppliers for cables



Home

**Our Goals** 

Sustainability Index

How To Make A Difference

Share What You've Achieved

Knowledge Base

Ask a Question

Home



Our Sustainability
Index provides
powerful tools to
help you improve the
sustainability of the
products our
customers love and
increase our
customers' trust in us
and our brand.



Our aim is to increase the amount of post-consumer recycled content in plastic products.



We aim to accelerate the adoption and use of sustainable chemistry practices to meet the needs of our customers and the environment.



For each large GHG innovation project, we work with Deloitte consulting and in partnership with key NGOs to develop the best set of assumptions and methodologies we can.



At Walmart we are on target to eliminating 20 million metric tons of greenhouse gas (GHG) emisssions from our supply chain by 2015.



Fertilizer Optimization is a top sustainability priority for our food business. Our entire value chain needs to produce more, with less.



# Appendix 1: Walmart reference list of priority chemicals

### Appendix 1: Walmart reference lists of priority chemicals As of February 21, 2014

The following authoritative and regulatory lists may be used as resources to identify Walmart Priority Chemicals for reduction, restriction, or elimination in accordance with Walmart's Policy on Sustainable Chemistry in Consumables.

Note: The policy excludes active ingredients that provide therapeutic benefit when present in a product approved by the FDA New Drug Application process.

EU - Endocrine Disrupters - Ranked Priority List - Human Health Categorizations 1 and 2

EU - Interim Strategy for Management of Persistent Bioaccumulative Toxic (PBT) and very persistent very bioaccumulative (vPvB) Substances

EU - REACH (1907/2006):

- · Annex XIV Substances Subject to Authorisation
- · Annex XV Candidate List of Substances of Very High Concern for Authorisation
- Annex XVII Appendices 1 and 2 Carcinogens Categories 1A and 1B
- Annex XVII Appendix 4 Mutagens Category 1B
- · Annex XVII Appendices 5 and 6 Reproductive Toxicants Categories 1A and 1B

International Agency for Research on Cancer (IARC) Groups 1 (Carcinogenic to Humans) and 2A (Probably Carcinogenic to Humans) and 2B (Possibly Carcinogenic to Humans)

United Nations Environment Programme (UNEP) - Stockholm Convention Secretariat Stockholm Convention on Persistent Organic Pollutants (POPs)

- U.S. EPA Priority PBT List
- U.S. EPA Toxic Release Inventory (TRI) PBT Chemicals
- U.S. EPA National Waste Minimization Program Priority Chemicals
- U.S. National Toxicology Program (NTP) Report on Carcinogens Known to be Human Carcinogens and Reasonably Anticipated to Be Human Carcinogens
- U.S. State of California Proposition 65 Developmental/ Reproductive Toxicants
- U.S. State of Maine:
- Chemicals of High Concern
- Priority Chemicals

#### Action

Introduction to Sustainable Chemistry

Sustainable Chemistry F.A.Qs

Sustainable Chemistry Policy

Sustainable Chemistry Implementation Guide

Also of Interest

Our Goals - Our three sustainability goals

How to Make a Difference - Reduce food waste

How to Make a Difference - Plastic packaging: design for recyclability & recycled content

How to Make a Difference - Plastic products: optimize recycled content

How to Make a Difference - Fertilizer optimization

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ChemHAT

## ChemHAT.org

**BETA** 

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Safer Chemicals

For Workers



Benzene

CAS: 71-43-2

#### How can this chemical affect my health?

■ ACUTE (SHORT TERM) EFFECTS How do we know ??





Toxic to Humans & Animals -Can be fatal on contact, ingestion or inhalation for humans and other mammals.



Irritates the Eves - Can cause irritation or serious damage to the eye.



Irritates the Skin - Can cause irritation or serious damage to the skin.

■ CHRONIC (LONG TERM) EFFECTS How do we know ??



Causes Cancer – Can cause or increase the risk of cancer.



Birth Defects – Can cause harm to the developing child including birth defects, low birth weight and biological or behavioral problems that appear as the child grows.



Affects Reproductive System -Can disrupt the male or female reproductive systems, changing sexual development, behavior or functions, decreasing fertility, or resulting in loss of the fetus during pregnancy.



