Appendix B: Environmental Health Childproofing Checklist

Childproofing Checklist for Early Learning and Child Care Facilities

Is your facility environmentally safe for pregnant women and/or children? This checklist (and the answers) will give you a sense of how environmentally safe your facility is, identify some key prenatal and children's environmental health issues, help you to recognize the questions to ask yourself and others and provide you with some information to help you to environmentally childproof your facility. Please check every box for which the answer is yes:

The Facility

- □ Is your facility located near an industrial area?
- □ Are any renovations being done?
- □ Is your facility or program located in a building that was built before 1977?
- □ Is there any peeling or chipping paint in your facility?
- Do you store cleaning products, paints, solvents or pesticides in your facility?

In the Activity/Learning Area

- □ Do staff and/or children leave outdoor footwear on while indoors?
- Do children use arts and crafts materials that give off strong odours?
- □ Are soft plastic toys available to infants and young children?
- Does your facility accept donated, used toys?
- □ Are large areas of your facility carpeted?

In the Bathroom/Change Area

- □ Is a deodorizer used to cover odours?
- □ Are commercial chemical toilet bowl cleaners, tile/grout cleaners used?
- □ Do children use anti-bacterial hand soap?
- □ Is there any mould on the ceiling, walls, grout or underneath the sink?
- □ Is a mercury thermometer used to take children's temperatures?

In the Kitchen

- □ Is a gas stove used for cooking?
- Do you use commercial chemical oven cleaners?
- Do you have a pest (ants, cockroaches, mice) problem?
- □ Do you serve tuna fish on a regular basis?
- □ Do you regularly serve foods high in animal fat?

Outdoors

- Do children play on equipment made of wood treated with chromated copper arsenic (CCA), also known as pressure treated wood?
- □ Do school buses idle near areas where children congregate or play?
- □ Do children play outdoors on days when air quality is poor?
- □ Do children play in green spaces that are treated with pesticides?
- □ Are children's play areas located beside buildings or fences with peeling paint?

Checklist Issues Raised and Childproofing Tips

The Facility

Is your facility located near an industrial area? Not all industries release harmful pollutants or create conditions that can affect health. But some industries do release pollutants that reduce air quality or contaminate ground water. Other issues associated with being near industrial areas are loud or constant noise and heavy traffic. Historical land use is also something to consider. Sites that were used for industrial purposes in the past are more likely to be contaminated than those not used by industry.	 Childproofing Tips All facilities should have good ventilation systems that are regularly maintained by a qualified professional. Test well water regularly for chemical contaminants according to Ministry of the Environment guidelines. If you know or suspect that air quality problems are an issue in your community, get active. Voice concerns to the local health department and/or join others who share your concern to advocate for improved air quality. When choosing a new site, consider its proximity to obvious sources of air pollution, noise and traffic.
Are any renovations being done? Removing floors, walls, and fixtures can release dust, asbestos, mineral fibres, lead from paint, pesticide residues and mould into the air. Rebuilding and installing new materials can also release potentially harmful substances, including volatile organic compounds (VOCs), dust and fungicides. The good news is that renovation is also an opportunity to create a healthy indoor environment by choosing safe materials and products and by having work done safely.	 Childproofing Tips Pregnant women and young children should be kept out of spaces being renovated until the work is completed and the space has been well cleaned and ventilated. Schedule renovations so that windows can be open for ventilation and control dust very carefully. Choose natural, durable building materials that require minimal finishing and maintenance. This conserves natural resources and reduces pollutants in indoor air. For more information see Safe Renovations in the <i>Primer</i>, pages 108–109.

