

Healthy Homes and Families

How to reduce your family's exposure to
toxic chemicals at home



Learning Disabilities Association of Maine

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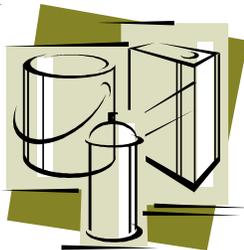
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www.ldaamerica.org

INTRODUCTION

Children today are exposed to thousands of synthetic chemicals developed since the 1940's. Approximately 80,000 chemicals are now used in commerce and about 2,000 more are introduced every year. Fewer than 10% are tested at all for their impact on human health; only 12



of the 80,000 chemicals currently used have been fully tested for their toxicity to the neurological development of children. For decades children have also been exposed to heavy metals such as lead and mercury despite public knowledge of their toxicity. The absence of adequate information about new chemicals leaves us with a dangerously incomplete understanding of the effect of toxics exposure on our immune, neurological, endocrine, and reproductive systems. Nor do we know how any two, three or more different chemicals

interact together in the body. In Maine alone, more than 100,000 pounds of persistent, bioaccumulative, toxic chemicals (PBTs) are released into the environment every year. PBTs do not readily break down into less harmful substances and they build up to dangerous levels in the food chain and in our bodies over time. A 2006 study of Maine people found 46 different chemicals in samples of blood, urine and hair. On average, each person had measurable levels of 36 toxic chemicals in their bodies. These chemicals are found in everyday household products, in homes, and our air, food and water.

- Lead damages the neurological system (particularly of fetuses and infants), the reproductive system, the brain, and the kidneys. It causes learning disabilities, premature births, high blood pressure, memory loss, mood and personality changes. As the understanding of lead's impact on health improves, government health agencies have steadily lowered the exposure level considered "safe" for lead. There is widening medical consensus that there is no safe level of lead exposure in young children.



- Mercury damages the brain and neurological system, particularly of fetuses and young children. It also damages the kidneys, skeletal, muscular, and reproductive systems.

- Brominated flame retardants (BFR)—toxic chemicals added to consumer products to prevent fires—harm the thyroid gland, alter the neurological system, and damage the immune system.

- Other toxic chemicals cause health damage too, including arsenic (a carcinogenic and reproductive hazard), cadmium (a carcinogenic, neurological, and reproductive hazard), chromium (causes lung cancer and kidney and liver damage), and dioxins and furans (causes carcinogenic, immunological, endocrine and reproductive damage).



- Phthalates—industrial chemicals used as plastic softeners, solvents and fragrance enhancers—have shown in studies to be carcinogenic and to damage liver, kidneys, lungs, and the reproductive and endocrine system. Bisphenol-A (BPA) is added to some plastics for strength; it leaches into food and drink as the plastic ages or is heated. Studies show it can damage reproductive, endocrine, neurological and immune systems. Nearly every American has been exposed to these toxic chemicals.

The Learning Disabilities Association of Maine (LDA-ME) is concerned about exposure to these toxic chemicals and their impact on our children's neurological health. Over 10,000 children and 125,000 adults in Maine have specific learning disabilities; thousands more have ADD/ADHD. While the cause of specific learning disabilities is a complex mixture of genetics, low birth weight, nutrition and environmental factors, the National Academy of Sciences has estimated that exposure to toxic chemicals causes three percent of learning disabilities cases and play a role in at least another 25%. Fetal exposure occurs when toxic chemicals to which the mother is exposed cross the placenta. These chemicals can then damage the development of the brain of the fetus. Infants and children take in more toxic chemicals than adults do because, pound for pound, they eat, drink, and breathe more. They crawl around on floors and put everything in their mouths including household dust which is shown to contain BFRs and other toxic chemicals released from household products. Toxic chemicals affect children more dramatically than adults because children's bodies are still rapidly growing and changing.



What can we do? It doesn't have to be this way even though none of us can completely rid our modern lives of the toxic chemicals which surround us. This booklet provides common-sense actions we can each take to reduce our family's exposure to toxic chemicals in our homes. We urge you to make use of this information to guide your shopping and household choices. We also strongly believe that we cannot "shop" our way out of this vast problem of exposure to toxic chemicals. Products should not be allowed in our supermarkets until they have been proven safe for public health and the environment. Safer alternatives to toxic-containing products are often available and effective. We must join together and call for government action to protect our children's health from these toxic chemicals which are so pervasive in our daily lives.

Maine has been a national leader in protecting public health and the environment by passing laws to replace toxic chemicals in everyday products with safer alternatives. Since 2003, LDA-ME has worked with a coalition of diverse groups, the Alliance for a Clean and Healthy Maine, to eliminate mercury in thermometers and thermostats, lead in toys and children's jewelry, arsenic in pressure-treated wood, BFRs in foam furniture and televisions. In 2008, the Alliance and its partner groups and allies worked to ensure that the Maine Legislature enacted the Kid-Safe Products law. This law requires manufacturers to disclose their use of the most dangerous chemicals in consumer products and authorizes the State to require safer alternatives whenever they are found to be available, effective and affordable. The Alliance also worked to channel needed funds to research and development of safer plastics made from Maine potatoes.

We need more voices calling for government action to protect our children's health from toxic chemicals. Please join the Learning Disabilities Association of Maine (www.ldame.org) and the Alliance for a Clean and Healthy Maine (www.cleanandhealthyme.org) in our efforts to protect Maine citizens from hazardous toxic chemicals and to promote products made from safer alternatives.