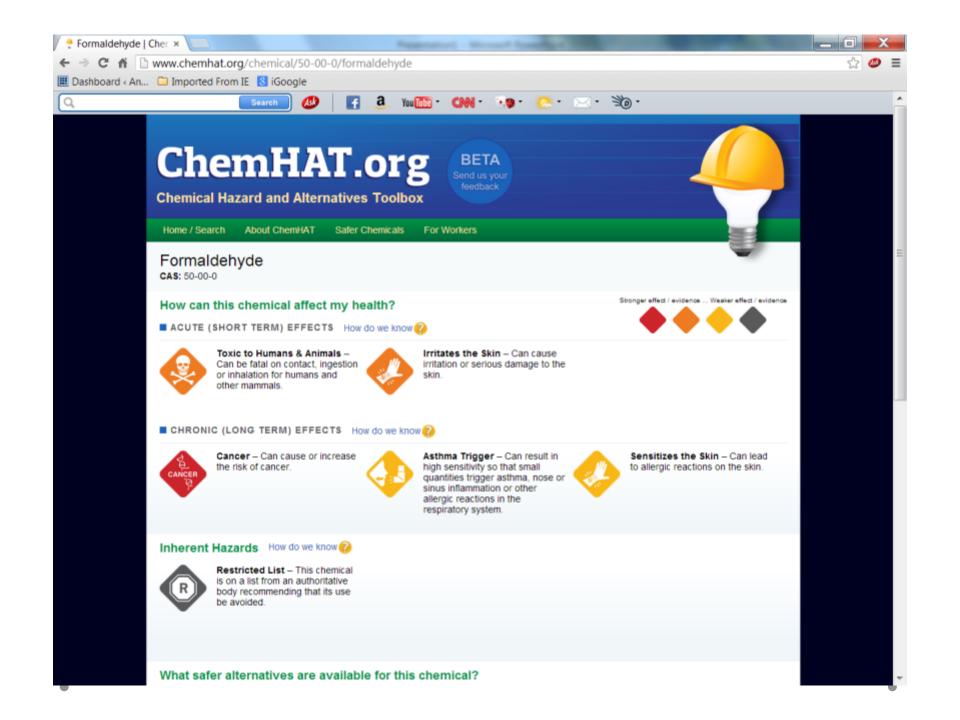
Damages Genes - Can cause or increase the rate of mutations. which are changes in genetic material in cells.