Is your facility or program located in a building that was built before 1977? Lead levels in indoor paints sold in Canada were lowered in 1976. Hence, any paint in buildings built before 1976 very likely contains lead. Outdoor paint used before the 1950s was as much as 70% lead by weight. Lead paint becomes a problem only when it is in poor condition (peeling or chipping) or is disturbed, for example by sanding or demolition. Is there any peeling or chipping paint? People can be exposed to lead through paint chips, flakes and dust. Children are at highest risk because they are more likely than adults to eat paint chips, put their hands in contact with contaminated dust and put their hands in their mouths. They are also more sensitive to the negative effects of lead which can affect brain development and function in fetuses, infants and children. Scientists agree that there is probably no safe level of lead for the fetus or child.	 Childproofing Tips Lead paint in good condition should be left undisturbed. Paint in poor condition should be contained by sealing it or covering it with drywall or paneling. Never sand, scrape or use a heat gun to strip lead paint. Keep pregnant women and children away during renovations and until clean-up is complete. Control dust well throughout. Control dust by wiping window sills and trim and other surfaces regularly with a damp cloth and damp mopping floors. For more information, see Canada Mortgage and Housing Corporation on-line resources at www.cmhc-schl.gc.ca or the Health Canada factsheet at www.hc-sc.gc.ca/english/iyh/products/ leadpaint.html. To learn about guidelines for lead in U.S. child care programs see Chapter 5 of the National Health and Safety Performance Standards at http://nrc.uchsc.edu/CEOC/index.html.
Do you use and/or store cleaning products, paints, solvents or pesticides in your facility? Many household and institutional products contain potentially toxic substances. Children can be exposed when these substances are released into the air as products are used. Even products stored in closed containers can sometimes release chemicals into the air over time. These can build up in unventilated spaces such as cupboards. Another major risk from household chemical products is accidental poisoning. Using and storing fewer potentially toxic products is a good way to protect children's health.	 Childproofing Tips Read the label and avoid products that list multiple hazard symbols (corrosive, explosive, etc.). Choose "green" or non-toxic products. If you need a toxic product, buy as little as you need for the job and follow instructions carefully. Ventilate well when using any product. Keep children out of areas until product odours are gone. Store products in sealed, labeled containers in locked storage. Dispose of excess chemical products as hazardous waste. For more information see Toxic Use Reduction in the <i>Primer</i>, pages 104–105.

In the Activity/Learning Area

Do staff and/or children leave outdoor footwear on while indoors? Many substances are tracked into indoor spaces on shoes, pets and wheels on strollers or shopping carts. Examples are metals, pesticides and animal droppings. Once indoors these substances settle in dust, on floors and other surfaces and in carpets. Young children spend a lot of time at ground level and are more highly exposed to these substances. Keeping outdoor dirt and dust out of indoor spaces goes a long way in preventing child exposure to harmful substances.	 Childproofing Tips Have people remove outdoor shoes at all entry points. Providing seating and floor mats can make this easier. Doormats keep dirt and dust out of indoor spaces. Use doormats that can be washed. Wash them frequently and separately from other laundry. Promote the use of "indoor" shoes or socks. Design facilities so that parents do not have to walk through the facility to drop off and pick up their children. For more information, see Handwashing and Dustbusting in the <i>Primer</i>, page 101.
Are soft plastic toys available to infants and young children? Some soft plastic toys are made of polyvinylchloride (known as PVC or vinyl). PVC may be softened with phthalates, chemicals that children can be exposed to when the toys are mouthed. Phthalates are also found in other plastic products, nail polish, cosmetics, plastic food packaging and indoor air. They are suspected in various negative health effects, particularly impacts on the developing reproductive system in males. Some manufacturers have switched to other plastics because of government action and consumer pressure. Health Canada advises that people get rid of soft vinyl teething toys and rattles. Canadian regulatory action has not occurred unlike in the European Union where phthalates in toys are banned as a precautionary measure.	 Childproofing Tips The recycling code (the number inside the three arrows) for PVC is "3", but not all PVC toys are labeled. As a precaution avoid toys made of what appears to be soft vinyl, particularly those for teething babies. If buying plastic toys or children's products look for labels that say that a product is PVC or phthalate-free. Do not hesitate to contact manufacturers and ask about PVC/phthalate content in children's products. Heat foods and milk in glass, ceramic or stainless steel containers instead of plastics. Heat makes phthalates more likely to leach out of plastics into food. Where possible, choose alternatives to soft vinyl products e.g. raincoats, shower curtains, stroller covers, etc.