NOTE: All phone numbers in this booklet, except 800 numbers, use a 207 area code.

BABY CARE

BEFORE you become PREGNANT:

- ✓ Get a thyroid hormone level test at your doctor's office before pregnancy as part of a well-woman exam. Low thyroid levels in a woman can impair brain function in her fetus. This condition, hypothyroidism, can be corrected with a daily pill once it is detected. Exposure to toxic chemicals such as polychlorinated biphenyls (PCBs), polybrominated diphenyl ethers (PBDEs), and dioxin can interfere with the workings of the mother's thyroid which, in turn, can damage the hormonal and neurological development of a fetus.
- ✓ Get a blood lead test to assess the risk of lead exposure to your prospective child. Make sure your home is lead safe; for more information, see pages 8 and 9.
- ✓ Get tested for mercury. An accredited laboratory provides a confidential, low-cost test which measures mercury from hair samples. Visit www.greenpeace.org/usa/news/get-tested-for-mercury-contami or www.cleartheair.org/mercurytest/.
- ✓ Stop smoking. Avoid exposure to second-hand smoke. Protect your children from second-hand smoke. Children whose mothers smoked during pregnancy are 2 1/2 times more likely to have ADHD than those not similarly exposed.
- ✓ Stop drinking alcohol. Alcohol during pregnancy is associated with health problems for both mother and fetus.



BABY & CHILDREN'S PRODUCTS: Avoid plastic products for food, drink or play. Many bottles used to feed babies and store pumped breast milk, and some sippy-cups are made of polycarbonate plastic (coded on the bottom with a #7 -- a catch-all "other" code) which leaches Bisphenol-A (BPA) when heated. For more about BPA, go to www.ourstolenfuture.org. Baby bottle liners are usually made of polyvinyl chloride plastic (PVC -- coded with a #3) which leaches phthalates into the milk or other contents. Baby toys including teethingers and pacifiers are also made of PVC plastic and are especially unsafe if babies chew on the plastic.



Safer alternatives: Breastfeed or use glass bottles (available from Evenflo and Born Free). Use safer plastics (coded #1, #2, #4, #5); never microwave plastic bottles. For a baby-safe bottle guide, visit www.ewg.org/node/25637. Choose toys made from wood, cloth and other natural fibers; for a child-safe shopping guide, visit www.environmentcalifornia.org. For a searchable database showing what toxic chemicals are in toys, visit www.healthytoys.org.

BREASTFEEDING: Breast milk and formula both carry contaminants.

Breast milk, however, gives a newborn baby both immediate and permanent immunities to many infections, allergies and diseases, even including some immunity to the negative impact of toxic chemicals carried in the milk. Breastmilk is a nutritious live fluid that benefits brain development, intimate bonding between mother and baby, visual and hearing capabilities, and reduces the baby's risk of developing asthma, cancer, diabetes and obesity. The lower fat the diet and the fewer the exposures to toxic chemicals of the mother throughout her life, the better the breastmilk will be for baby. Breastmilk is less pure than it was 50 years ago as a result of the unchecked release of toxic chemicals onto world markets and into the environment. We must make breastmilk healthier by eliminating exposure to toxic chemicals in the future.



HEALTH CARE CONCERNS:

- Vaccinations are an important public health priority and have helped nearly eradicate many deadly childhood diseases. Historically, a preservative called thimerosal (containing ethyl-mercury) has been used in vaccines. Though there is scientific controversy over a link between thimerosal and autism, mercury is a known neuro-toxin and thimerosal is being phased out of vaccines. FDA asserts that as of 2006 only one of the Diphtheria, Tetanus, Pertussis (DTaP) shots and some flu shots still contain thimerosal. Doctors can supply non-thimerosal vaccines; you may want to call in advance and pressure your doctor to provide them for your children.
- Mercury makes up half of the amalgam or “silver” fillings used for dental work. Although the science is mixed on the health effects of mercury fillings, it is one more exposure to a neuro-toxin. Pregnant women and children should avoid them if possible. You can instead request plastic composite or resin (“white”) fillings and sealants. This plastic material can leach BPA; you will want to request “non-BPA” composite material particularly if your child needs to have substantial dental work done. Your dentist has the official list of ingredients from the manufacturers (called “MSDS sheets”). You may want to call in advance to make sure your dentist understands and will address your preference.

PERSONAL CARE

COSMETICS AND PERSONAL CARE PRODUCTS: Protect children and pregnant women from exposure to cosmetics and personal care products (including shampoos, lotions, hair treatments, sunscreen) which contain mercury, lead, phthalates, parabens (preservatives shown to be carcinogenic and damaging to reproductive and endocrine systems) and other toxic compounds. Visit www.cosmeticsdatabase.com for an Environmental Working Group database (“Skindeep”) of cosmetics and personal care items showing ingredients and toxicity. Avoid any product which contains mercury like those with a label listing thimerosal, merthiolate, mercurochrome, mercury chloride, phenylmercuric acetate, or phenylmercuric nitrate. Avoid those with “fluoro-” or “perfluoro-” in their ingredient list as they contain highly toxic, carcinogenic and persistent toxic chemicals. Avoid products listing “fragrance” which usually means phthalates are an ingredient. For a list of pharmaceuticals containing mercury, see www.fda.gov/cder/fdama/mercury300.htm.