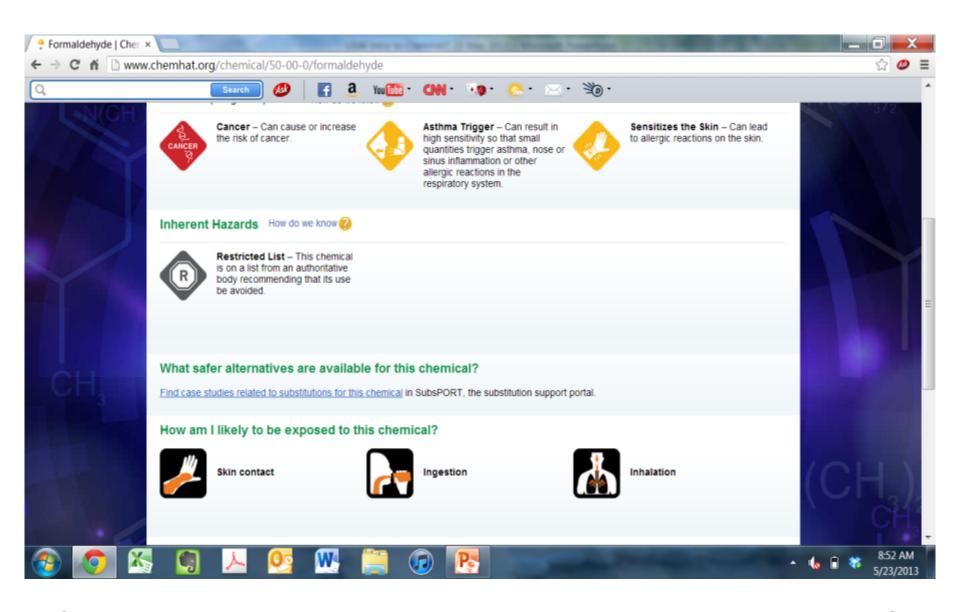


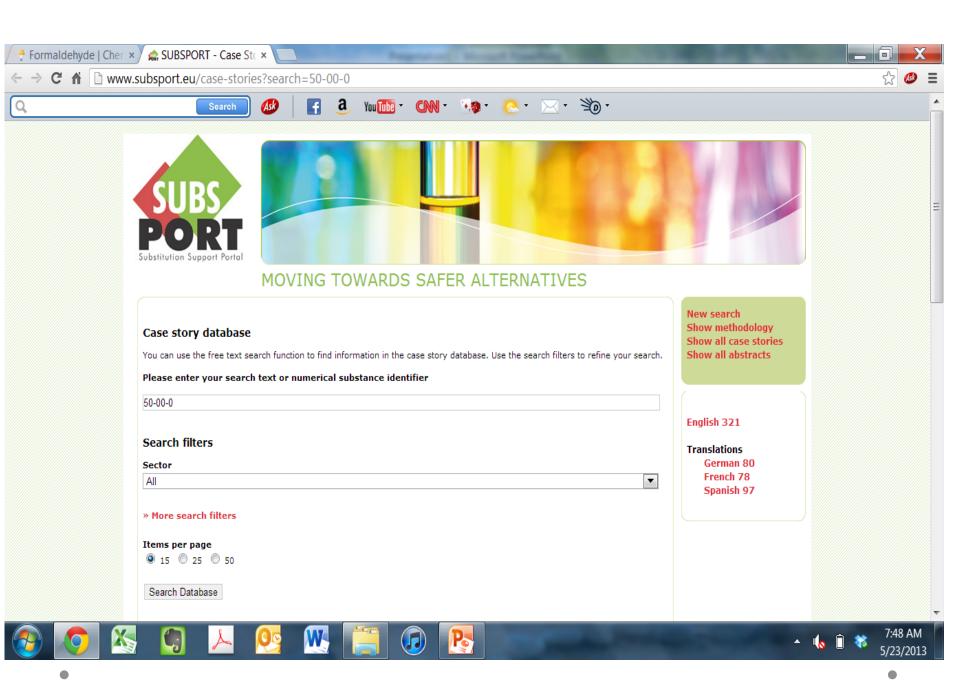
Endocrine Disruptor - Can interfere with hormone communication between cells which controls metabolism.



Other Health Effects - Can cause serious damage on contact or ingestion.







# The Globally Harmonized System of Classification and Labeling of Chemicals



# ChemHAT will give you more information when you see the GHS Health Hazard Pictogram



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### **Exercise Three**

In your group, shuffle the cards and lay them out for a game of Concentration (also called the Memory Game).

When you make a match, show everyone In your group the two cards and read the definition out loud.



