United States Environmental Protection Agency | Prevention, Pesticides, and Toxic Substances (7404) | EPA-747-F-96-007 November 1996

FACT SHEET

Identifying Lead Hazards in Your Home

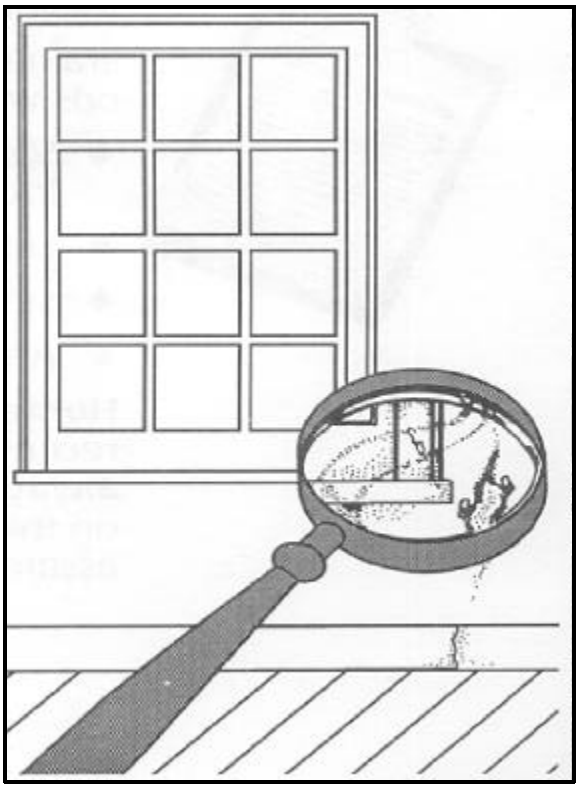
Over 80 percent of all housing built before 1978 contains some lead-based paint. Such paint is usually not a hazard if maintained in good condition. In poor condition or on child-accessible lead-based paint surfaces, it can create health hazards for building occupants, especially children.

These hazards can be in the form of paint chips, child-accessible (and therefore chewable) painted surfaces, friction surfaces of windows and doors, lead contaminated dust, and lead contaminated residential soil.

EPA is developing regulatory standards for identifying lead hazards in residential paint, dust, and soil. Presently, the Agency has released this fact sheet and related guidance for use by families and public decision makers in identifying and prioritizing potential lead-based paint hazards. This fact sheet summarizes EPA's key messages and recommendations to help the public better address lead hazards in and around their homes. The full 25-page document is available, free of charge, through the National Lead Information Center Clearinghouse at 1–800–424–LEAD (see ***For More Information****).*

Lead Hazards in Paint

Until 1978, when the U.S. Consumer Product Safety Commission (CPSC) phased out the sale and distribution of residential paint containing lead, many homes were treated with paint containing some amount of lead. The Residential Lead-Based Paint Hazard Reduction Act of 1992 defined lead-based paint as containing 0.5 percent lead by weight. In some cases, lead from paint with even lower concentrations can be toxic if eaten.



The mere presence of lead in paint, however, may not constitute a hazard. In fact, if in good condition (no flaking or peeling), most intact lead-based paint usually is not a hazard. To determine whether a hazard exists, homeowners should also consider the location and condition of the paint.

Lead-based paint is usually not a hazard if the paint:

- is in good condition,
- is not on an impact or friction surface (window or door), and
- is not on a surface children can mouth or chew.

Under these circumstances, you can usually reduce the exposure risk to your family by making sure that paint remains in good condition and free of dust.

Lead-Based Paint May Be a Hazard if:

- ***The lead-based paint is deteriorated, regardless of the location***. As the paint breaks down, it releases paint chips and lead dust that can contaminate the home and be easily ingested by young children through hand-to-mouth activity.
- ***The lead-based paint is on friction or impact surfaces***. Surfaces, like door frames or stair boards that receive frequent impact, can damage the paint and release lead. Similarly, the paint on friction surfaces like certain windows, stairs, and floor components can also break down during normal use and release lead.
- ***The lead-based paint is on child-accessible surfaces***. Be aware of lead-based paint on surfaces that are at child height and that may be chewed or mouthed by children (window sills, railings, and stair edges).

In cases where you identify a potential lead-based paint hazard in your home, there are many things you can do.

These include short term *interim control*s (like placing rubber treads on stairs) as well as more permanent *abatement* options (like removing or permanently enclosing lead-based painted surfaces).

Lead-Contaminated Dust

Lead-contaminated interior dust is the most direct source of a child's lead exposure, acting as a pathway for lead from lead-based paint, exterior soil, and dust carried home from occupational exposure, etc.

Lead dust can form when lead-based paint is dry scraped, dry sanded, or heated. Dust also forms when painted surfaces bump or rub together. Lead dust can also be tracked in from contaminated soil outside.

