Regulation Through Revelation: 
Using Information Disclosure to Regulate Emerging Technologies

Prof. Tracy Hester

Director of Environment, Energy & Natural Resource Center
University of Houston Law Center

Houston, Texas
February 2, 2011
Why does disclosure matter?

• Regulatory controls face fundamental limits:
  – Slow to respond to new events and technology
  – “Regulatory ossification”
  – Problems of scale (national solutions for local problems)
  – Democratic expectations for technocratic challenges

• Market approaches avoid some, but not all, problems
  – Externalities
  – Information imbalance
  – Transaction costs
  – Enforcement and protection against abuse
Disclosure as an Alternative Approach

• Model: compel production of vital or material information, and make it easily accessible in a consistent format
  – Securities disclosure
  – Truth in labeling

• Advantages – flexibility, speed, adaptability, power to decide

• Disadvantages –
  – Enforcement
  – Integration with other legal controls
  – Actually affect behavior for certain risks?
  – “Teach to the Test” syndrome
Examples of Disclosure Laws

- Emergency Preparedness and Community Right-to-Know Act
  - Toxic Release Inventory
  - Material Safety Data Sheets
  - Tier 2 inventory reports
Worker Safety Disclosure

Material Safety Data Sheet
Acetone MSDS

Section 1: Chemical Product and Company Identification

Product Name: Acetone
Catalog Codes: SLA2802, SLA1645, SLA3151, SLA3908
CAS#: 67-64-1
REACH: A3150000
TSCA: TSCA (b) inventory: Acetone
CICN: Not applicable.
Synonyms: 2-propanone; Dimethyl Ketone; Dimethylformamide; Fumaric Acid
Chemical Name: Acetone
Chemical Formula: C3H6O

Contact Information:
Scolab.com, Inc.
14023 Smith Rd
Houston, Texas 77396
BB Sales: 1-800-991-7247
International Sales: 1-800-991-4400
Order Online: Scolab.com

CHEMTREC (24HR Emergency Telephone), call:
1-800-424-9305
International CHEMTREC, call: 1-703-527-3887
For non-emergency assistance, call: 1-281-441-4400

Section 2: Composition and Information on Ingredients

Composition:

<table>
<thead>
<tr>
<th>Name</th>
<th>CAS #</th>
<th>% by Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acetone</td>
<td>67-64-1</td>
<td>100</td>
</tr>
</tbody>
</table>

Toxicological Data on Ingredients: Acetone: ORAL (LD50): Acute: 5600 mg/kg [Rat], 3200 mg/kg [Mouse]. 5540 mg/kg [Rabbit]. VAPOR (LC50): Acute: 50100 mg/m³ 8 hours [Rat], 44500 mg/m³ 4 hours [Mouse].

Section 3: Hazards Identification

Potential Acute Health Effects:
Hazardous in case of skin contact (irritant), of eye contact (irritant), of ingestion, of inhalation. Slightly hazardous in case of skin contact (permeation).

Potential Chronic Health Effects:
CARCINOGENIC EFFECTS: Not classified for human or animal by ACGIH.
MUTAGENIC EFFECTS: Not available.
TERATOGENIC EFFECTS: Not available.
DEVELOPMENTAL TOXICITY: Classed as Reproductive toxic to female, Reproductive toxicity [male].
SUSPECTED CANCER RISK:
The substance is toxic to central nervous system (CNS).

The substance may be toxic to the kidneys, the reproductive system, liver, skin.
Repeated or prolonged exposure to the substance can produce target organ damage.
Tier 2 Inventory Reports

- Requires disclosure of location, storage and systems for handling hazardous substances and chemicals

- Practical questions:
  - Who’s covered?
  - What’s covered?
  - What’s secret?
  - Who can look?
Related law – Clean Air Act’s Risk Management Program rules
Examples of Disclosure Laws

• California Proposition 65
  – List of chemicals
  – Warning to consumers
  – Drinking water discharge prohibition
  – Citizen suit provisions
  – Safe Harbor numbers

• Differences in approach from EPCRA
Disclosure laws – self-reporting requirements

• Clean Water Act – NPDES discharge reports

• Comprehensive Environmental Response, Compensation and Liability Act – section 103 release reporting
  – Requires report, and imposes penalties for failure to accurately disclose
  – Immunizes persons who do disclose

• Real estate transaction disclosure requirements for toxic contamination (New Jersey ISRA)
Disclosure – labeling

• Empower consumer by requiring accurate disclosure of full set of standardized information

• Examples:
  – Nutritional labels
  – Calorie disclosure
  – Organic food labeling
  – FTC “Green Label” Guidance

• Limits:
  – First Amendment
  – Liability risks (food libel laws)
Results?

• Toxic Release Inventory
  – Extremely effective in highlighting amounts and locations of releases
  – Identified and expanded knowledge of new issues (environmental justice, hot spots, revenues)
  – Powerful lever to encourage change in behavior (33/50 program, 90% reductions)
  – Investment decisions (CERES principles)

• Proposition 65
  – Gap filling function (lead faucets, flea collars)
  – Speedy compilation of chemicals lists and toxicological info
  – Concerns: diminishing returns on warnings, litigation industry
Results?

- **EPCRA**
  - Effective in forcing collection of information and site data
  - MSDS disclosures
  - Tier 2 (and off-site consequence analysis): balance between transparency and security

- **CERCLA** release reporting
  - Comprehensive database spill histories, and useful emergency response information
  - Inconsistent application by facilities
  - Gaps and overlaps (petroleum)

- **National Environmental Policy Act**
Lessons learned

• Who’s the focus of the information? (facility vs. consumer)

• Gaming the system (injection wells)

• Do people respond appropriately to risk disclosure?
  – Cognitive bias for low-probability, high-risk events
  – **Perception** as important as **disclosure** (reaction to involuntary risk)
  – If disclosure is driven by regulation, subject to same problems as direct command-and-control regulation
Application to Emerging Technologies?

- Law requiring labeling for consumer products containing nanomaterials?

- Disclosure requirements when risk is unknown? (Prop. 65 and nanomaterials; environmental impact statement for geoengineering project)

- What happens when new technology poses a different kind of risk? (PBT compounds)
Questions?

Professor Tracy Hester
University of Houston Law Center

tdheste2@central.uh.edu
713-743-1152 (office)