Eco-Healthy Child Care®

1. Fill out the questionnaire in the left front pocket of your folder

2. You will not be graded on the questionnaire. It is confidential.

3. Do your best to answer the questions.

If you don't know the answer, check "don't know."

4. When you're done, hand in the questionnaire.

Eco-Healthy Child Care®

Train the Trainer

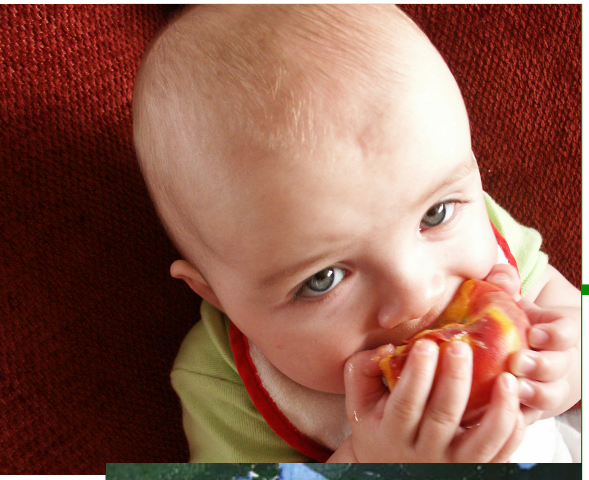
Hester Paul, MS
National Director, EHCC
September 2011

Our mission:

To protect the fetus and the child from environmental hazards and promote a healthy environment.

Our goals:

1) Promote sound **policies**
2) Promote **research**
3) **Educate**



Eco-Healthy Child Care

- Created by OEC in 2005; began as a statewide project
- Protects children and their caretakers from harmful environmental toxics.
- Offers free to low-cost solutions.
- Provides free resources and technical assistance to providers seeking Eco-Healthy endorsement.
- Markets child care facilities that are endorsed as "Eco-Healthy."
- EHCC has received extensive media coverage (an incentive for providers).

National Expansion

- Received a national recognition award from the EPA in 2006.
- Received 2009-2010 Childcare and School IPM Recognition Award
- Formation of a National Advisory Committee
- More than1,500 facilities have been endorsed; keeping over 60,000 children safe; in 48 states

2008-2011 Expansion States:

- **California**
- **Colorado**
- **Florida**
- **Idaho**
- **Kansas**
- **Maine**
- **Massachusetts**
- **Mississippi**
- **New York**
- **North Carolina**
- **Texas**
- **Vermont**
- **Washington**

Learning Objectives

- Identify major environmental health issues for children
- Identify contributing factors to vulnerability
- Understand preventative measures
- Identify available resources

Federal Toxic Substances Control Act (TSCA)

(Passed in 1976, implemented in 1979)

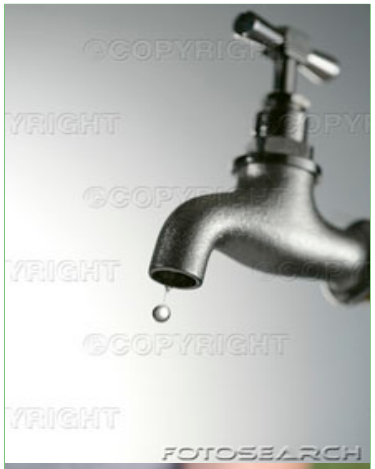
- 82,000 synthetic chemicals in commercial use today
  - 62,000 Existing Chemicals as of 1976
  - 20,000+ New Chemicals Added Since 1976

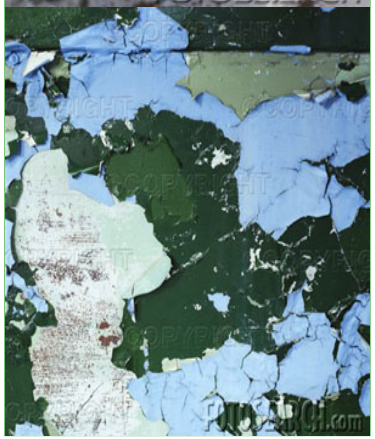
  Assumes a chemical is safe until proven otherwise
  - 200 Evaluated by EPA since 1976
    - 5 Banned since 1976; 0 Banned since 1990
- *EPA must weigh health risks against the economic costs of banning, limiting, or phasing out a chemical.*

TSCA limitations due to:

