Ignorance is Bliss: Corporate Responsibility for Uncertain Chemical Risks

Joel A. Tickner, ScD and Melissa Coffin
Department of Community Health and Sustainability
University of Massachusetts Lowell
joel_tickner@uml.edu
Overview

- Problem of well-established vs. uncertain chemical risks
- Problems of current regulatory structures for chemicals regulation
- What does this mean for corporate responsibility?
- Ways in which some responsible companies are acting
- The future of ensuring responsibility – reforming chemicals regulations
Flavoring Suspected in Illness
Calif. Considers Banning Chemical Used in Microwave Popcorn

By Sonya Geis
Washington Post Staff Writer
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SOUTH GATE, Calif. -- She was once in constant motion, her co-workers compared her to a roadrunner because of the way she darted around the workplace. But now Irma Ortiz sits at the edge of her couch, too winded to sweep her patio or walk her son to school without resting. She is slowly suffocating.

Ortiz, 44, is among a group of California food-flavoring workers recently diagnosed with bronchiolitis obliterans, a rare and life-threatening form of fixed obstructive lung disease. Also known as popcorn workers lung, because it has turned up in workers at microwave-popcorn factories, the disease destroys the lungs. A transplant is the only cure.

Since 2001, academic studies have shown links between the disease and a chemical used in artificial butter flavor called diacetyl. Flavoring manufacturers have paid out more than $100 million as a result.
Asbestos-related deaths are at an epidemic scale in the United States.

Asbestos exposures remained high through the early 1980s

Source: EWG Action Fund, compiled from Occupational Safety and Health Administration health inspection data (1979 - 1998). Data includes 19,000 samples from 670 industries.
Other Well Established Chemical Impacts

- Lead – estimated costs to the economy of $48B per year from decreased IQ
- PCBs
- Dioxins
- Solvents
But....

- Newer chemicals of concern have impacts that are harder to characterize
  - PBDEs
  - Phthalates
  - Bisphenol-a
  - Perfluorinated compounds
  - Atrazine
  - Products of nanomanufacturing
Third National Report on Human Exposure to Environmental Chemicals

2005

Executive Summary
THE POLLUTION WITHIN

By David Ewing Duncan

Modern chemistry keeps insects from ravaging crops, lifts stains from carpets, and saves lives. But the ubiquity of chemicals is taking a toll. Many of the compounds absorbed by the body stay there for years—and fears about their health effects are growing.
Science News - September 22, 2003

Endocrine disrupters ubiquitous in U.S. homes

The air and dust inside U.S. homes are likely to contain a wide variety of chemicals and pesticides that have been identified as endocrine-disrupting compounds, according to research posted to ES&T's Research ASAP website this week. The most comprehensive analysis conducted to date, it reveals that many people may be continually exposed to dangerous levels of toxic substances, including chemicals like DDT and PCBs, which have been banned for decades.

This study, together with other data, shows that U.S. families may have "very widespread exposures" to chemicals that could affect the health of everyone from infants to senior citizens, warns Mary Wolff, of Mount Sinai School of Medicine in New York City. Currently, the U.S. EPA has no regulatory authority over indoor air or endocrine-disrupting chemicals. The study was led by Ruthann Rudel of the Silent Spring Institute, a nonprofit organization based in Boston, Mass., as part of its ongoing Cape Cod Breast Cancer and Environment Study. The group measured concentrations of 89 suspected endocrine disrupters in air and dust samples taken from 120
Challenges

- Many chemicals are widely dispersed in the environment, food, and us. Little is known about risks from multiple exposures.
- Toxicological data and some epidemiology point to concerns about a number of substances.
- Difficulty of linking small exposures to often subtle chronic effects, or understanding the impacts of exposure to multiple toxicants (i.e. toys and phthalates).
- Is there a failure of design??
- Demands for strong evidence can result in unethical delays in interventions.
Challenges in the Current Regulatory System

- Lack of toxicological and exposure data on many chemicals in commerce.
- “Grandfathering” of existing chemicals.
- High burdens for agencies to take protective action – on a chemical by chemical basis.
- Lack of incentives to design safer chemistries – does liability really inspire responsibility??
Results of the These Limitations