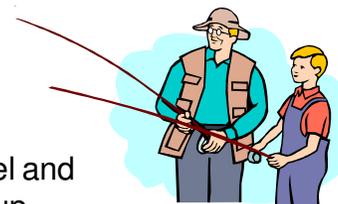


Safer alternatives: Use shampoo and personal care products that are made with non-toxic ingredients. If you cannot pronounce all the ingredients, avoid the product. For a list of companies which have pledged to make safer products, see www.safecosmetics.org/companies/signers.cfm.

FOOD: COOKING, PREPARING, AND EATING

TOXIC CHEMICALS IN FISH: Fish is generally considered a healthy food for our hearts and brains. Yet, both the federal government and Maine Center for Disease Control and Prevention (ME CDC -- formerly Maine Bureau of Health) have set consumption limits on the amount of fish safe to eat for certain populations. For complete ME CDC fish advisory visit www.maine.gov/dhhs/eohp/fish/2KFCA.htm and www.maine.gov/dhhs/eohp/fish/saltwater.htm. View Federal fish advisories: www.epa.gov/waterscience/fishadvice/advice.html. For the purposes of these warnings, women between puberty and menopause are considered “of child-bearing age.”

- X **NO Freshwater Fish:** Women of child-bearing age and children under 8 should eat no fish from freshwater sources in Maine except one meal per *month* of brook trout. All others can eat two fish meals per month in general. (ME CDC)
- X **Some Seafood:** Same group should eat no swordfish, shark, tilefish (also called “golden bass or snapper”), or king mackerel and only two meals a month of striped bass and bluefish. This group should limit meals of tuna steak to one per week (EPA/FDA), limit meals of all other fish and shell fish to two meals a week, and eat no lobster tomalley (“green stuff”). (ME CDC) There is no organic certification for seafood.
- X **Canned tuna:** Same group should eat only “light” tuna (from smaller fish which contain less mercury). Limit intake to six ounces (or one small can) a week for a 140 pound woman of child-bearing age, and one ounce (or one-sixth of a small can) per week for every 20 pounds for children under eight. Avoid eating “white” tuna (or albacore) since it contains about twice as much mercury. To calculate your mercury intake from various fish, visit ewg.tunacalculator or www.gotmercury.org.
- X **Salmon:** Avoid farmed salmon, commonly sold in East Coast markets and restaurants. Instead, choose wild and canned Alaskan or Pacific salmon. Farmed salmon is low in mercury but due to intense feeding with contaminated fishmeal, it has more than 16 times the amount of carcinogenic PCBs than the wild salmon. For more information visit www.ewg.org/reports/farmedPCBs/.



Safer alternatives: Safest seafood includes wild Alaskan salmon, canned Alaskan salmon, haddock, cod, ocean perch, hake, summer flounder, pollock, herring, smelt, clams, shrimp, scallops, lobster (except the tomalley), fish sticks, and canned *light* tuna. Mussels are also considered a safe seafood as long as you check the Department of Marine Resource’s Shellfish hotline for advisories of areas closed due to septage runoff and Red Tide contamination (800-232-4733). Safest freshwater fish is brook trout. Women of childbearing age and children under eight should follow eating limits even on these safer alternatives as laid out by the ME CDC. Visit their safe eating brochure at <http://www.maine.gov/dhhs/eohp/fish/documents/MeFFguide.pdf>.

DRINKING WATER: Test all water supplies for lead which can leach from old pipes or the solder in pipes no matter the age of the house. Test private wells for arsenic and other contaminants on a regular basis.



- For testing private well water for a wide variety of contaminants, contact the Maine Health and Environmental Testing Lab at 221 State Street Augusta 04333, 287-2727. For a Water Testing Guide and Application Form see www.maine.gov/dhhs/eohp/index.htm. For general wellwater information, visit www.maine.gov/dhhs/eohp/wells/mewellwater.htm.
- For public water supplies, review the Annual Water Quality Report available by calling your local water utility. Check also Tapwater Database at www.ewg.org/sites/tapwater.

Safer alternatives: If high levels of arsenic are found after testing, have a reverse osmosis system installed by a water treatment professional or use bottled water. If water tests show lead from lead or lead-soldered pipes, ME CDC recommends running the tap water about two minutes anytime water is used for drinking or cooking and the water has not been run in at least four hours. If you have lead pipes, use only cold water for drinking and food preparation as hot water leaches more lead. For more information, visit <http://maine.gov/dhhs/eohp/wells/index.htm>.

PESTICIDES & ADDITIVES IN FOOD: Most food in our supermarkets has been treated with pesticides (and/or herbicides) unless marked “organic.” Pesticides contain potent neuro-toxic chemicals which even in low doses threaten children’s brain development as well as their reproductive, hormonal and immune systems. Wash all produce thoroughly with soap and water, and peel whenever possible. Food additives and artificial colorings have been linked to hyperactivity and behavior problems. Consider avoiding food dyes yellow 5 and 6, Red 3 and 40, Blue 1 and 2, Green 3, Orange B. These are found in foods like fruit roll-ups, sugared cereal, some candy, fruit gelatin, and specialty lunch items. Visit www.cspinet.org for more information. Avoid eating moose and deer liver; they have elevated levels of cadmium.

Safer alternatives: Buy or grow as much organic food as possible, particularly baby food, and fruits and vegetables. Buy directly from your local farmer, use Community Supported Agriculture (CSA) programs, or shop at local farmers’ markets—these are the most economical ways to buy organic food. For a searchable database of organic farmers and markets near you in Maine, visit www.mofga.org and click on “certification” tab.