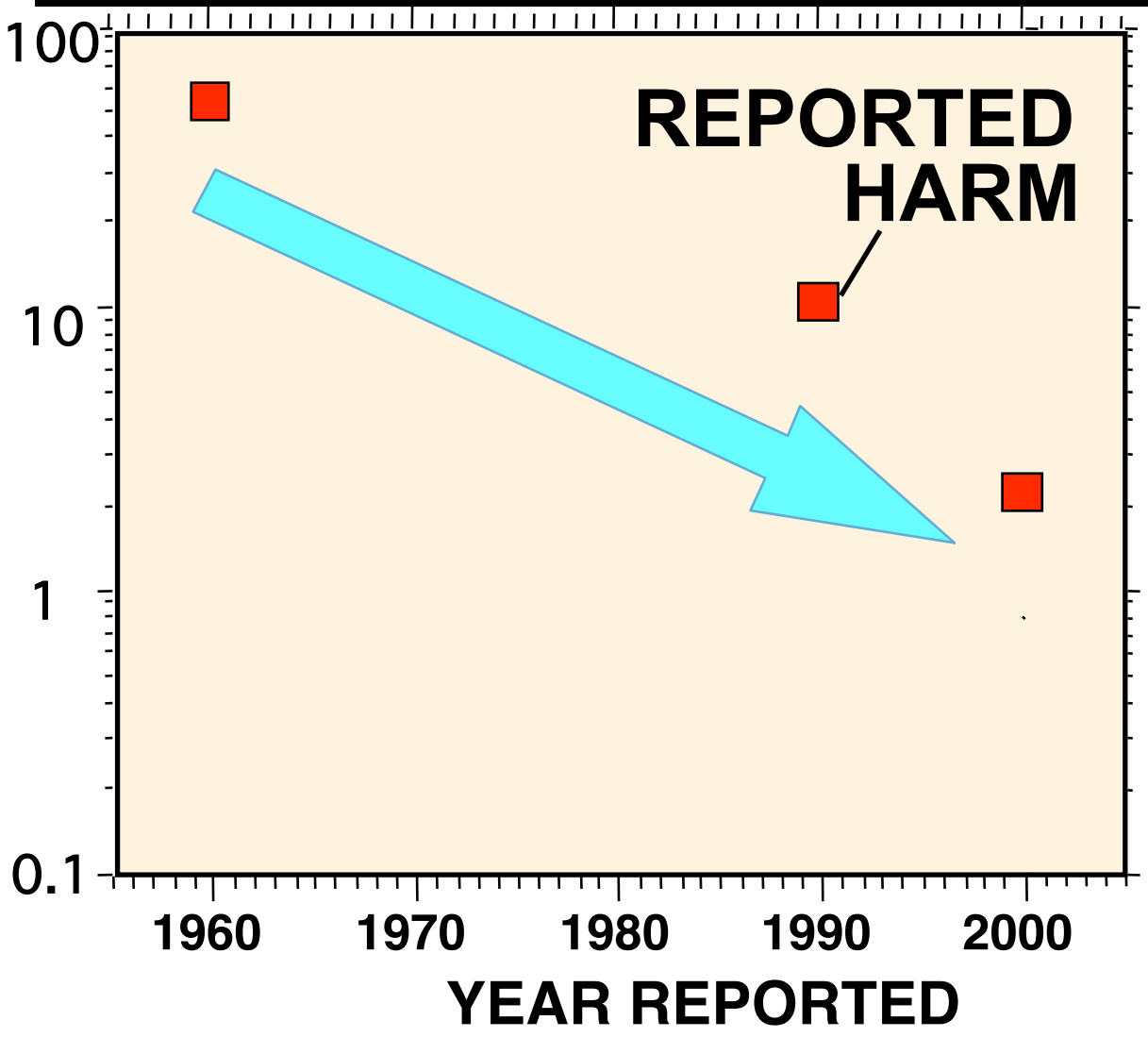
- Standards based on healthy adult males
- Not Considering developing system's vulnerabilities
- Not Considering children's different behaviors and exposures
- Only considering one chemical at a time

Chemicals commonly used are not adequately tested for their impact on human health (or children's health)





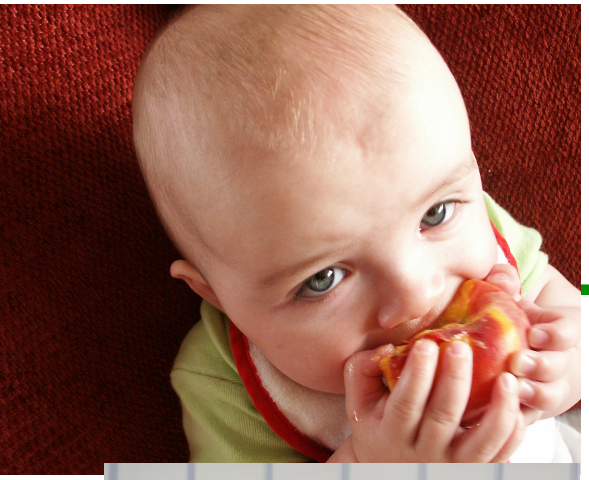
DECLINING THRESHOLD OF HARM - LEAD



Note: Exposures expressed in micrograms/deciliter (blood lead)

Children's Environmental Health

- Chemical exposures play a role in at least 1 in 4 cases of development disorders (National Academy of Sciences).
- Childhood cancer, once a medical rarity, is now a common killer of children.
- Asthma-related illnesses are a leading cause of school absenteeism.
- Learning disabilities have increased 191% between 1977 and 1994.
- **6.9%** – TX children under 18 have asthma
- Autism: Today - 1 in 110 (Up from 1 in 700)
  - 30-40% of that is better diagnosis



How Are Children Exposed?

