

Why are children at special risk?

Children are uniquely vulnerable to toxic exposures due to a number of factors. Their immature organs and developing bodies make it more difficult for them to detoxify or eliminate poisons, and because of their size, they receive proportionally greater doses of the chemical contaminants found in food, water and air. Even a small exposure occurring during a critical "window" of a child's development could cause permanent adverse health effects.

Children are also at greater risk because of their play habits and hand-to-mouth behavior. They play outdoors on the grass where pesticides have been applied and inside on carpeting where lawn pesticides have been tracked in on shoes or applied by exterminators. Young children frequently put their hands or toys in their mouths.

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Routes of Exposure

Toxic chemicals are absorbed into the body via three routes:

Inhalation – breathing in fumes or airborne contaminants.

Skin absorption – touching contaminated surfaces or chemical with hands or other exposed body parts.

Ingestion – accidentally swallowing toxins that have contaminated hands or objects (small children are at special risk because of their typical hand-to-mouth behavior).

Resources

Suggested Reading:

Raising Healthy Children in a Toxic World:101 Smart Solutions for Every Family
Philip J. Landrigan, Herbert L. Needleman, and Mary M. Landrigan (ISBN# 087596947X)

Clean and Green: The Complete Guide to Non-Toxic and Environmentally Safe Housekeeping
Annie Berthold-Bond (ISBN# 1886101019)

Organizations:

Center for Children's Health and the Environment
Mount Sinai School of Medicine
www.childenvironment.org

Children's Health Environmental Coalition (CHEC)
Phone: (609) 252-1915
www.checnet.org

Children's Environmental Health Network
Phone: (202) 543-4033
Fax: (202) 543-8797
www.cehn.org

Environment and Human Health
Phone: (203) 248-6586
Fax: (203) 288-7571
www.ehhi.org

Grassroots Environmental Education
Phone: (516) 883-0887
Fax: (516) 944-6586
www.grassrootsinfo.org

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Protecting Your Child's Health

Avoiding Toxic Environmental Exposures

- *The incidence of childhood cancers is increasing.*
- *Childhood asthma rates have doubled in the past decade.*
- *Developmental and learning disabilities are being diagnosed in unprecedented numbers.*



What is causing this disturbing rise in the incidence of chronic childhood illnesses and disabilities? Some increases may be attributed in part to better detection, but scientific evidence suggests that exposure to common chemicals in our environment may play a significant role.

Ten Areas of Special Concern Around the House

1. Pesticides – The widespread use of pesticides in and around homes and schools is a serious threat to our children’s health. Many commonly used pesticide products contain ingredients that can affect the nervous system and are suspected or known to cause cancer. These would include no-pest strips, mosquito repellents and flea and tick controls, as well as lawn and home pesticides. **If you have a pest problem, look for safe, non-toxic alternatives in home and garden stores. If you use a professional landscaper or exterminator, choose one that uses organic methods.**

2. Food – Pesticide residues on fruits and vegetables are another significant source of pesticide exposure for children. Produce with the highest levels of pesticides include strawberries, peppers, spinach, cherries, cantaloupes (from Mexico), peaches, pears, apples, apricots, green beans, grapes (from Chile), celery and cucumbers. **Provide children with a varied, balanced diet and buy certified organic produce whenever you can (especially for babies), or wash and peel conventional produce when appropriate.**

Most dairy, poultry and meat products contain residues of artificial hormones and antibiotics which can interfere with a child’s normal development and create antibiotic resistance. **Buy certified organic products whenever possible.**

3. Personal Care Products – Our skin is capable of absorbing whatever we put on it...and that includes the hundreds of synthetic chemicals in products used for softening, scenting, powdering and cleaning our children’s sensitive bodies. Some of the chemicals found to have adverse health effects are talc, formaldehyde, alkylphenol ethoxylates (identified as “octoxynol” or “nonoxynol”), DEA or TEA compounds, methylene chloride, polysorbates 60 and 80, parabens, “laureth” compounds, artificial dyes, artificial fragrances and phthalates. **Look for simple products with the fewest ingredients (for example, olive oil soap) and avoid antibacterial products which can create resistance in disease-causing bacteria. Use cornstarch powder instead of talc.**