- Chemicals safe until demonstrated dangerous.
- Single chemical focus in multi-chemical world.
- No data = no problem.
- Interpretation of lack of evidence as evidence of lacking.
- As long as there is uncertainty, action is not taken (waiting for more evidence is a decision).
- Lack of focus on safer chemicals and products.
- How does reality mesh with what the public believes??
The System Inhibits Responsibility: Toxics in Toys

- Toy industry says toys are among the safest and most tested products.
- CPSC says no need to reinforce regulations.
- Reality:
  - Minimal testing required – only for substances known to be hazardous.
  - Safety focus on acute not chronic risks.
  - Differing responses to question of phthalate safety – toys with phthalates are safe but what about lifecycle of phthalates and multiple exposures and known availability of safer alternatives?
  - Blaming Chinese manufacturers is too easy.
The System Inhibits Responsibility: Bisphenol-a

- A synthetic hormone and building block of polycarbonate plastics; in can liners, dental resins, and baby bottles.
- Evidence showing leaching from these products into food products.
- Evidence showing hormone disrupting effects as well as damage to DNA. No epidemiologic studies have been done at this point, but BPA is found in most of the human population.
- Debate continues as to the level of concern.
Chemical Industry - The potential human exposure to BPA is more than 400 times lower than the U.S. EPA reference dose. This minimal level of exposure to BPA poses no known risk to human health. The use of polycarbonate plastic and epoxy resins for food contact applications has been and continues to be recognized as safe by the U.S. Food and Drug Administration and other regulatory authorities worldwide.

Nalgene - As a responsible manufacturer of polycarbonate consumer products, Nalge Nunc International has monitored scientific research concerning the safety of our products including Bisphenol-A for many years. Based on the findings of the Food and Drug Administration, The Environmental Protection Agency, The American Plastics Council and other reliable sources from around the world, we continue to firmly believe in the safety of our products.
Culpable Ignorance

- One is culpably ignorant if on the basis of general knowledge, one recognizes the need for certain supplementary specific information or measure in order to avoid harm, but fails to do so (Kaiser, 2003).

- A breach of one’s obligation to take reasonable care to avoid causing harm to others, resulting in damage. In most instances this obligation applies when one can reasonably foresee that physical damage to person or property may be a consequence of their actions (Oxford Dictionary of Law, 2006).
Examples of Culpable Ignorance

- Deficient investigation – failing to study chemical.
- Preventing subsequent discovery – having some basic knowledge but failing to act on it.
- Deficient inference – not paying attention to/recalling information that is relevant to a chemical or another one (i.e. lead)

(Smith, 1983)
Culpability in Situations of Ignorance?

- How blameworthy is a company that is culpably ignorant?
  - Should they have known? Could they have known given science?
  - Did the company actively seek knowledge about potential problems?
  - Did the company act swiftly when reasonable scientific information existed?
  - Did the company ignore previous knowledge of similar chemicals or inferences from the literature?
  - Did the company pay attention to social concern?
  - Were there known safer feasible alternatives that would eliminate the risk?
  - Did the company pay attention to questions of body burden? Is this enough to establish culpability? Can one identify “their” chemical in body burden?

- How do industries work to absolve themselves from full responsibility - asbestos litigation, nuclear power (Price-Anderson Act)
Other Legal Concepts Useful in Discussing Uncertain Risks

- **Due Diligence or Due Care.** The effort made by an ordinarily prudent or reasonable party to avoid harm to another.

- **Strict and Joint and Several Liability (i.e. CERCLA).** How do we define “impacts?”

- **Corporate Social Responsibility.** Can be used to promote volunteerism at the expense of mandatory solutions to problems, such as minimum standards.
Drivers Enhancing Responsibility for Uncertain Chemical Risks

- Public attention to toxics in products, homes and bodies.
- New science.
- State and international regulations.
  - REACH in Europe.
- Large purchasers demanding more information and safety assurances.
- Crises.
Boots Policy on the use of Chemicals in Consumer Products

March 2003

The health and safety of our customers is a priority in the development of our products. We are confident that Boots products present no significant risk either to our customers or to the environment.

However, with the increasing concern over the potential for certain chemicals to adversely affect human health and the environment, we accept that issues such as bioaccumulation, persistence and endocrine disruption, may well present problems for future generations. For this reason we have identified the use of chemicals in our products as one of our key sustainable development indicators.