- **Ingestion** (what we eat and drink)
  - Food & beverages
  - Soil and dust
- **Inhalation** (what we breathe)
- **Skin absorption**
- **Eye contact**
- **Prenatal Exposures**

Kids Are At Greater Risk

- Children live closer to the ground and have other behaviors that increase exposure.
  - Crawling on the floor
  - Everything goes into their mouths!
- Children have higher exposures to toxic chemicals because they eat, drink & breathe more pound for pound than adults.
- They cannot metabolize toxins as well as adults.
- Children's bodies are still developing and growing rapidly.
  - nervous, reproductive, hormonal systems

Why focus on children?

Children are **particularly vulnerable** to environmental hazards

- Adults may suffer little or no harm from exposure to a chemical (lead, mercury, alcohol) when that same exposure can cause **life-long damage** to a child

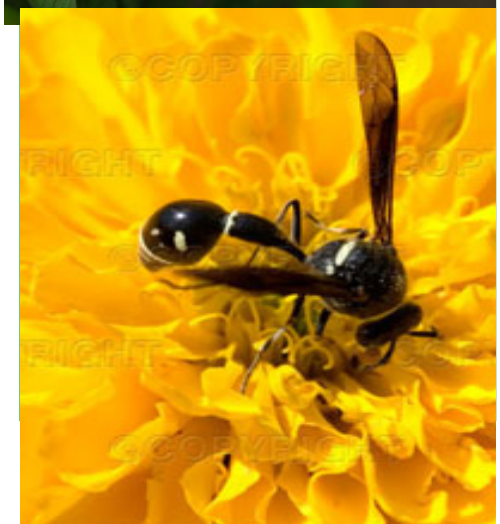
Why focus on child care?

60% of children below age 6 are enrolled in child care and preschool facilities, spending up to 40 hours per week.

Eco-Healthy Child Care

11 Key Areas

- Pest Control
- Air Quality
- Household Chemicals
- Lead
- Mercury
- Furniture and Carpets
- Art Supplies
- Plastics and Plastic Toys
- Playground Equipment
- Radon
- Garbage and Recycling



Pest Control / Pesticides

- Pesticides are poison.
- Some linger for a long time inside buildings and inside our bodies
- Many can spread through air and seep into soil and water
- Pesticide residues commonly found in fruits, vegetables, and water
- Inside and outside use are a major source of exposure

Pesticide Health Effects

- Pre-natal exposure linked to:
  - smaller head circumference
  - lower birth weight
  - 1.5 to 2-year developmental delay
  - ↓ in I.Q.
- Hormone disruptors
- Links to childhood leukemia, Parkinson's disease
- Kidney, liver damage, cancer

Integrated Pest Management (IPM)

Insects and weeds CAN be controlled without pesticides & herbicides.

- A pest control system which minimizes the use of chemicals.
- Works primarily by reducing a pest's access to water, food and shelter.
- Proven effective
- Saves $$
- So…
  - Fix leaky taps
  - Caulk cracks and holes (insect entry ways)
  - Clean up crumbs…quickly!
  - Keep food and trash tidy in closed containers
  - Use least toxic pesticides as a *last* resort.

What You Can Do

- Wash fruits and vegetables under running water
- Serve organic foods when possible
- If you *have* to apply pesticides:
  - Hire a professional
  - Apply only when children are not around
  - Baits/traps not accessible to children
  - Properly label and store away from children in child-proof container
  - READ and FOLLOW directions
  - Add your own "safety factor" -- at least 48 hours

Indoor Air Quality (IAQ)

Clean air is a necessity for good health.

- Up to 90% of our time is spent indoors.
- Indoor air can be 5 to 100 times more polluted than outdoor air

Health Impacts:

- Asthma (trigger)
  - o Leading chronic childhood illness
  - o Key reason for absenteeism
- Allergies

Sources of Air Pollution

Indoor:

- Poor ventilation
- Combustion sources (furnaces, stoves)
- Inadequate control of allergens (eg, mold)
- Improper pest management
- Building materials/furnishings (pressed wood furniture releasing fumes)
- Household cleaning
- Synthetic fragrances may contain benzene, formaldehyde, phthalates

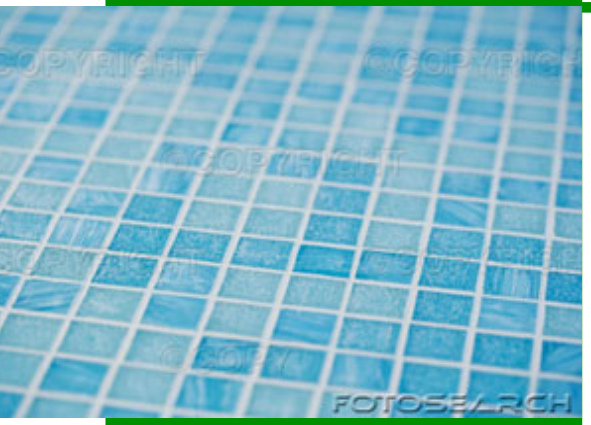
Outdoor:

- Cars, buses, trucks
- Industry
- Lawnmowers, other equipment
- Wildfires

IAQ and Health

- Poor IAQ: ↓ ability to perform specific mental tasks requiring concentration, calculation, or memory
- Improving IAQ:
  - Improves productivity (staff and children)
  - Reduce absenteeism (environmental triggers of asthma, respiratory illnesses)
- Improving IAQ improves health

What You Can Do



- Avoid mold and mildew.
  - Increase ventilation by opening windows and using fans
  - Fix leaks
- No smoking (*of course*).
- Avoid scented candles and artificial air fresheners.
  - Use diluted essential oils
  - Create your own potpourri
- Close windows during heavy traffic
- No idling of vehicles.
  - More than 10 seconds is a waste!

Household Chemicals

- Use biodegradable, "mild" cleaners (www.ecologo.org and www.greenseal.org).
- Use chlorine bleach ONLY when required (healthier options are peroxide-based bleach or quaternary ammonia).
- Use Safer Cleaning Alternatives (Baking soda, Borax, Cornstarch, Lemon Juice, Soap, Vinegar)
  - Avoid:
    - Flammable products
    - Aerosols
    - Products labeled as corrosive, that can cause eye or mucous membrane damage, or that can burn the skin

Resource: GreenerChoices.org - Green Buying Guide 2009

Principles of Cleaning for Health

- Keep the dirt out
- Use less-toxic, third-party certified, all purpose cleaners; paper products; and hand soaps
- Cleaning with all-purpose cleaners removes most germs. Disinfect and/or sanitize only in target areas.
- Update and maintain equipment
- When cleaning
  - Keep windows open and/or use fans
  - Read and follow label instructions
  - Use products when children are not in the area
  - Don't mix products
  - Wear protective gear

Clean doesn't have an odor!!

Lead

◆ Odorless, colorless, tasteless toxic metal found in many households and in industrial items

◆ Continues to exist in the environment through contamination of water and soil by contact with old products

Key sources: paint, soil and water

- Lead-based paint (prohibited in 1978)
- Lead in gasoline (banned in the 1970's)
- Soil (usually from leaded gasoline)
- Old water pipes, current water fixtures
  - Even legally "lead-free" plumbing may contain up to 8% lead.
  - Brass or chrome-plated brass faucets/fixtures can leach significant amounts of lead into the water, especially hot water.

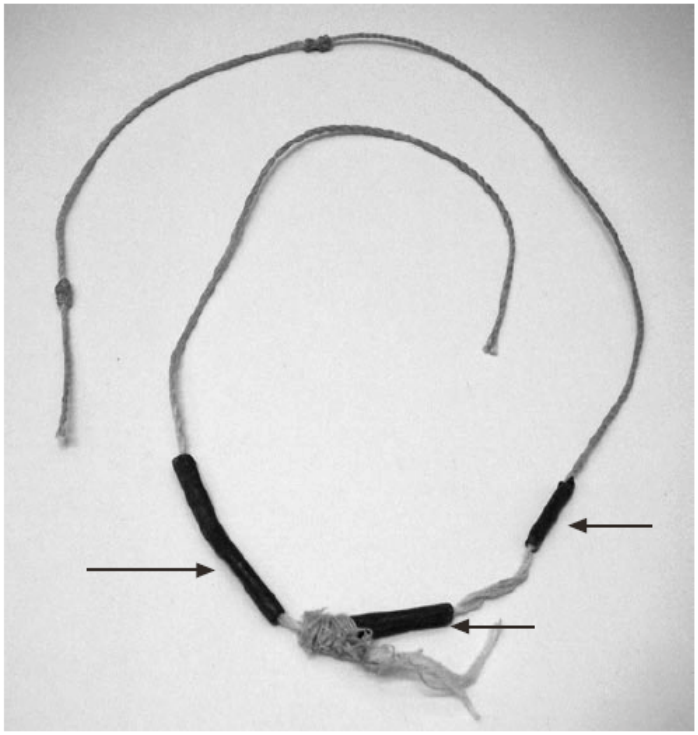
Sources of Lead Continued…

- Vinyl products (including miniblinds, PVC piping)
- Industry (auto repair, batteries, smelters, radiators)
- Also

Household dust	Jewelry - cheap
Cans	Toys – PVC dolls, balls
Christmas Lights	Crystal

Ceramics (old, handmade, imported)

Sources of Lead



- Cambodian amulet
  - at age 6 months, BLL of 1 *μ*g/dL
  - at age 1 year, BLL of 10 *μ*g/dL.
  - At 15 months, the child's BLL increased to 20 *μ*g/dL
- Beads were 45% lead

Children at Risk

- Higher gastrointestinal absorption rate
- Mother can pass lead through the placenta to her baby
- Hand to mouth behavior
- Symptoms can be easily overlooked: prevention and testing is necessary

