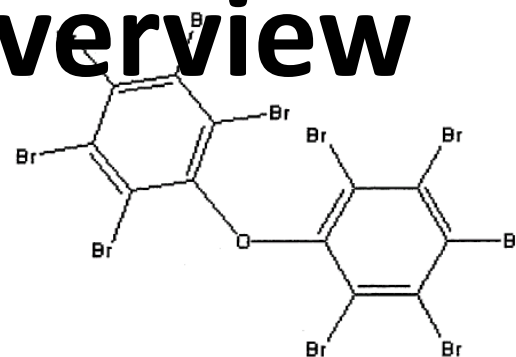
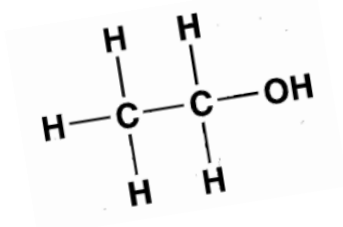
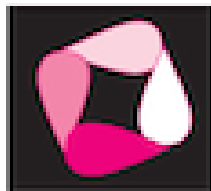


Toxic Chemicals Overview



Dave Galvin

(with help from Margaret Shield and Mendy Droke)



**Local Hazardous Waste
Management Program
in King County, Washington**



CAUTION
CONTAINS
PCBS
(Polychlorinated Biphenyls)
A toxic environmental contaminant
special handling and disposal
U.S. Environmental Protection Agency
40 CFR 761 For Disposal
the nearest U.S. Coast Guard National Response Center
In case of accident or spill
U.S. Coast Guard National Response Center
800-424-8802
Also Contact
Tel. No. _____

FLAMMABLE

NON-FLAMMABLE

FLAMMABLE LIQUID
3
ENCLOSURE

HAZARDOUS WASTE
FEDERAL LAW PROHIBITS IMPROPER DISPOSAL
IF YOU CONTACT THE MARKET PLACE OR
PUBLIC SAFETY INFORMATION ON THE
U.S. ENVIRONMENTAL PROTECTION AGENCY
WITH CARE!
EPA FORM 102-108-01-80

CORROSIVE



A quick overview of toxic topics

- my agenda this evening -

- Household Hazardous Waste in its many forms
- Emerging issues
- The need for toxic chemicals reform
- An idealistic future vision

HOUSEHOLD HAZARDOUS WASTE

SHED HOURS
THURS. 8AM-8PM
FRI-SAT-SUN 8AM-6PM



Household Hazardous Waste

- Consumer products/residential source
- “Hazardous” –
 - Ignitable
 - Corrosive
 - Reactive
 - Toxic (poisonous, causes illness, adverse effects)
 - Acute (immediate or single dose)
 - Chronic (delayed or multiple doses)
 - Carcinogens, mutagens, ...