It is most important to buy the following produce grown organically: apples, bell and hot peppers, carrots, celery, cherries, cucumbers, green beans, grapes, lettuce, nectarines, oranges, peaches, pears, potatoes, raisins, raspberries, spinach, strawberries. Conventional produce which is the least contaminated includes: asparagus, avocados, bananas, blueberries, broccoli, cabbage, cauliflower, eggplant, sweet corn, grapefruit, kiwis, lemons, honeydew melon, mangos, onions, papaya, peas, pineapples, winter squash, sweet potatoes, watermelon. For more information, visit www.foodnews.org and www.organic-center.org.



TOXIC FAT IN FOODS: Feed your family—especially children—varied menus *low in animal fats*. Many of the most toxic chemicals (e.g. mercury, PCBs, dioxins, residual DDT) are stored in the fatty cells of animals and fish. When eaten, toxins in the meat, fish and dairy are stored in our fatty cells and passed on to the fetus during pregnancy. Avoid fatty fish like farm-raised salmon and

follow the fish consumption advisories. Choose skim milk and other non-fat dairy products, serve lean meat trimmed of fat, and substitute grains and vegetables whenever possible. For grass-fed meat products, visit www.eatwild.com.

NON-STICK PRODUCTS AND PANS: Avoid Teflon or other “non-stick” coated baking and frying pans which, when heated to high temperatures, release toxic particulates and gases that can kill pet birds and potentially sicken people. Several of the chemicals released do not break down in the environment and are highly toxic. Perfluoro-octanoic acid, or PFOA, is a chemical used to make Teflon and other stain resistant coatings and fabric treatments. It is a persistent toxic substance which has widely contaminated human blood and causes organ damage, low thyroid levels, cancer and reproductive harm in lab animals. Because PFOA can migrate out of plastic-cardboard packaging, avoid microwave popcorn and other oily food in these containers. For more information, visit: www.ewg.org/reports/toxicteflon/ and www.ewg.org/reports/pfcworld/.



Safer alternatives: Use cookware made of glass, stainless steel, cast iron, ceramic or porcelain. Make popcorn on the stove in a stainless steel or cast iron pot. When buying new carpets or furniture, decline optional stain-resistant treatments. Avoid buying clothing called “stain resistant” or labeled for repellancy to water, stains or dirt.

PLASTICS: Do not use plastic containers or cling-wrap of any kind in the microwave; when heated, toxic chemicals including BPA in the plastic leach into the food and drink. Avoid the following plastics:

- Polyvinyl chloride (PVC -- coded #3 on the bottom of containers): leaches phthalates into the contents of the container (baby bottles, water pipes), releases phthalates into the air (vinyl flooring), releases dioxins when incinerated.
- Polystyrene (PS -- coded #6): commonly used for disposable cutlery, trays, and cups; it leaches the chemical styrene which can cause cancer and damage the liver and nervous system.
- Polycarbonate (PC -- coded #7, a catch-all “other” code): leaches BPA, a hormone-disrupting chemical, into food and drink in these containers. Canned goods have a polycarbonate coating which leaches BPA into the can contents.

Avoid reuse of single-use plastic soft drink and water bottles. Discard any reusable plastic container when it becomes cracked or cloudy; these are signs that the plastic is beginning to degrade. Do not use harsh detergents on any plastic containers or bottles; this hastens their breakdown.



Safer alternatives: Choose glass, ceramic and stainless steel containers. Use wax paper over plastic wrap. Avoid #3, #6, and most #7 plastics. Choose safer plastics which do not leach carcinogens or hormone-disrupting chemicals: #1 (PETE-for single use only), #2 and #4 (polyethylene) and #5 (PP-polypropylene). #1 and #2 are most commonly recycled. #5 tends to be harder to recycle; contact manufacturers for recycling information (Stonyfield accepts mailed-back yogurt containers). Saran Wrap Premium and Cling Plus, and Glad Wrap do not contain PVC or BPA. Minimize the use of canned food until it is available and labeled “BPA-free.” Currently only cans from Eden Foods are BPA-free (www.edenfoods.com/about/environment.php). Avoid using vinyl shower curtains which contain many toxic chemicals including

volatile organic compounds (VOCs) and phthalates—all of which off-gas for up to a month after purchase. Use cotton shower curtains instead.

Choose bio-based plastics which are non-toxic, petroleum-free, compostable and made from corn, sugarcane, potatoes, and other crops. Note: currently bio-based plastics carry the same recycling code (#7) as the unsafe polycarbonate plastic. Look for “#7 PLA” (for polymerized lactic acid) or “#7 PHA” or “Compostable” labels. Biota sells water in corn-based plastic bottles. For more information, visit www.worldcentric.org/store/bioplastics.htm and www.simplybiodegradable.com.

CLEANING SUPPLIES: Avoid cleaners which contain toxic chemicals such as caustic soda (sodium hydroxide), chlorine bleach, chlorine, hydrochloric acid, and “fragrance” (which means phthalates). Check all labels and avoid those marked “caution,” “danger,” “poison,” or “warning.” Do not buy any products with mercury added as a disinfectant or preservative (thimerosal, mercurochrome, merthiolate, mercury chloride, phenylmercuric acetate, phenylmercuric nitrate). Visit www.mercuryexposure.org for a list of mercury-containing products (includes common products such as Ajax, Comet, Dove soap). If you have some of these, call your town office for information on the next hazardous waste collection day and dispose of them at that time. Avoid anti-bacterial soaps which contain “Triclosan” which may be contaminated with dioxin compounds.