Do children use arts and crafts materials that give · Read the label and follow instructions closely. If the off strong odours? Some arts and crafts materials contain ingredients label does not have enough information to that can be harmful to children. For example lead has determine if a product is safe, contact the been found in some crayons, paints and sidewalk manufacturer to ask about the use of the product chalk. Solvents in glues and markers can release with young children. volatile organic compounds (VOCs). The term "non-· Choose liquids, gels and pastes over powders and toxic" means that a material or product will not cause sprays that are easily inhaled. If powders are mixed with water, do so in ventilated areas when children an immediate (acute) poisoning. It does not necessarily mean that a product has been evaluated are not present. for long-term health effects. Do not use dryer lint for making home-made paper or other crafts as it can be a concentrated source of Labels provide important clues about product safety. contaminants. Look for: Choose water-based instead of solvent-based products • "Non-toxic" products. (e.g. avoid rubber cement and solvent-based markers). Labels that do not include hazard symbols. Ventilate the area, supervise children, do not allow · Products that do not warn of specific health hazards eating or drinking when children are doing arts and (e.g. "harmful if swallowed"). crafts and ensure that staff and children wash • The "AP" and "CL" seals from the American Arts and hands afterwards. Creative Materials Institute (ACMI) Products that · Clean up thoroughly after doing arts and crafts and "conform with ASTM D-4236." damp mop rather than sweep to reduce dust. Store Country of manufacture – be careful if considering materials away from children and in original containers. foreign-made arts and crafts materials because For more information see Safe at Play in the Primer, different countries can have insufficient or even pages 106–107, the Canadian Child Care Federation non-existent health, environmental or occupational fact sheet at www.cfc-efc.ca/docs/cccf/rs021_en.htm, or the Children's Health Environmental Coalition health standards. Healthehouse at www.checnet.org/healthehouse/ virtualhouse/index.asp. Does your facility accept donated or used toys? **Childproofing Tips** Donated toys may not come with packaging or original Carefully check used or donated materials. labels. Labels are important sources of safety especially if the original packaging does not information. They indicate the appropriate age range, accompany the item. · Be particularly careful to avoid older or used soft may list ingredients and provide the manufacturer's contact information. Older painted toys made before plastic toys for very young children. the 1970s can contain lead or other toxic chemicals. Do not use painted toys (toy chests, furniture, etc.) that were likely made before the 1970s. Many older toys, for example teething toys that contain phthalates, are not be considered "safe" by today's Consider developing a policy regarding toy standards. Plush or stuffed toys can carry dust, dust donations. mites and other allergens. They can also harbour mould that may not be visible. The same is true for books.

Childproofing Tips

Are large areas of your facility carpeted?

The smell of new carpet is a sign that VOCs (volatile organic compounds) or other chemicals that readily evaporate into air are being emitted. These chemicals can build up in unventilated spaces and are associated with a variety of health effects including eye, throat and lung irritation. Some VOCs have been linked to more serious health effects such as impaired brain function. Over time, carpeting becomes a repository for dust, chemicals that settle out of the air and provides a site for mould growth. The amount of dust in a square metre of old carpet may be 400 times greater than on a bare floor in the same house. Rather than help the situation, commercial carpet cleaners can contain chemicals associated with respiratory symptoms and eye irritation.

Childproofing Tips

- Reconsider the use of carpets in children's play areas. Choose hard floor surfaces and use area rugs that can be shaken out or washed easily.
- Place washable floor mats at doors where people enter the facility and wash them regularly.
- When removing carpeting, prioritize areas in which children spend a lot of time.
- Vacuum existing carpeting frequently and ventilate well. When cleaning carpets, use environmentally friendly products, which are generally less toxic to people.
- If you want carpeting, consider natural fibre, air it out before installation, avoid toxic adhesives, ventilate well and avoid using the space until the odour is gone.

Is a deodorizer used to cover odours? Most deodorizers rely on chemicals to cover up an odour, overpower an odour with a different odour, deactivate an odour or even to block the nerves in people's nasal passages so that they simply cannot smell the odour. Deodorizers can contain a range of chemicals that affect health. Instead of relying on chemicals, the key to dealing with odours is to remove the source of the odour or to dilute it.	 Childproofing Tips Use a garbage can with a tight fitting lid and empty it as often as needed. Ensure that the bathroom is well ventilated. Use an open container of baking soda placed out of the reach of children to absorb odours. Another option is zeolite, a mineral that absorbs odours.
Are commercial chemical toilet bowl cleaners, tile/ grout cleaners used? Labels with hazard symbols and words like "danger" "warning" or "caution" are a sure sign that cleaning products contain strong, often toxic chemicals. Exposure occurs during use by breathing or by touching cleaned surfaces and picking up chemical residues on hands. Toilets are easy to clean without using toxic chemicals. Grout on the other hand is more difficult to clean, making prevention of obvious mould and mildew stains the best option.	 Childproofing Tips Prevent mould and mildew growth with good ventilation. Try alternative, safer cleaning products. Baking soda and a brush can clean a whole bathroom. If using a harsh commercial product follow instructions, ventilate well and keep children out of the space. When re-tiling, opt for darker grout that will not show mould and mildew stains.