# Hierarchy of Controls

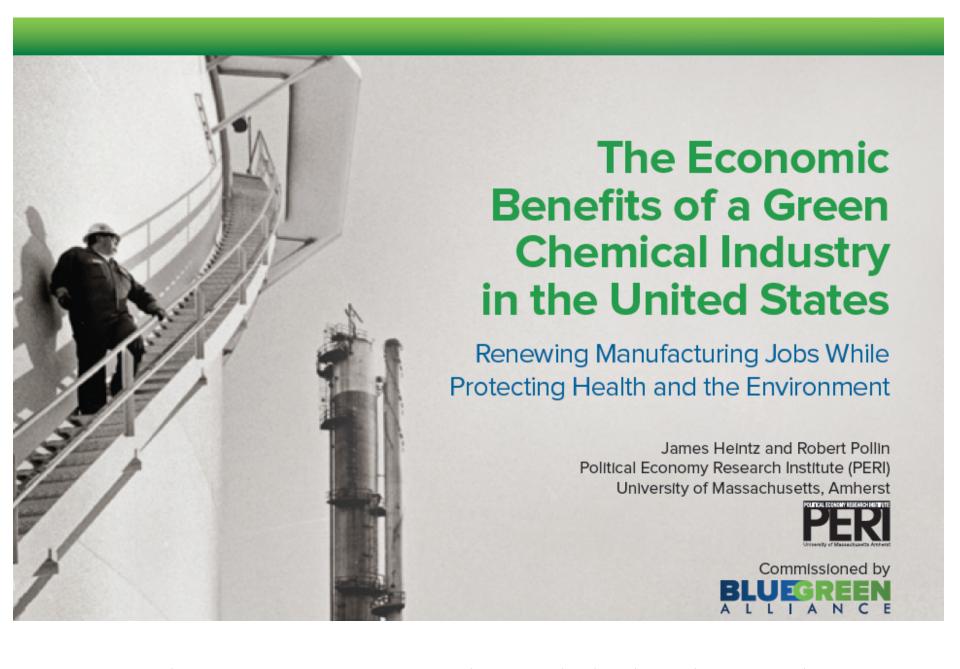
Elimination

Substitution

**Engineering controls** 

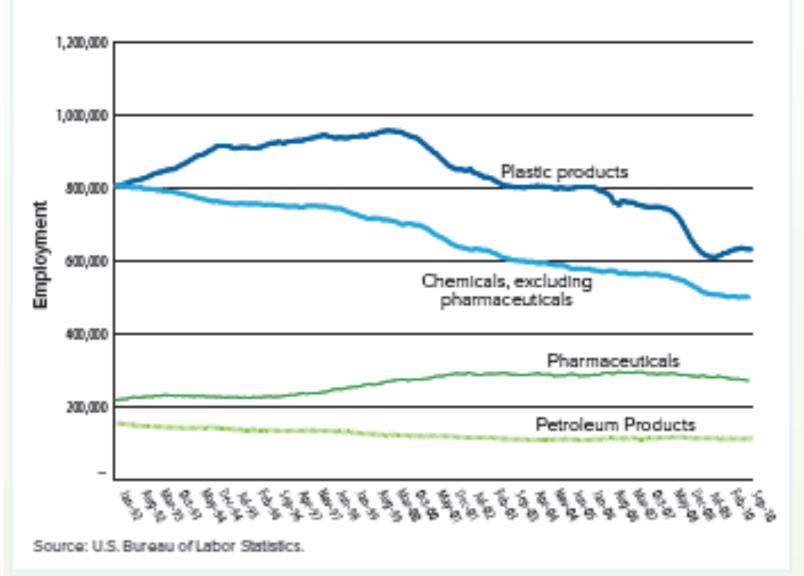
Administrative controls

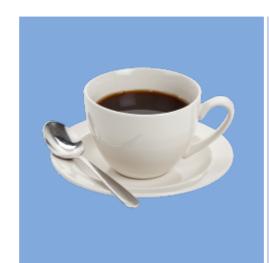
Personal protective equipment

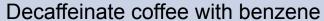


• Green chemistry innovation can bring jobs back to the United States •86







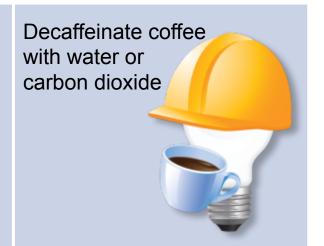






In 1970s benzene replaced with dichloromethane







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

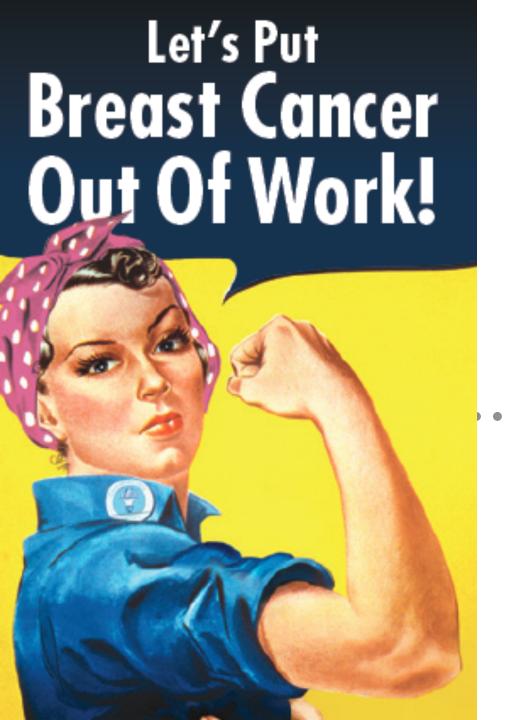


# Joining the movement in our workplaces

List some examples of health and safety improvements that your local union has made in your workplace. How did you make the change?