Safer alternatives: Use baking soda, vinegar, lemon juice and water whenever possible. These non-chemical solutions are cheap, easily to use, non-toxic and readily available. All-purpose cleaner can be made of one quart hot water, one tsp. oil-based detergent, one tsp. Borax, and two tbsp. white vinegar. For bleaching, choose Borax or Bon Ami scouring powder or one cup baking soda and 1/4 cup vinegar. For drain cleaner, use vinegar and baking soda; let it foam up, then wash down with very hot water. Clean an oven with water and baking soda; let sit and wash with soap later. For cleaning windows, mix 1/4 cup white vinegar, 1 quart warm water, and a dab of oil-based detergent; use old newspapers for cleaning. See www.home-safe-home.org for more non-toxic cleaning alternatives. Ventilate your house and use a HEPA filter vacuum to capture dust (which can contain toxic chemicals released from household products).



HOUSEHOLD PRODUCTS

LEAD PAINT: Lead-based paint was banned in 1978, yet today the biggest source of lead exposure in Maine is lead paint dust released during the remodeling of old homes. Friction surfaces of windows and doors also generate invisible lead dust. Eighty percent of Maine homes were built prior to 1978. At six-months and one year old, have your children tested for blood lead levels; if they are at all exposed to lead, continue testing until age six. You may have to push your doctor to continue to do the test. It only takes a piece of lead the size of a grain of sugar to poison a child. Take lead-safe precautions before planning renovations to homes built before 1978.

- For ME CDC information on childhood lead poisoning prevention program and services: Call 866-292-3474 or 287-4311 or go to www.maine.gov/dhhs/eohp/lead/index.htm.

- For Maine Department of Environmental Protection information on renovation practices and cleaning advice: Call 800-452-1942 or go to www.maine.gov/dep/rwm/lead/.
- For Maine State Housing Authority's Lead Hazard Control Program and information about lead abatement, free inspections, and funding call 800-452-4668 or visit www.mainehousing.org/programsleadsafe.aspx?ProgramID=35. Click on "lead hazard control programs."



Safer alternatives: Residential paints for sale today do not contain lead. Other toxic chemicals, however, are present in paint including volatile organic compounds (VOCs) in oil-based paint and reproductive toxins in latex paint. Check for environmentally safe and low-VOC paints and floor treatments at The Green Store (Belfast, Brunswick or Damariscotta) or on-line (try www.greenseal.org and AFMsafecoat.com). Check with paint stores and manufacturers for VOC-free paints and sealers. Exposure to old lead-based paint can be limited by careful repainting over old paint and by replacement of windows and doors. Always follow lead-safe work practices in doing home repairs.

“TAKE-HOME” LEAD: Watch out for lead which comes home at the end of the day on the clothes and belongings of parents whose work includes commercial/industrial activities with lead-containing compounds. Lead is still used in some commercial paints, particularly for marine purposes. Keep children away from home marine paint sanding operations. Watch out for lead used in such operations as construction and renovation (especially house-painting), paper making, metal processing or smelting, and automotive repair (radiators and car batteries).

Safer alternatives: Family members exposed to lead compounds at work should take off shoes and clothing before entering the house and wash exposed body well before contact with children or eating and drinking.

LEAD IN HOUSEHOLD PRODUCTS: Be alert for lead in products around your house such as antique furniture, costume and children's jewelry, the glaze on some pottery and older bathtubs, and artificial Christmas trees made of PVC plastic. Avoid vinyl lunchboxes as they may contain lead; for more, visit www.cehca.org/lunchboxes.htm. When exposed to sunlight, vinyl releases lead which then collects in the dust on vinyl mini-blinds. Since 1996, lead-based vinyl blinds are no longer manufactured in the U.S.; lead may be found in imported blinds and products.

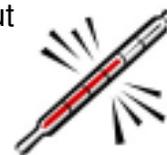
Safer alternatives: If you decide to keep items known to contain lead, put them out of the reach of children. Use non-vinyl mini-blinds or wood, metal, and cotton roller-shades. Do not throw discarded lead-containing products in the trash; see "Recycling" information on page 10. Home Lead Tests are available at hardware stores; also call 800-262-LEAD for "Lead Check Swabs" in bulk from HybridVet Systems. Lead Dust Wipe Tests are available from the Health and Environmental Toxicology Lab: 287-2727.