We will continue to use chemicals in a responsible manner by identifying those chemicals that may present an unacceptable risk for future generations and, building on our traditional precautionary approach, we will:

- set objectives and targets for action on these chemicals,
- engage with our stakeholders to ensure we are addressing the right issues in the right timeframe,
- continually review our approach to ensure it meets both business needs and stakeholder expectations,
- publish our progress regularly.

We believe that as a result of this policy, we will build on the trust associated with the Boots Brand, as we deliver products and services to our customers around the world that promote healthy living.
Dell’s Chemical Use Policy

Dell’s vision is to avoid the use of substances in its products that could seriously harm the environment or human health and to ensure that we act responsibly and with caution.

To act responsibly, Dell believes that if reasonable scientific grounds indicate a substance (or group of substances) could pose significant environmental or human health risks, even if the full extent of harm has not yet been definitively established, precautionary measures should be taken to avoid use of the substance(s) in products unless there is convincing evidence that the risks are small and are outweighed by the benefits. Dell considers these to be “substances of concern.”

Dell identifies substances of concern with consideration for legal requirements, international treaties and conventions, specific market demands, and by the following criteria:

- Substances with hazardous properties that are a known threat to human health or the environment;
- Substances with hazardous properties that show strong indications of significant risks to human health or the environment;
- Substances with hazardous properties that are known to biopersist and bioaccumulate in humans or the environment.

To enforce the company’s precautionary measures, Dell strives to eliminate substances of concern in its products by:

- Maintaining a Banned and Restricted Substance Program,
- Choosing designs and materials that avoid the use of substances of concern,
- Prohibiting supplier use of these substances contractually, and
- Substitution of viable alternate substances.

If alternatives are not yet viable, Dell works with its industry partners to promote industry standards and the development of reliable, environmentally sound, and economically scalable technical solutions.

To demonstrate our commitment, Dell is committed to eliminate in our new products all remaining uses of brominated flame retardants (BFRs) and polyvinyl chloride (PVC) by 2009, as acceptable alternatives are identified that will not compromise product performance and will lower product health and environmental impacts. We will review our plan yearly or when required and evaluate available technical, environmental and scalable solutions. Dell is open to discuss these plans and is committed to continuously improve the environmental quality of our products.
Chemicals, alone or in combination, are the platform upon which key elements of the global economy have been built, and have been incorporated into millions of products used every day. Many chemicals may have inherently harmful characteristics that can impact ecological and human systems as they are used throughout supply chains.

A growing number of companies are discovering that the approaches of green chemistry and Design for Environment (DfE) allow for a transition to safer alternatives. The Green Chemistry and Commerce Council provides open conversation about the challenges to and opportunities for this successful transition.
Solution: Reforming US Chemicals Regulations

- Ensure adequate data exists to make informed decisions.
- Make it easier for agencies to act on the basis of inherent hazards of chemicals.
- Ensure substitution is a key element in policy. Availability of safer alternatives is just as important as how harmful existing materials are.
- Ensure incentives for the design of safer chemicals and products.
Liberty, PA Bodily Trespass Ordinance

- Persons owning or managing corporations which manufacture or generate toxic or potentially toxic chemicals detected within the body of any resident of Liberty Township shall be deemed culpable parties, along with the corporation itself, for the recovery of trespass damages, compensatory damages, punitive damages, and the instatement of permanent injunctive relief. If more than one corporation manufactured or generated the detected chemical or chemical compound, persons owning and managing those corporations, along with the corporations themselves, shall be held jointly and severally liable for those damages, in addition to being subject to injunctive relief.”

- “Section 11. Statement of Law – Strict Liability. Culpable parties shall be deemed strictly liable if one of their toxic or potentially toxic chemical or chemical compounds is discovered within the body of a Township resident. The municipality’s showing of the existence of that chemical or chemical compound within the body of a resident living in the Township, and the municipality’s showing that the Defendant(s) are responsible for the manufacture or generation of that chemical, shall constitute a prime facie showing of causation under a strict liability standard. Current and future damages resulting from the culpable parties’ trespass shall be assumed, and the burden of proof shall shift to the culpable parties for a showing that the chemical or chemical compound could not cause harm or contribute to causing harm, either alone or in combination with other factors, or that the culpable parties are not responsible for the trespass of that particular chemical into the body of residents of the Township.”