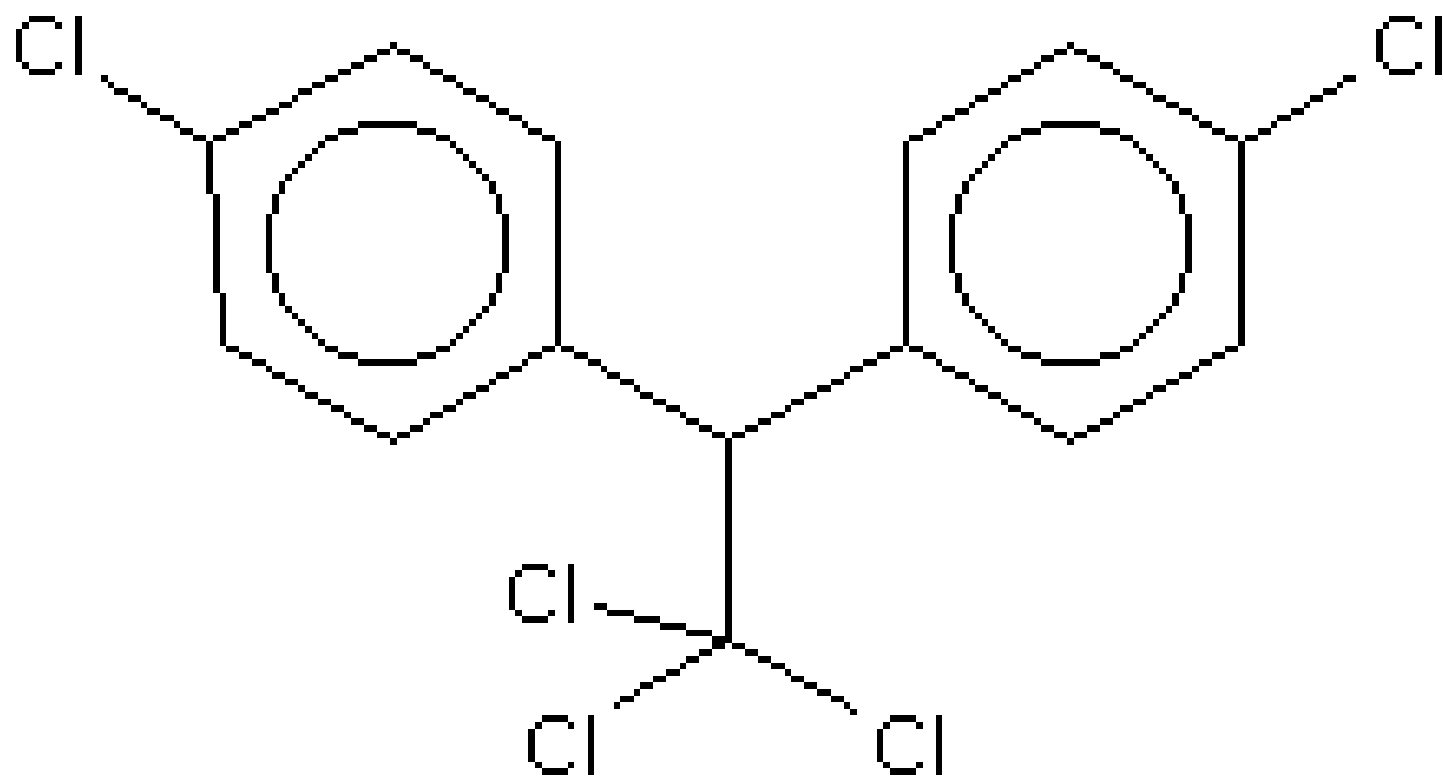
Household Hazardous Waste

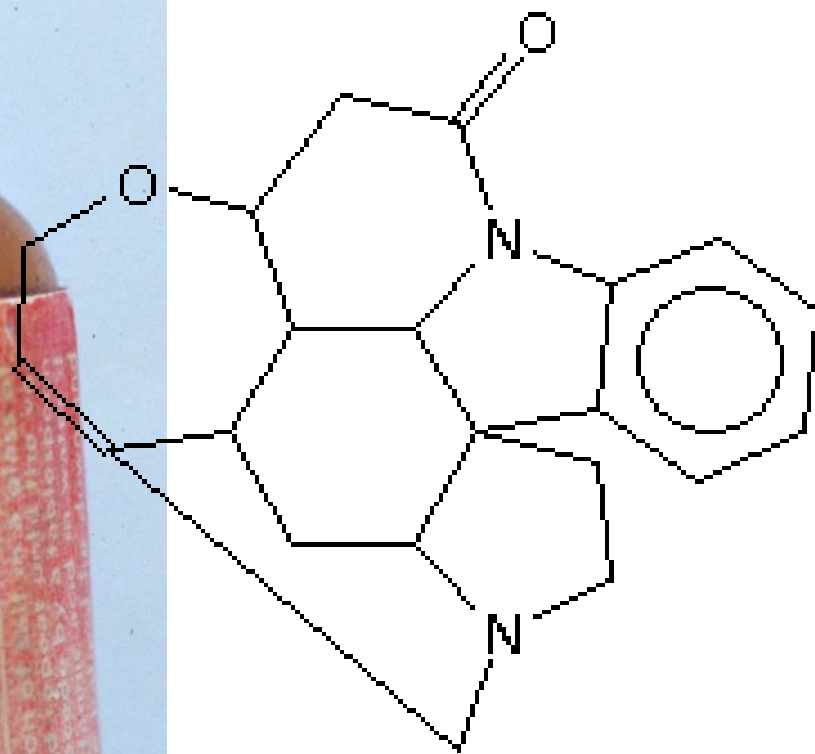
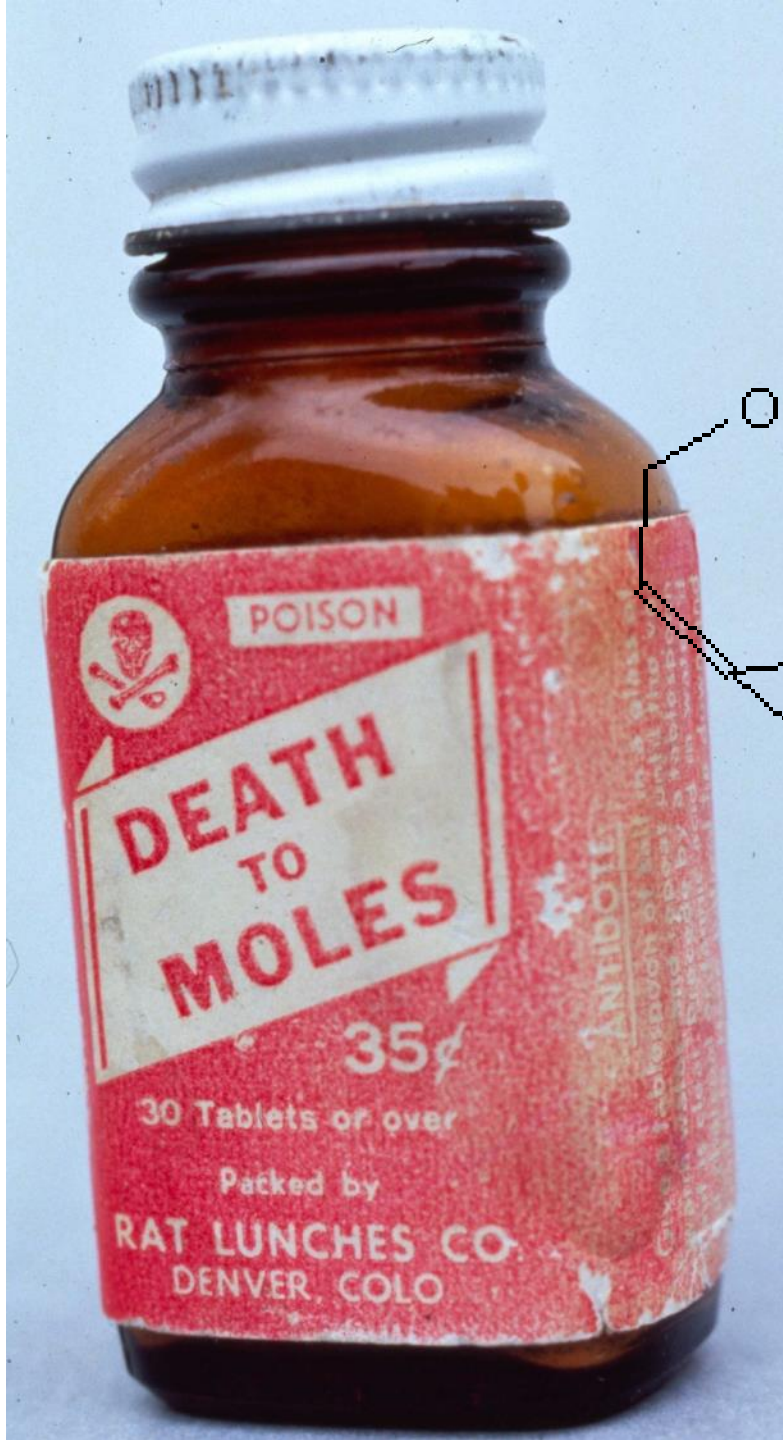
- Typical listing of product types:
 - Cleaning products
 - Pesticides (indoor and lawn/garden)
 - Automotive products
 - Workshop/painting supplies
 - Miscellaneous
 - Unique or emerging

Household Hazardous Waste

- **Old Legacies**
 - Banned pesticides
 - Leaded paints
 - PCB ballasts
 - Aerosols with CFCs
 - Exotics