MERCURY THERMOMETERS: The sale and trash disposal of mercury thermometers is banned in Maine; do not throw in trash. Hold onto your old mercury thermometers until your community has a hazardous waste collection day—see "Recycling" box on page 10. If a mercury thermometer breaks, turn down heat, ventilate room and do not vacuum up the residue. Wear

Recycling Toxic-Containing Products

Recycling for toxic-containing products tends to be more accessible in Maine's bigger towns and cities, but there are programs across the state. Collection occurs either through a once-yearly local Household Hazardous Waste (HHW) Collection Day at your transfer station, or more often through your town's contract with a local waste consolidating business which accepts residential HHW. You can ask your local transfer station, town office or public works department how to dispose of HHW in your town or when the next HHW collection day is scheduled. For information about HHW or electronic (e-waste) collection in your town, visit www.maine.gov/dep/rwm/hazardouswaste/uwmunicipalmaster.xls, an alphabetical listing by town. The list includes places which will accept HHW from any town in Maine. In addition to HHW collection, you can also call your hospital and ask if they have a recycling program for mercury thermometers. While awaiting proper recycling, safely store mercury-containing products until recycling services are set up. When you take a mercury-containing product out of use, store it in a solid leak-proof container to avoid breakage—preferably in its original packing. For more information, call Remediation and Waste Management staff at the Department of Environmental Protection – 800-452-1942 and visit www.maine.gov/dep/rwm.

gloves and clean using two pieces of stiff paperboard to gather up the substance. Put mercury and materials used in clean-up into a sealed air-tight container for your town's hazardous waste collection. Because mercury evaporates, free elemental mercury should never be left out in the open.



Safer alternatives: Non-mercury digital thermometers are already available at local drug and grocery stores. Local hospitals also offer thermometer exchange programs.

MERCURY THERMOSTATS: Since 2006, it has been illegal to sell or throw mercury-containing thermostats in the trash. Old mercury thermostats must be recycled. If you have a mercury thermostat removed by an oil dealer or contractor, ask them where they will recycle it. Heating wholesalers are offering \$5 coupons for all mercury thermostats returned for recycling (visit www.maine.gov/dep/rwm/mercury/hgthermo.htm). For recycling of mercury thermometers and other mercury-containing products, contact your town office (see “Recycling” information box).

Safer alternatives: Non-mercury thermostats are already widely available at home improvement and hardware stores. You can also ask for them from home building or improvement contractors.

MERCURY-CONTAINING BATTERIES: Most household batteries have been made without mercury since the 1990's but they do contain other toxic chemicals. Maine is the first state in the nation to ban (as of June 2011) mercury-containing miniature batteries used in toys and cameras. These batteries are still used in some medical devices. Do not throw them in the trash; see “Recycling” information box above. Check www.rbc.org/call2recycle for a nearby retail outlet able to recycle your NiCad, lithium, metal hydride or small lead-acid batteries.



Safer alternatives: Purchase rechargeable batteries instead of disposables. Avoid button cell batteries labeled with “Hg” (mercury). Use available “zinc air” batteries for hearing aids.

MERCURY-CONTAINING LIGHTING: Although they contain mercury, use compact fluorescent light bulbs (CFLs) because they are more energy efficient (causing less mercury pollution from power plants). Do not throw old fluorescent light bulbs in the trash. See “Recycling” information box for a list of town collection sites. If bulbs are intact, some retailers will take them back; see www.maine.gov/dep/rwm/hazardouswaste/retailer.xls. If a CFL breaks, do not vacuum, ventilate room, keep all people and pets away, use gloves and pieces of cardboard to clean up and put in sealed container. See www.maine.gov/dep/rwm/homeowner/clfbreakcleanup.htm for complete cleanup instructions.



Safer alternatives: Buy low mercury-content lamps: “Alto” made by Philips Lighting, or “EcoLux” made by General Electric. Buy mercury-free outdoor lamps whenever possible, for example, “Lumalux” made by Osram-Sylvania. New mercury-free digital lighting may be on the market in coming years.

BROMINATED FLAME RETARDANTS (BFRs) IN FURNITURE/ELECTRONICS: In order to stop the spread of potential fires, BFRs are added to many household items including plastics in computers and electronics, polyurethane foam in mattresses, couches, seat cushions, and the plastic backing of synthetic fibers in carpets and upholstery. Levels of the BFRs most commonly used, called PBDEs, are rapidly rising in human breast milk, wildlife and environment, especially in the U.S. where fire retardant standards are exceptionally high. BFRs “escape” into the air and dust of households (and schools and offices) during product use and into the environment when old products are discarded. For a report on household dust, visit



www.cleanproduction.org/Safer.Dust.php. Animal studies show that exposure to these toxic chemicals can damage the thyroid gland (crucial to healthy brain development), neurological and immune systems. Sale of household products containing the three most common PBDEs is banned in Maine as of 2008. Older mattresses and household items may have higher levels of these toxic chemicals.

Safer alternatives: There are safer flame retardants and more companies are substituting them in their products all the time. Research any product before buying and ask manufacturers about PBDE-free products. PBDE-free foam furniture is available from IKEA and Berkeley Mills. Specialty retailers can supply organic and natural fiber mattresses and bedding. When possible, use natural products not treated with flame retardants like cotton, wool, wood, and leather. Visit www.safer-products.org for more information about safer alternatives in furniture and household products. For a list of products manufacturers pledged to be “pbde-free,” visit www.ewg.org/pbdefree.

ELECTRONIC EQUIPMENT: Most computers and other consumer electronics contain many hazardous chemicals including lead, mercury, cadmium, and other hazardous metals, as well as BFRs and PVC plastic. Residues of some of these chemicals can be found in home and office dust; even more escapes to the environment from disposal in waste incinerators and landfills. Since 2006, disposal of computer monitors and televisions has been banned in Maine. Recycle as much as you can; give to charities whenever possible or hand down to friends or family. See “Recycling” information box for town e-waste collection information. Ruth’s Reusable Resources (www.ruths.org or 883-8407) coordinates computer donations to schools.