Lead: Health Effects

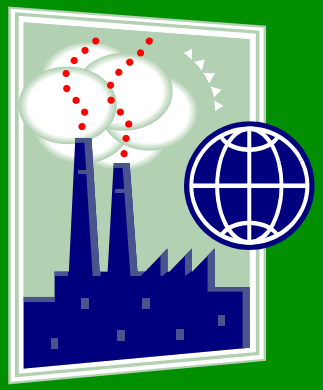
- Elevated lead levels contribute to:
  - Decreased IQ, height, nerve connection
  - Brain disease, seizures, coma
  - Increased learning disabilities and Attention Deficit Hyperactivity Disorder (ADHD)
  - Aggressive Behavior
  - Delayed onset of puberty
  - Deaths from cardiovascular disease
- High levels can be fatal

Lead: What You Can Do

- Lay out a rough mat for wiping feet.
- Go Shoe-free inside!
- Avoid imported, old or handmade pottery for food.
- Test toys for lead-based paint.
- Avoid children's cheap metal jewelry.
- Test vinyl products for lead (PVC-toys, raincoat, lunch boxes, bath books, bibs).
- Beware of artificial turf & traditional remedies
- Teach children to wash their hands with soap often
- Use cold water for drinking, cooking and making baby formula.
- Maintain paint to prevent flaking/peeling (window and door frames)

www.healthytoys.org

Mercury



- Metal that occurs naturally in water and soil
- Many forms; all are toxic
- Methylmercury: the most common
  - Released into the environment through industrial processes (coal burning power plants)
  - Ends up in rain and water sources
  - Enters the food chain once in the environment, building up in long-living predatory fish (shark, swordfish, tuna)

Mercury Continued…

- Infants, children, and pregnant women are most vulnerable
- Passes more easily to the brains of fetuses and young children
- Can be passed along through breast milk

Health Concerns:

- Memory loss, headaches, and sleeplessness
- Linked to kidney and immune problems
- Affects brain development
- Disturbs developmental processes (lower IQ, learning disabilities, blindness, etc.)
- Highest levels can be fatal

Avoiding Mercury Exposure

Limit intake of large long-lived fish to 2 average servings per week -- or less

- Child serving = 3 oz.
- Adult serving = 6 oz.

(Pregnant women should avoid larger predatory fish)

- Check out a fish guide: www.mbayaq.org
- No mercury thermometers or thermostats.
- Have mercury cleanup kits available; If spill ever occurs, **do not vacuum**.
- Take batteries and fluorescent light bulbs to a hazardous waste facility.

www.earth911.org

To use your pocket guide: 1. Cut along outer black line
2. Fold on grey lines

How to use this guide

The seafood in this guide may occur in more than one column based on how it is caught, where it is from, etc. Please read all columns and be sure to check labels or ask questions when shopping or eating out.

- Where is the seafood from?
- Is it farmed or wild-caught?
- How was it caught?

If you're not sure, choose something else from the green or yellow columns.

This Seafood Guide was last updated in October 2007.

Make Choices for Healthy Oceans

You Have the Power

Your consumer choices make a difference. Buy seafood from the green or yellow columns to support those fisheries and fish farms that are healthier for ocean wildlife and the environment.

Contaminant information provided by:
ENVIRONMENTAL DEFENSE

Learn more

Visit **www.seafoodwatch.org** for:

- More detailed information about these recommendations
- Recommendations for seafood not on this list
- The latest version of this and other regional guides
- Information on seafood and your health and much more...

MONTEREY BAY AQUARIUM

MONTEREY BAY AQUARIUM

Seafood WATCH

West Coast Seafood Guide 2008

BEST CHOICES

Abalone (farmed)
Barramundi (US farmed)
Catfish (US farmed)
Clams, Mussels, Oysters (farmed)
Cod: Pacific (Alaska longline)◆
Crab: Dungeness
Halibut: Pacific◆
Lobster: Spiny (US)
Pollock (Alaska wild)◆
Rockfish: Black (CA, OR)
Sablefish/Black Cod (Alaska◆, BC)
Salmon (Alaska wild)◆
Sardines
Scallops: Bay (farmed)
Shrimp: Pink (OR)
Spot Prawn (BC)
Striped Bass (farmed)
Sturgeon, Caviar (farmed)
Tilapia (US farmed)
Trout: Rainbow (farmed)
Tuna: Albacore (US◆, BC troll/pole)
Tuna: Skipjack (troll/pole)
White Seabass

GOOD ALTERNATIVES

Basa, Swai (farmed)
Clams, Oysters◆ (wild)
Cod: Pacific (trawled)
Crab: King (Alaska), Snow, Imitation
Dogfish (BC)◆
Flounders, Soles (Pacific)
Lingcod◆
Lobster: American/Maine
Mahi mahi/Dolphinfish (US)
Rockfish (Alaska, BC, hook & line)
Sablefish/Black Cod (CA, OR, WA)
Salmon (CA, OR, WA wild)
Sanddabs: Pacific
Scallops: Sea (Canada and Northeast)
Shrimp (US farmed or wild)
Spot Prawn (US)
Squid
Sturgeon (OR, WA wild)
Swordfish (US longline)◆
Tuna: Bigeye, Yellowfin (troll/pole)
Tuna: canned light, canned white/Albacore◆