In the Bathroom/Change Area

Do children use anti-bacterial hand soap? Anti-bacterial soaps do little to protect against viral illnesses like colds and flus. Whether or not they really protect people from bacterial illness is also not clear. In most cases, anti-bacterial soaps are "overkill". Proper handwashing with plain soap and water removes most germs. Overuse of anti-bacterial agents may contribute to the development of "super-germs", bacteria that are resistant to the chemicals designed to kill them.	 Childproofing Tips Staff and children should wash their hands after outdoor play, arts and crafts, use of the washroom, handling pets or garbage, coughing or sneezing or blowing their nose, before and after meals and whenever else contamination may have occurred. Using warm running water and soap, rub hands vigorously for at least 15 seconds. Wash all surfaces, rinse well under running water and dry well. Leave anti-bacterial soaps for situations in which they are really necessary, for example in some medical settings. Have children sing a song while washing their hands to ensure that they wash for long enough.
Is there any mould on the ceiling, walls, grout or underneath the sink? The combination of moisture and food debris can create ideal conditions for the growth of mould. Moulds damage materials such as wood, paper and textiles. They also release spores that travel through air and can trigger allergies, asthma and other health problems.The key to dealing with mould is controlling moisture levels. For more information, see the <i>Primer</i> , page 34.	 Childproofing Tips Prevent conditions that promote mould. Keep all areas of the room dry and clean. Address plumbing problems promptly. Install and use a fan that is vented to the outdoors. Scrub mould with detergent (not bleach) and water, rinse with a wet rag and dry to remove surface mould. The detergent solution should be unscented. Wear rubber gloves and a mask, and keep infants, children and anyone with asthma or allergies out of the space. If there is a lot of mould or the mould keeps returning, get professional help. For more extensive mould, or for certain types of mould.ntm#4. Get rid of mouldy items that can't be cleaned and dried. Visit the Canada Mortage and Housing Corporation website for more specific information on how to deal with mould www.cmhc-schl.gc.ca.

Is a mercury thermometer used to take children's temperatures?

Mercury is a dangerous metal that can affect brain development and functioning. A broken mercury thermometer releases mercury vapour than can be inhaled. If a space is poorly ventilated, exposure will be greater. Mercury thermometers are only one piece of a much larger issue of environmental mercury pollution. Mercury in the environment poses an ongoing risk to health, in large part due to its ability to works its way up aquatic food chains.

Childproofing Tips

- Dispose of mercury thermometers as hazardous waste.
- Choose alternatives such as digital electronic and infrared tympanic (ear) thermometers.
- If a mercury thermometer is broken, remove children from the area, turn off the ventilation system and contact your local health department for instructions on how to clean up a mercury spill. Do not vacuum or sweep up mercury.