Safer alternatives: Some computer companies are voluntarily switching to less toxic models. For a list of manufacturers pledged to avoid BFRs in equipment, visit www.ewg.org/pbdefree. List includes Apple, Canon, Dell, Ericsson, HP (monitors), IBM, Intel, Sony, and Toshiba. Visit also www.greenpeace.org/international/campaigns/toxics/electronics to see how companies line up on use of toxic chemicals.

BACKYARD AND NEIGHBORHOOD

LEAD IN SOIL: If your home was built before 1978, the soil and sand around your yard may have been contaminated with lead from paint peeling and flaking off the house. Test the lead content in the soil in your yard, around play equipment, and before planting a kitchen garden. Higher concentrations of lead are more likely in leafy vegetables and root crops. Test your soil for lead content before you start your garden.



Safer alternatives: Contact the University of Maine Analytical Laboratory and Soil Testing Service at 581-3591 or www.anlab.umesci.maine.edu for soil test kits, forms, and information. Carry in clean sand for sand boxes built above ground. Plant kitchen gardens in containers or in raised beds with clean soil brought in for this purpose. Children should wash hands after playing in soil possibly contaminated by lead.

PRESSURE TREATED WOOD: The sale of arsenic-treated wood in Maine has been banned since April 2004. All pressure-treated wood installed before this date for play sets, playground equipment, decks, entryways and piers poses a cancer hazard due to its arsenic content. Newer pressure-treated wood looks similar due to the copper content but is free of arsenic and chromium. Children and adults should wash hands after contact with old pressure-treated wood to minimize arsenic exposure. Home and yard structures made of old pressure-treated wood should be sealed every year or two with an oil-based stain or sealer. Avoid coating old pressure-treated structures with paint or other thin substances. Never burn pressure-treated wood; avoid sanding or cutting it. Dispose of old decking and other pressure-treated wood at local transfer stations on special demolition debris collection days; pressure-treated wood should be separated out for special disposal.



Safer alternatives: If feasible, replace old pressure-treated wood with naturally rot-resistant cedar, recycled plastic lumber board or other non-arsenic treated lumber. Do not plant vegetables near old arsenic-leaching wood. Children should wash hands after playing on any old equipment suspected to be made of old pressure treated wood.

GARDEN AND LAWN CARE: Stop using any herbicides and pesticides on your garden or lawn. Use non-toxic, safer ways to help your backyard flourish. To dispose of unwanted pesticides, call the Board of Pesticides Control (287-2731) or go to www.maine.gov/agriculture/pesticides/public/index.htm to find out when a local pesticides collection day will be held. For more information, also check Maine Cooperative Extension - www.umext.maine.edu/gardening.htm or 800-287-0279.

Safer alternatives: Use organic growing techniques for your garden by picking the right plants for your climate and those with disease resistance. Let lawns grow naturally; dig up unwanted weeds if desired. Choose plants to encourage beneficial predatory insects and animals. Use “safe pesticides” which will control several plant diseases: for example, mix 1 ½ tablespoons of baking soda with 2



tablespoons of horticultural oil or several drops of liquid dish soap in a spray bottle. See www.BeyondPesticides.org for more pest control alternatives and www.mofga.org for ongoing organic gardening workshops and technical resources. Also visit www.yardscaping.org at Board of Pesticides for information about maintaining healthy yards with minimal use of water, fertilizer and pesticides.

PESTICIDE SPRAYING: Watch out for nearby commercial operations which use pesticides. In order to reduce your risk of exposure to pesticides sprayed in your neighborhood, see abutter notification procedures required by Maine Law and information on the website of the Board of Pesticides www.thinkfirstspraylast.org or call 287-2731.

OUTSIDE THE HOME

CAR SEATS AND CARS: In cars and car seats, hazardous materials are found leaching from foam and plastics including bromine (from BFRs in seats of cars and child car seats), chlorine, lead, heavy metals, and carcinogens. Some of the pollutants (VOCs) lose their intensity over time—ten-fold reduction in the first few months after purchase. Older cars may have toxic chemicals which have since been phased out and replaced by safer alternatives (e.g., certain flame retardants).

Safer alternatives: A searchable guide is available at www.healthycar.org showing the best/worst new (2007) cars and car seats for toxic chemical exposure in order to help new car buyers. Toxic chemicals are released quicker and plastics breakdown faster in a hot car, so keep your car out of the sun and use windshield reflectors and always open windows to air out a hot car. For information, visit also www.cleancarcampaign.org.

SCHOOL: At school, children can be exposed to pesticides, toxic cleaning products, and indoor air pollution. Maine has a strong school integrated pest management (IPM) program which seeks to carry out practical pest management while reducing health and environmental risks. Parents and parent-teacher organizations can learn about the systems of their own schools and advocate for reduction and elimination of toxic chemical use. Visit Healthy Schools Network at www.healthyschools.org for ways to reduce toxic chemical exposure at schools and how to get involved.

Safer alternatives: Visit the Board of Pesticides website, www.thinkfirstspraylast.org for IPM in schools information. For safer cleaning supply information, visit www.informinc.org and check out the green cleaning toolkit for schools. Visit also www.epa.gov/schools, a government website, and www.miaqc.org, the website of Maine Indoor Air Quality Council, and check the schools section.

Need More Information? Check out these websites!