AVOID

Chilean Seabass/Toothfish◆
Cod: Atlantic
Crab: King (imported)
Dogfish (US)◆
Grenadier/Pacific Roughy
Lobster: Spiny (Caribbean imported)
Mahi mahi/Dolphinfish (imported)
Monkfish
Orange Roughy◆
Rockfish (trawled)
Salmon (farmed, including Atlantic)◆
Scallops: Sea (Mid-Atlantic)
Sharks◆
Shrimp (imported farmed or wild)
Sturgeon◆, Caviar (imported wild)
Swordfish (imported)◆
Tuna: Albacore, Bigeye, Yellowfin (longline)◆
Tuna: Bluefin◆

Support Ocean-Friendly Seafood

Best Choices are abundant, well-managed and caught or farmed in environmentally friendly ways.

Good Alternatives are an option, but there are concerns with how they're caught or farmed—or with the health of their habitat due to other human impacts.

Avoid for now as these items are caught or farmed in ways that harm other marine life or the environment.

Key

BC = British Columbia CA = California
OR = Oregon MA = Washington
Mid-Atlantic = North Carolina to New York
Northeast = Connecticut to Maine
◆Limit consumption due to concerns about mercury or other contaminants.
Visit www.oehha.ca.gov/fish.html
◆Some or all of this fishery is certified as sustainable to the Marine Stewardship Council standard. Visit www.msc.org

Seafood may appear in more than one column

Furniture and Carpets

Household furnishings may contain:

Formaldehyde: colorless gas with strong odor; used for permanent-press qualities (particleboard, draperies)

- severe allergic reactions, asthma attacks, possible carcinogen
- can off-gas from furnishings for 5 years

PBDEs: toxic flame retardants, added to slow burning; used in foam, upholstery, electrical appliances

- thyroid, liver effects in animals; disrupts hormones; developmental delays in children; possible human carcinogen

What You Can Do

- No exposed foam.
- Solid wood furniture; limit use of pressed wood.
- Avoid wall-to-wall carpets.
- Clean area rugs with biodegradable cleaners.
- Choose floor coverings made from natural fibers (wool, cotton, hemp)
- Paints & Finishes: Use products labeled “low-VOC.” Never conduct jobs around children.
- Good ventilation

Art Supplies

- Lead, Asbestos and organic solvents can be used to preserve products and improve application
  - ➢ can trigger asthma, allergies, headaches and nausea
- Exposure: inhalation, ingestion and skin contact

Tips for Safety

1) Use only non-toxic art supplies approved by ACMI www.acminet.org (AP, CP)
2) Keep workspaces ventilated
3) No eating or drinking while using art materials
4) Use caution when considering household supplies as art materials (PVC piping, shaving cream)
5) Wash hands well after use; Clean area thoroughly
6) Store and label all supplies properly

Chemicals in Art Supplies

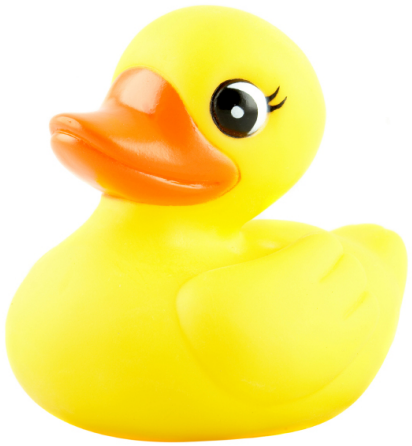
- Products of greatest concern
  - Solvent Based Products - markers, oil-based paints, and cements
  - Products with leads and heavy metals (some paints, glazes, and enamels)
  - Products inhaled or that can get into eyes (spray paint, dry clay, powdered paints)
  - Instant Paper-mache
  - Permanent felt tip markers or scented markers are hazardous if ingested

Plastics and Plastic Toys

Beginning and end of life cycle

- Manufacturing creates air and water pollution
- Waste disposal burden - do not degrade easily

- Avoid toys made of soft plastic vinyl.
- Look for "PVC-free" and "BPA-free" labels.
- Do not use plastics or plastic wrap in the microwave (food & beverages).
- Wash all toys before using them.
- Avoid plastic containers with recycling codes #7, #6 and #3.
  - "7" "other" (polycarbonate)
  - "6" "PS" (Polystyrene)
  - "3" or "v" (PVC)



#3 PVC or V

Polyvinyl chloride. Used in cling wrap, toys, vinyl lunch boxes, shower curtains, plastic squeeze bottles, cooking oil jars, and detergent and window cleaner bottles. Leaches phthalates (toxic additive and stabilizer).

- Exposure through food, water, and consumer products.
- Can cause: low sperm counts, undescended testes, premature onset of puberty, as well as negative effecting the liver, kidney, spleen, and bone formation. A potential carcinogen affecting the liver.