In the Kitchen

Do you use commercial chemical oven cleaners? Most commercial oven cleaners have a lot of warning symbols on their labels and come with a long list of instructions and emergency procedures. This is because they are among the most toxic household cleaning products available. Usually sprays, sometime as aerosols, they disperse into the air when used and can be easily inhaled into the lungs. Fortunately there are a number of ways to avoid or reduce the use of these harsh chemicals to clean ovens.	 Childproofing Tips Try one of the alternative, safer oven cleaning products that are increasingly available at environmental, health food and other stores. Clean ovens more frequently. This makes the use of harsh chemicals less necessary. A paste of baking soda and water left on overnight and scrubbed off is an effective, non-toxic option. If using commercial oven cleaners, follow instructions, ventilate well and keep children out of the space.
Do you have a pest (ants, cockroaches, mice) problem? Pests are unpleasant and the fur, skins and droppings that insects and rodents leave behind can worsen allergy symptoms and asthma. The presence of pests also increases the likelihood that commercial chemical pesticides will be used. Pesticides used indoors tend to break down more slowly than those used outdoors. Indoor pesticide use can be a significant source of pesticide exposure for children, much greater than residues on food. The presence of stored pesticides that children could come into contact with also makes accidental poisoning possible.	 Childproofing Tips Prevent pests by eliminating the conditions they need to grow e.g., deal with moisture problems, keep counters clean and store food in sealed containers. If possible use traps, not poisons. Choose pastes and gels over powders and sprays that are dispersed into air. If a pesticide is necessary choose the least toxic option and follow label instructions carefully. Notify staff and parents before pesticides are used and never apply pesticides in the presence of children. For more information visit Health Canada's Pest Management Regulatory Agency at www.pmraarla.gc.ca or the Pesticide Action Network of North America at www.panna.org/panna.

Is a gas stove used for cooking? Poorly maintained gas stoves can release particles and toxic gases such as carbon monoxide and nitrogen dioxide into the air. At high levels these can irritate the eyes and lungs and cause other symptoms such as headache, nausea, and drowsiness. Exposure to extremely high levels of carbon monoxide can be fatal.	 Childproofing Tips Use an overhead fan vented outdoors or ventilate by opening a window when cooking. Have gas stoves inspected annually and as soon as you suspect a problem. Never use a gas stove to heat a room.
Do you serve tuna fish on a regular basis? Fish, including canned tuna, is a great source of protein and contains beneficial omega-3 fatty acids. However, all fish is contaminated with methylmercury to varying degrees. Mercury is toxic to the developing brain. Not all tuna is the same. Methylmercury levels are lowest in canned light tuna and higher in white or "albacore" tuna and in fresh or frozen tuna. Recommendations about how much canned tuna children and pregnant women should eat vary by jurisdiction. The most precautionary advice is to limit consumption of all fish to two meals per week. Within this limit, canned light tuna can comprise both meals but canned white (albacore or bluefin) tuna should be eaten only once a month .	 Childproofing Tips Pregnant women, breastfeeding women and children under 15 can eat fish but should choose it carefully. Avoid high mercury fish like swordfish, shark, king mackerel and fresh tuna. Choose low mercury fish or shellfish like canned light tuna, shrimp, salmon, pollock, catfish, haddock, farmed trout, tilapia and flounder. When buying canned tuna, opt for flaked or light tuna over white or albacore tuna. For more information, see the <i>Primer</i>, pages 60–61, Fish Facts for Families at: http://action.web.ca/home/nutritio/attach/fish-facts-for-families-feb05.pdf and Health Canada's fish guidance at: www.hc-sc.gc.ca/ahc-asc/media/advisories-avis/2002/2002_41_e.html.
Do you regularly serve foods high in animal fat? Foods high in animal fat can contain chemicals known as POPs (persistent organic pollutants). POPs can include older banned pesticides like DDT and industrial chemicals like PCBs (also banned but still circulating in the environment). POPs also include dioxins (the most toxic substances known) as well as dioxin-like substances like PBDEs (flame retardants widely used in consumer products). POPs are known or suspected to be linked with numerous health effects and the fetus and child are more vulnerable than adults. They concentrate in animal fat with the highest levels in animals at the top of the food chain.	 Childproofing Tips It is a good idea to minimize children's intake of animal fat. Choose low fat meat and dairy products where possible (recognizing however the nutritional need for whole milk in children under two years of age). Cook meat, fish and poultry in such a way that the fat drips off of it. Trim the fat from meats to reduce their fat content. Do not offer children the skins of fish and poultry. Serve foods low on the food chain. There are many sources of vegetable protein, such as tofu and beans. If the facility has a policy to purchase organic food, prioritize foods high in the food chain like meat, poultry, eggs and dairy.