- Alliance for a Clean and Healthy Maine - www.cleanandhealthyme.org - Maine's coalition of groups working to phase out toxic chemicals and toxic-containing products and replace them with safer alternatives. See Body of Evidence study of toxic chemicals in Maine people on this website.
- Beyond Pesticides - www.beyondpesticides.org
- Centers for Disease Control and Prevention - www.cdc.gov/environmental - federal agency with information on toxic chemicals
- Children's Health Environmental Coalition - www.checnet.org. Visit their "virtual house" guide at www.checnet.org/healthhouse/virtualhouse/index.asp.
- Clean Computer Campaign at Silicon Valley Toxics Coalition - www.svtc.org and visit their Computer TakeBack Campaign.
- Clean Water Fund, Washington, DC - www.cleanwaterfund.org. Visit their room-by-room summary of some threats from toxic chemicals and safer alternatives in a house at www.home-safe-home.org.
- Collaborative on Health and the Environment - www.healthandenvironment.org
- Contaminated Without Consent - www.contaminatedwithoutconsent.org - 16-minute video showing risks from toxic chemicals in our homes, products and workplaces
- Coop America - www.coopamerica.org for safer product purchasing
- Environmental Health Strategy Center - www.preventharm.org. Visit Resources page for links and reports.
- Environmental Working Group - www.ewg.org - for many reports and database on toxic chemicals and health effects
- Greater Boston Physicians for Social Responsibility - www.igc.org/psr - for "In Harm's Way" - report and information on toxic threats to child developmental health
- Green Family Market - www.greenfamilymarket.org - provides purchasing options for safer household products
- Greenpeace International - www.greenpeace.org
- Health Care Without Harm - www.noharm.org
- Healthy Building Network - www.healthybuilding.net
- Healthy Car - www.healthycar.org
- Healthy Child Healthy World - www.healthychild.org
- Healthy Toys - www.healthytoys.org - Ecology Center website with searchable information on toys tested for toxic chemicals
- Household Products Database - www.householdproducts.nlm.nih.gov - US Health & Human Services searchable database of ingredients in household products based on information provided by manufacturers' reporting
- Institute for Children's Environmental Health - www.iceh.org - visit "resources" for printable fact sheets.
- Is It In Us - www.isitinus.org - nationwide bio-monitoring study of 35 Americans in 2007
- Learning Disabilities Association of America - www.ldanatl.org. For mercury report - www.mercuryhurts.org; for Healthy Children's Project - www.healthychildrenproject.org
- Maine Board of Pesticides - www.thinkfirstspraylast.org and www.yardscaping.org.
- Maine Center for Disease Control and Prevention - ME CDC (formerly Maine Bureau of Health)- www.maine.gov/dhhs/boh. Visit Environmental and Occupational Health Program (EOHP) for fish consumption advisories.
- Maine Department of Environmental Protection - www.maine.gov/dep
- Maine Organic Farmers and Growers Association - www.mofga.org - with a searchable list of organic farms in Maine
- Safe Cosmetics - www.safecosmetics.org - a coalition of groups promoting non-toxic personal care products
- Safer Products Project - www.safer-products.org - Clean Production Action information on safer electronics, other products, and household dust report
- Skindeep--Cosmetics Database - www.cosmeticsdatabase.org - database by Environmental Working Group
- Toxic Sandbox - <http://toxicsandbox.com> - A book about how to protect children from toxic chemicals at home, school and play by Libby MacDonald
- ToxTown - www.toxtown.nlm.nih.gov - National Library of Medicine interactive website with environmental health information around our towns, farms, and neighborhoods
- U.S. Green Building Council - www.usgbc.org and www.greenhomeguide.org
- Washington Toxics Coalition - www.watoxics.org; check www.pollutioninpeople.org for biomonitoring study

NOTE: Each of these websites covers a wide variety of information; the opinions expressed throughout these web sites are not necessarily always those of the LDA-ME.

ABOUT US

The Learning Disabilities Association of Maine (LDA-ME) is a non-profit organization dedicated to assisting individuals with specific learning and attention disabilities through support, education and advocacy by providing valuable tools and opportunities for success. LDA-ME works with adults, children and youth with these disabilities as well as their families, providers and community members. LDA-ME seeks to address preventable causes of specific learning disabilities like exposure to toxic chemicals in the environment. We are an affiliate of the Learning Disabilities Association of America (LDAA) and a partner in the Healthy Children's Project.

LDA-ME is a founding partner of the Alliance for a Clean and Healthy Maine, a coalition working to protect Maine children and families from exposure to toxic chemicals and to promote safer alternatives to toxic-containing products. Alliance partners include: Environmental Health Strategy Center, Learning Disabilities Association of Maine, Maine Conservation Voters Education Fund, Maine Council of Churches, Maine Labor Group on Health, Maine Organic Farmers and Gardeners Association, Maine People's Alliance, Maine Women's Lobby, Natural Resources Council of Maine, Physicians for Social Responsibility of Maine and Toxic Action Campaigns.

LDA-ME staff involved in this project include Evelyn deFrees, researcher, writer and Environmental Health Project Manager; Sandra Cort, past president and board member; Brenda Bennett, Executive Director; and Laura Soule, Executive Assistant. Booklet information is current as of fall 2008 and comes from the websites, reports and staff of advocacy organizations and federal and Maine state agencies. The writer alone bears responsibility for factual errors. Views expressed in this booklet are those of LDA-ME and not its funders. Science and medical research constantly evolves. Knowledge of the hazards of toxic chemicals and the availability of safer alternatives continually increases. We encourage readers to continue their own research and make their own decisions about what is healthy for their family.

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