HNO₃

Household Hazardous Waste

- **“Core” Hazardous Materials**
 - The old legacies
 - All pesticides
 - Oil-based paints, varnishes, stains
 - Organic-based solvents and cleaners
 - Harsh chemicals (low or high pH)
 - Pool/spa chemicals
 - Reactive chemicals





UNION 75
ATF Dexron-3
AUTOMATIC TRANSMISSION FLUID

GUNK
WD-40
Penetrates
Lubricates
Protects

FRICITION PROOFING PLUS
FRESH SHINY METAL

POWER STEERING FLUID

ESLE
Non Abrasive
CARNALUBA
PASTE WAX

DISC BRAKE PAD
SILENCER

NEW IMPROVED
MIRROR GLAZE
OF PROFESSIONALS

Quaker State
Sterling SAE 10W-30
MOTOR OIL

Quaker State
Performance SAE 30W-50
MOTOR OIL

PENZOIL
MULTI-VL
SAE 10W-30
MOTOR OIL

General Laundry Instructions
MEASURE HOW TO PUD-TREAT STAIN

WD-40
Stops Squeaks
Prevents Rust
Lubricates Moving Parts
Removes Sticky Mechanisms
KILLS MOSQUITOES & SPIDER EGGS
1 GALLON

MEGUIAR'S
WHEEL WATER REMOVER

Prestone
DE-ICE

NO TOUCH
DEEP PURPLE
ALL WHEEL CLEANER

Household Hazardous Waste

- **Additional Hazardous Materials (some HHW, some not)**
 - Used motor oil and oil filters
 - Antifreeze
 - Automotive (lead-acid) batteries
 - Household single-use batteries
 - Household rechargeable batteries
 - Button cell batteries
 - Consumer electronics (computers, monitors, televisions, cell phones)
 - Old latex (water-based) paints
 - Fluorescent lamps
 - Other mercury-containing products
 - Propane gas cylinders
 - Aerosol cans

Household Hazardous Waste

- **Problem wastes**

- Asbestos
- Leaded paint (on the wall)
- Ammunition, fireworks, flares, explosives
- Radioactive substances
- Dioxin-containing wastes
- Hobby chemicals
- unknowns

Household Hazardous Waste?

- **Unique or emerging issues**
 - Pharmaceuticals
 - Personal care products
 - All electronic products (with power cord or battery)
 - Treated wood (CCA)
 - Flame-retardant-treated materials (PBDEs)
 - Fluorinated materials (e.g., Teflons, PFOA)
 - PVC plastics





HAZARDOUS
WASTE

HAZARDOUS
WASTE

HAZARDOUS
WASTE

HAZARDOUS
WASTE

Emerging Issues

- Endocrine disruptors (“EDCs”), also called Hormonally Active Agents (“HAAs”) – For example, estrogenic chemicals
- Epigenetic effects
- Nano materials – For example, nano silver antimicrobials
- Multiple chemical exposures
- Timing of exposures – uniquely sensitive moments

Toxic Chemical Regulatory Reform

- Toxic Substances Control Act (1976)
 - The only major environmental law that has never been updated
- Two current bills in Congress
 - House “Chemicals in Commerce Act”
 - Senate “Chemical Safety Improvement Act”
 - Concerns about preemption of state and local laws
- Washington Toxic Policy Reform proposal 2013

Related Progressive Policies (Hope for the future)

- Green Chemistry
- Zero Waste / Materials Management
- Product stewardship/EPR

Remaking the Way We Make Things

concept that goes hand in hand with the notion of a technical nutrient: the concept of a **product of service**. Instead of "products" (cars, televisions, carpeting, computers, and refrigerators), manufacturers would be producing services for a **defined user period**—say, ten thousand miles or are simply "rented" to upgrade to a newer version, the manufacturer would receive the services they need for the duration of the material's life. In order for such a scenario to be practical, however, a product must be designed to be practical, durable, and easy to use. When they finish using the services they need for a defined period, the manufacturer would produce a concept that

cradle to cradle

...the right quality for multiple uses. Currently, when an automobile is crushed, the steel parts are recycled, but the rest of the car is landfilled. In this scenario, the manufacturer would be paying for complex materials using its complex materials as food for new products. The manufacturer would have the materials themselves.

William McDonough & Michael Braungart



