**Toxic and Hazardous Substances**

Many compounds beyond Criterion Pollutants potentially generate adverse health effects

Most are not found naturally

Many are produced in smaller amounts

used as part of manufacturing processes

subject of workplace regulation

[EPA list of industrial chemicals](http://milesfinney.net/434/handouts/chem.xlsx)

Regulation of compounds hampered by lack of information on health effects

effects largely unknown

Studies of health effects done on non-humans such as rats

Efficiency amount produced found where **MD=MAC** MD largely unknown

[Asbestos example:](#asbestos)

 Natural occurring mineral/fiber used as a form of insulation in US starting in 1850’s

 50 years later increased lung cancer deaths noticed in asbestos mining towns

 Asbestos continued to be used (example brake pads) until recently

Should we eliminate all human exposure/risk of a pollutant? Decrease exposure?

**Legislation exists partially due to information problem**

If people are fully informed on levels and effects of chemicals

 markets could possibly address problem

Suppose workplace presents risk to workers of exposure to harmful chemicals or equipment

Example: Simpson Tower has [asbestos](http://www.calstatela.edu/ehs/asbestos-management) and faulty elevators

Supply/demand for labor

With perfect information, labor market could account for difference in exposure

Wage in higher risk workplace should be higher

Job choice made in which greater risk compensated for by higher pay

For labor markets to work well, requires a great deal of information by participants

**Federal Government has attempted to increase information on Chemical exposure**

**The Emergency Planning and Community Right-to-Know** Act was passed in 1986

 Requires all facilities that use chemicals at levels above a threshold to report emissions

EPA publishes data in the Toxic Release Inventory (TRI)

People can observe what chemicals (local) firms are emitting

<http://iaspub.epa.gov/triexplorer/tri_release.facility>

**Superfund Sites**

Environmental problems associated with abandoned industrial sites

Became apparent with [Love Canal](http://www.nytimes.com/video/us/100000002566509/love-canal-a-legacy-of-doubt.html)

Incident led to **Comprehensive Environmental Response, Compensation and Liability Act of 1980**

EPA charged with cleaning abandoned industrial sites

Called Superfund sites

EPA spent over 35 billion through 2005 –

Funding initially came partially from a corporate environmental tax

That tax authority ended in 1995

Financing entirely by responsible parties

Community and Environmental groups propose sites as superfund

EPA evaluates sites and follow criteria determining qualification

Number of existing and completed sites:

<http://www.epa.gov/superfund/sites/npl/>

Superfund Sites in Los Angeles County

<https://www.epa.gov/superfund/search-superfund-sites-where-you-live#npl>

Asbestos was first used as a form of insulation in US in 1850’s

50 years later people first noticed increased lung cancer deaths in asbestos mining towns

Asbetos continued to be used in such products as car brake pads until recently

Area in New York State that in 1940’s-50’s served as dumping ground for chemical wastes

Housing later constructed in the area

Area later found to be hazardous; waste was seen oozing from ground

The areas 900 residents were relocated