Update on Phthalates

- 3 phthalates permanently banned
  - DEHP, DBP, and BBP
- children's toys
  - products intended for children 12 years of age or younger for use when playing
- child care articles
  - products that children 3 and younger would use for sleeping, feeding, sucking or teething

#7 Bisphenol A (BPA)

Leaches from polycarbonate plastics (hard, clear). Found in baby bottles, water bottles, metal can food liners, sippy cups and thermal register receipts. BPA – toxic additive and stabilizer.

- An estrogen mimicker
- Human exposure is widespread. A CDC study found BPA in 95% of adults.
- Linked with prostate cancer, breast cancer, miscarriages, birth defects, early onset of puberty, decreased sperm production, hyperactivity and aggressiveness.

BPA Continued…

- Discard all food containers with scratches, especially baby bottles and infant feeding cups.

- TEMPERATURE MATTERS
  - Do not put boiling or very hot water, infant formula, or other liquids into BPA-containing bottles
  - Warm ready-to-feed liquid formula by running warm water over the outside of the bottle.
  - Do not heat baby bottles of any kind in the microwave

www.hhs.gov/safety/bpa/

Decreasing Exposure

After 3 days of:

- eliminating canned and packaged foods from the diet
- using only glass or stainless steel food storage containers

- BPA body burden ↓66%
- Phthalates body burden ↓53-56%

Treated Playground Equipment (benches, decks, tables)

Chromated Copper Arsenate (CCA) added to wood as a preservative and insecticide until 2004.

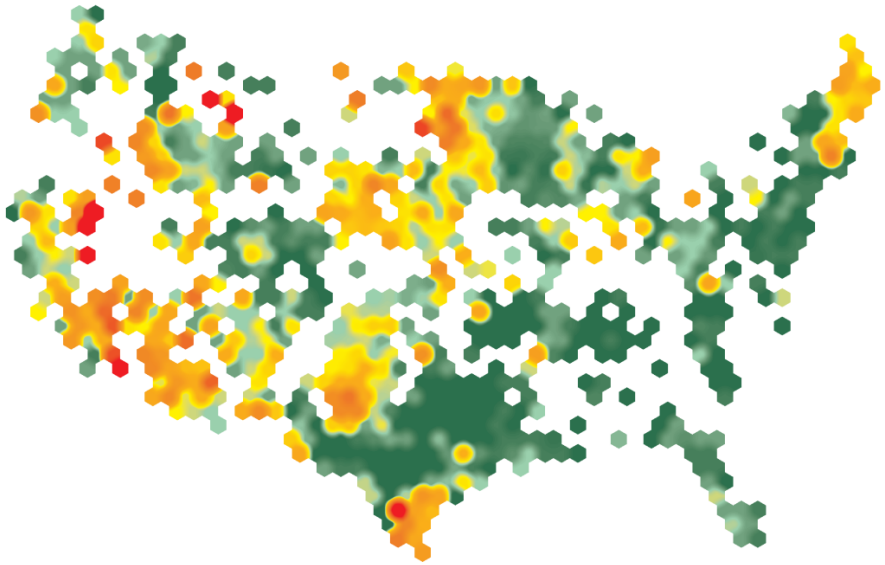
- "Pressure Treated Wood"
- CCA = 22% arsenic
- Arsenic occurs naturally in rock and soil; colorless, tasteless and odorless
- Exposure: inhalation and ingestion
- Can leach out of wood into soil, migrate to surfaces

Tips for Safety

1) Test it.
2) Seal it.
3) Wash up.
4) Take cover.
5) Do not burn it, sand it, or cut it.
6) Dispose of at a hazardous waste site.
7) Replace it.

Arsenic in Drinking Water

- Widespread high concentrations were found in the West, the Midwest, and the Northeast.
- Those drinking from private wells face the greatest risk (based on Maine study).



Arsenic concentrations in at least 25% of samples exceed:

- 50 ug/L
- 10
- 5
- 3
- 1
- Insufficient data

Arsenic

Health concerns:

- Irritation of the stomach and intestines
- Birth or developmental effects
- Infertility and miscarriages in women.
- Linked to lung, skin, kidney, bladder cancers
- Children are more susceptible; stays in body longer