Outdoors

Do children play on equipment made of wood treated with chromated copper arsenic (CCA), also known as pressure treated wood? CCA is a chemical wood preservative containing arsenic, a known human carcinogen. A voluntary phase-out for residential use began in January 2004 and it is now banned for non-industrial use in Canada. Structures built with CCA-treated wood (purchased prior to January 2004) can have arsenic on the surface to which children can be directly exposed. Arsenic can also build up in soil underneath the structure. Young children, with high levels of hand-to- mouth activity, are at risk. For more information, see the <i>Primer</i> , page 41.	 Childproofing Tips Wash children's hands after contact with CCA-treated wood. Cover picnic tables made from CCA-treated wood. Removal or replacement of CCA-treated structures is generally not recommended by regulatory agencies. Coating the surface with a penetrating wood sealant (not paint) reduces available arsenic. It should be re-applied regularly (likely every 1–2 years). Ensure that your facility follows this procedure for any CCA-treated structures. Locate play areas away from CCA-treated wood. Plant shrubs or dense groundcovers around structures to discourage play in the soil underneath or beside them. Despite the CCA phase-out, all pressure-treated wood contains a pesticide. Use the same precautions.
Do children play outdoors on days when air quality is poor? Along with spending more time outdoors, children tend to be more active than adults. They breathe more heavily and quickly and often through their mouths. Their exposure to air pollution is greater and it can affect the development and health of their lungs. Smog advisories are issued when the air quality is going to be poor. Advisories include advice about measures to prevent or minimize exposure to air pollutants.	 Childproofing Tips Do a daily check for smog conditions. If a smog advisory has been issued, choose less vigorous outdoor activities or reduce their duration. Monitor children's comfort regularly, especially those with asthma. Provide them with plenty of water and rest breaks. To reduce exposure to air pollutants, avoid busy streets when walking with children or pushing strollers. Time children's outings during periods of low traffic activity. Take steps to reduce air pollution, both personally and in your facility. For example drive less and conserve energy. For more information see www.toronto.ca/health/ smog/pdf/smog_playing_outdoors_fact_sheet.pdf.

Do school buses or other vehicles idle near areas where children congregate or play? Most school buses in Canada run on diesel fuel. Riding in a school bus can cause exposure to diesel exhaust, a mixture of chemicals known to affect the respiratory system and a probable human carcinogen. Exposure is highest in and around idling buses. Inside the bus, exposure is higher at the back of the bus than the front and when windows are closed.	 Childproofing Tips Discourage, and if possible prohibit idling by all vehicles. Drop-off and parking areas should not be near outdoor play areas or air intake vents for your facility. Advocate for use of cleaner fuel by school buses and for better technologies in the long run.
Do children play in green spaces that may be treated with pesticides? Many municipalities have passed by-laws restricting the outdoor use of pesticides. However, the outdoor use of pesticides continues in many areas. Children are at greater risk of exposure to pesticides applied to lawns and gardens than adults because they spend more time playing outside, are more likely to play at ground level, put heir hands in their mouths more often and may not wash their hands as consistently. Pesticides can "drift" to nearby properties as well as indoors. They can also be tracked indoors on shoes, pets and strollers.	 Childproofing Tips Use non-toxic pest control measures to maintain healthy and attractive lawns and gardens. For information on this see Toronto Public Heath's Pesticide Free: Guide to Natural Lawn and Garden Care available at www.toronto.ca/health/pesticides/ natural_lawn_guide.htm. Always wash children's hands after playing outdoors and before eating. Work with your community to reduce pesticide use in your area. Advocate for measures to protect children from exposure to pesticides.
Are play areas located beside buildings or fences with peeling paint? Until 1976, high levels of lead were added to paint to help it last longer. Outdoor paints generally contained higher levels of lead than indoor paints. Flaking, peeling paint, and dust from past maintenance of the surface can deposit lead and other metals into sand, soil and grassy areas around and under painted structures. Children are at risk of exposure to this lead mainly by putting their hands in their mouth during and after play. In most cases dealing with this type of situation is not difficult or expensive. The key is to prevent children from accessing these areas.	 Childproofing Tips Keep children out of areas beside or under painted surfaces (known as the "drip line"), particularly around structures built 20 or more years ago. Barriers can include fencing or planting dense groundcovers and shrubs. Properly maintain all painted exterior surfaces to prevent paint from deteriorating. Control dust carefully during all repairs and renovations to prevent soil contamination. Do not grow vegetables or herbs in soil beside a painted structure.

Adapted from workshop materials developed by Susanne Burkhardt, Ontario Public Health Association, Environmental Working Group and from the Primer.