To reduce interior dust lead levels and exposure hazards, you can do the following:

- Take precautions when renovating or repairing areas with lead-based paint. Avoid dry scraping, dry sanding, and heating to remove lead-based paint.
- Regularly mop floors, window ledges, and accessible surfaces with a warm detergent solution.
- Wash pacifiers and bottles if they fall on the floor; wash toys and stuffed animals regularly.
- Ensure that children wash their hands before meals, naps, and bedtime.

Even after cleaning house, however, be aware that future hazards may occur if you have not addressed the ongoing source of lead dust in the home (deteriorating paint, lead tracked in from outside soil, etc.).

How Much Lead Makes a Dust Hazard?

Until EPA completes work on regulatory standards for lead levels in dust, the Agency recommends the use of the following "clearance levels" (levels used to establish when a surface area is clean) for identifying dust hazards in key surfaces in the home. Use these levels in identifying lead-based paint hazards and sources of lead exposure and determining the need for control actions.

- **Uncarpeted floors:** 100 g/ft^2 (0.93 mg/m^2)
- **Interior window sills:** 500 g/ft^2 (465 mg/m^2)
- **Window wells:** 800 g/ft^2 (745 mg/m^2)

(g/ft^2 = micrograms per square foot is a measure of the mass of lead per square foot of surface). These samples are usually analyzed by a lab and collected by an inspector using vacuum or dust wipes.

Lead-Contaminated Bare Soil

Lead-contaminated exterior bare soil is a concern both as a direct source of exposure through hand-to-mouth activity and as a contributor to indoor dust lead levels when tracked into a home. Common sources of lead in residential soil include deteriorating exterior lead-based paint from houses and past use of leaded gasoline deposited onto the soil surface. Industrial sources such as smelters, recycling facilities, and mining activities can also cause soil contamination in residential areas.

EPA has identified two criteria for determining if hazardous levels of lead are present in bare residential soil. These factors include:

- *Land Use: Access or use by children.* Areas that will be used frequently by children are of greater concern since any lead in the soil may be picked up by the children. For that reason, the acceptable levels of lead in child-frequented areas (like yards and playgrounds, etc.) are lower than in areas that are closed off to children.

- *Soil lead concentration.* The higher the concentration of lead in the bare soil, the greater the exposure risk.

Decision-makers should consider both soil concentration and land-use plans when determining what, if any, hazard control program is necessary in a residential area.

Hazard control options for lead-contaminated soil include both *interim control measures* and *soil abatement strategies*. *Interim controls* generally establish an exposure barrier between bare soil and children (i.e., shrubs, grass, crushed stone, hardwood mulch, or relocating play areas). Soil *abatement strategies* either remove/replace contaminated soil or establish permanent barriers (e.g. cement paving, permanent brick) between the soil and the residents.

How Much Lead Makes a Soil Hazard?*

Soil lead concentration below 400 parts per million (ppm):

- If tests indicate that the lead concentration in the soil is below 400 ppm, site-specific action is usually not necessary.

Soil lead concentrations of 400–5000 ppm:

- If the area *will be used frequently* by children, EPA recommends *interim controls* to reduce contact between children and contaminated soil for lead concentrations as low as 400 ppm.

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How Much Lead Makes a Soil Hazard?*

- If contact by children is *less likely or infrequent*, then *interim controls* should be instituted when soil lead levels are between 2000 ppm and 5000 ppm. Site-specific action is usually not necessary below 2000 ppm.

Soil lead concentration above 5000 ppm:

- When soil lead concentrations exceed 5000 ppm in residential soil, EPA recommends that soil *abatement* measures be considered regardless of the potential contact by children.

*These recommendations are approximate and are not intended to substitute for site-specific analysis.

Can I Test For Lead?

Homeowners have many options for testing their houses for lead-based paint and lead-based paint hazards. The full guidance document provides protocols for testing of paint for professionals involved in inspection and risk assessment. EPA strongly recommends the use of trained professionals. For more information on finding qualified professionals in your area, contact the National Lead Information Center **(See For More Information)**.

For More Information

For a copy of the Federal Register notice dated September 11, 1995, and entitled, "Guidance on Identification of Lead-Based Paint Hazards," phone the *National Lead Information Center* (NLIC) at 1–800–424–LEAD. For the hearing impaired, call TDD, 1–800–526–5456. You may also send your request by fax to: 202–659–1192 or by Internet E-mail to: ehc@cais.com.

NLIC can also provide copies of other EPA lead documents, including a free booklet on renovating areas with lead-based paint, entitled *Reducing Lead Hazards When Remodeling Your Home.*

In addition, information specialists at the NLIC can provide help with specific questions on lead-based paint and lead poisoning prevention.

The full guidance document and other important EPA publications are also available electronically through the following sources:

- **Gopher Access:** *gopher.epa.gov.70/11/Offices/PestPreventToxic/toxic/lead_pm*
- **World Wide Web:** *http://www.epa.gov/opptintr/lead*
- **Dial up:** 919–558–0335
- **FTP:** ftp.epa.gov (to log in, type "anonymous" your password is your Internet address)