4. Cleaning Products – Many common household cleaning and disinfecting products contain hazardous ingredients that emit toxic fumes and can be absorbed through the skin. Glass cleaners, drain cleaners, oven

cleaners, floor and furniture polishes, bleaches, dishwasher detergents and carpet cleaners are some of the products that should be replaced with safer alternatives. **Look for cleaners that are labeled non-toxic, bio-based, natural or organic, or make your own from simple and safe food products (see “Suggested Reading” section).**

Note: Cleaning products are used in schools every day. This means that every 24 hours, new applications of chemicals contaminate desk surfaces, cafeterias, bathrooms, floors and classroom air. Many schools have started using non-toxic (“green”) cleaning products. Encourage your district to employ this safer approach to school building maintenance.

5. Air Fresheners and Candles – Artificial fragrances used in commercial air fresheners and deodorizers (including the plug-in type) are commonly made from petroleum distillates and other toxic chemicals. Artificially scented candles may also contain many of the same harmful chemicals, and imported candles may have lead in their wicks. **100% beeswax candles are a safe alternative. Good ventilation is the best way to keep rooms fresh.**

6. New Carpeting – Synthetic carpeting is made of materials which can be toxic to your child. Formaldehyde (a known carcinogen) is one common component of carpets, carpet backing, glues and padding. Formaldehyde and other chemicals used in the manufacture of carpets emit toxic fumes which can last for weeks or months after installation. **To be safe, keep windows open and do not allow children to sleep or play in newly carpeted rooms until the smell has disappeared. You might also ask the installer to air out the carpeting before it is brought into your home. If possible, choose wool or cotton carpeting or other natural floor surfaces, such as wood, tile or cork.**

7. Paints and Stains – Most paints and stains contain chemicals that create toxic fumes that can linger indoors for long periods of time. Although leaded paint has been banned for years, exposure to solvents and other chemicals in paints and stains can also be harmful. Try to schedule painting projects during the warmer months when you can open windows to provide ventilation. Avoid prolonged exposure to fumes. **Do not allow children to sleep or play in newly painted rooms until the smell has completely disappeared. Alternatives, such as milk paint or**

low-VOC (Volatile Organic Compound) paints are safer choices.

8. Plastics – Many popular toys (including dolls and action figures) are made of a chlorinated plastic called polyvinyl chloride (PVC), bearing the #3 recycling code. PVC, the most toxic plastic from both an environmental and human health standpoint, contains chemicals that carry significant health risks if inhaled or ingested. Other plastics may leach chemicals into food. Those to avoid include polystyrene (styrofoam), recycling code #6 and polycarbonate, recycling code #7. **Choose non-plastic toys or plastic toys made from polyethylene or polypropylene. Silicone is the safest material for baby bottle nipples, pacifiers and teething toys.** (see our website for more information about plastics).

Note: Plastic food containers for cooking and storage should be replaced with glass or ceramic. Do not microwave baby formula or food in plastic.

9. Art Supplies – Some art supplies used at home and in school classrooms contain substances that may pose a health risk to your child. Oil paints, pastels, permanent or scented markers, rubber cement, spray adhesives and pottery or ceramic supplies are among those that should be avoided. **Check with your child’s art teacher to make sure the materials they order conform with the federal “Labeling of Hazardous Art Materials Act.” When purchasing art products for home use, choose those labeled “non-toxic.” Make sure children wash their hands after using art materials.**

10. Treated Wooden Playground Equipment and Outdoor Furniture – Processed or treated wood is frequently used as construction material for playgrounds and outdoor furniture. To prevent pest infestation and rotting, the wood is impregnated with chromated copper arsenate (CCA). Arsenic, a chemical found in this product and a known human carcinogen, can be absorbed through the skin or accidentally ingested when it is transferred to your child’s hands. The soil around play equipment may be contaminated as well. **If the equipment cannot be removed or replaced, the wood should be sealed with several coats of paint or oil-based sealant to stop the chemicals from leaching.**

Note: The dangers posed by tobacco, lead and mercury exposures are well known and widely publicized; therefore we have not addressed them in this pamphlet. See www.grassrootsinfo.org for more information.