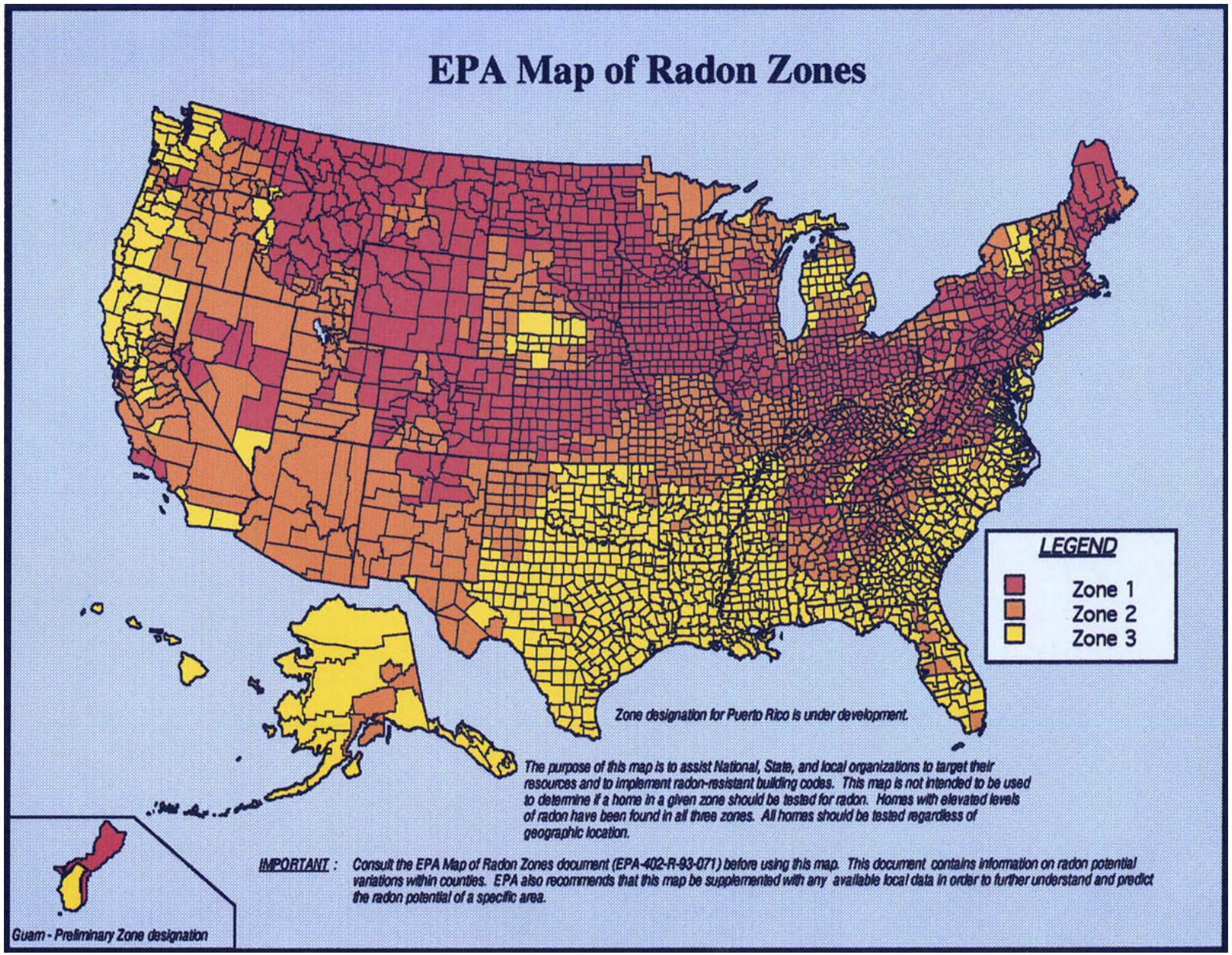
Radon

- A natural gas that you can't see, smell or taste
- Produced by the natural breakdown of uranium in soil and water
- Enters buildings by seeping from the ground through cracks into foundation
- Buildings trap gas, creating high levels indoors
- One of the most serious public health problems in the U.S. (EPA)
- 2nd leading cause of lung cancer in USA; Kills approx. 20,000 a year
- 1 in 5 schools - at least 1 room with high levels
- Test your facility! Kits cost $15 and up
- If at/above 4.0 pCi/L, take action to reduce it

National Radon Program Services

www.sosradon.org

EPA Map of Radon Zones



Recycling & Garbage Storage

- Recycle paper, glass, aluminum and plastic.
- Keep garbage covered to avoid pests and minimize odors.
- Make it a sorting project for kids.
- Watch the recycling truck go by!

EHCC Expansion States:

- Conduct TtT sessions
  - Trainers conduct at least 2 trainings
- Trainer Network
- Work with CCR&Rs for mailing and outreach to providers
- Conduct "quality control" on-site assessments in randomly selected facilities in the state
- Outreach to licensers
- Promote EHCC in state media

EHCC® Endorsement:

To receive endorsement:

- Download or request checklist by mail
- Fill out checklist, meeting 24 of 30 requirements (3 are mandatory)
- Certify answers (2 validation signatures)
- Agree to "quality control" walk through
- Send in form and $25 fee
- If meet requirements, receive 2-year EHCC endorsement
- If not, we try to help

EHCC® Endorsement Benefits:

- Certificate
- Poster
- Posting on CEHN website
  - parents can locate EHCC facilities
- Marketing benefits through EHCC website and media stories
- Eco-Healthy tips by e-mail
- Additional educational materials
- ***Reduced toxics within their facilities!***

Thanks To:

- Centers for Disease Control & Prevention
- US EPA
- ATSDR
- The Cedar Tree Foundation

Thank you for your time!

Hester Paul, M.S.
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503-646-8390

Please visit our websites:
www.cehn.org/ehcc
www.ecohealthychildcare.org