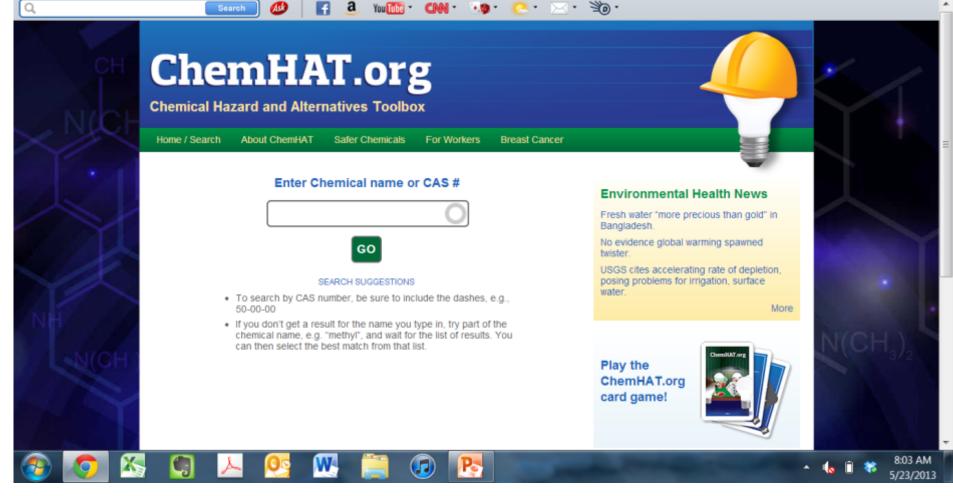
## CWA District 9 is a model





# Moving forward

How do we put breast cancer out of work?



- Small Group Exercise Four:
- In your group, review a MSDS then look up the chemicals on ChemHAT. What did you learn?
- Were there safer substitutes on Subsport?

# Exercise Four: Chemical Body Mapping Activity

- For this activity at your tables you will do a specific Chemical exposure Body Map
- Use the Color code on the next slide to identify the areas of the body that you are exposed at your work place.
- Then explain the chemical and the process that you are doing when you are exposed. Use <a href="https://www.ChemHAT.org">www.ChemHAT.org</a> to learn more about the chemical.

## What is Body Mapping?

A body map is a picture that can be used to identify the various injuries, illnesses

and stresses you have all experienced from the work you are doing or have done in the past at your workplace.



# Body Mapping

## Color-Code for Body Mapping

of Your Work-Related Injuries, Illnesses and Exposures

Red

Heat burns, heat stress, flash burns

Orange

Back or repetitive strain (ergonomic injury)

Yellow

Stress/stress-related health effects

Dark Blue

Workplace violence-related injuries (physical and/or emotional)

Dark Green

Chemical exposure/heath effects from chemicals

**Light Green** 

All other occupational diseases (like skin rash, sinus infection, occupational asthma, hearing loss, work-related cancer

Light Blue

All other occupational *injuries* (like cuts, bruises, broken or fractured bones, eye injuries, electric shock

# Chemical Body Map color code

Red = Gas absorption Hazard

**Yellow = Solids Dust inhalation Hazard** 

**Blue = Liquid Absorption Hazard** 

**Green = solids Dust contact Hazard** 

Orange = Other Hazard explain

**Light Blue = Vapor inhalation Hazard** 

# ChemHAT.org

**Chemical Hazard and Alternatives Toolbox** 

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Safer Chemicals

For Workers

**Breast Cancer** 

Safer Families

### Search chemical name or CAS #



#### SEARCH SUGGESTIONS

- Type the name or CAS number into the box and touch Find or Enter to begin search.
- a If you don't know exactly what you are looking for try searching

### **Environme**

Family firm rea land.

Asbestos cance £123,000 anno

Deadline passe mill.

## What's Behind The Other ChemHAT tabs?

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## **OSHA Safer Chemicals Toolkit**

Compiles existing tools and methods to help employers effectively accomplish elimination and substitution



https://www.osha.gov/dsg/safer\_chemicals/

## Take Home Checklist

- Identify potential carcinogens in your workplace
- Get the MSDS to identify the chemical
- Look it up on ChemHAT
- If there's a substitute on ChemHAT
  - o Take it to your union leadership
  - Use the tools for change that we discussed earlier

# Take Home Checklist, cont'd

- If there is NO substitute on ChemHAT:
  - Take it your union leadership
- Work with the Joint Health & Safety Committee to
  - Work with your employer and manufacturer to eliminate to do informed substitution for the problem chemical you've identified
  - Introduce them to OSHA Safer Chemicals Toolkit and contact the USW Health, Safety and Environment department for more information.



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www.uaw.org
www.usw.org
www.bluegreenalliance.org
www.chemhat.org
www.breastcancerfund.org
www.cleanproduction.org

