

**11.3.3 LEAD MEMORANDUM**

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**A. What Lead Is**

Lead is a soft, heavy, blue-gray metal. Lead occurs naturally in the earth's crust but has been spread throughout the environment by various human activities. In the past, lead also was used in house paint. Today in the United States, we no longer use lead in these products, but lead from our past activities remains. Lead is still present in other items such as batteries, solder, ammunition, and roofing materials.

**B. How People Are Exposed to Lead**

People are exposed to lead by breathing air, drinking water, eating food, or swallowing or touching dust or dirt that contains lead. People can be exposed if they live near a hazardous waste site, live or work in buildings that contain deteriorated lead-based paint, or use lead in their jobs or hobbies. Lead also exists in some food cans that have been improperly soldered and in pottery that has been improperly glazed.

The most common source of children's exposure to lead is contaminated dust from older homes that contain lead-based paint. Children get this dust on their hands and toys through normal hand-to-mouth activity. Children can also be exposed to lead by eating paint chips that contain lead or by playing in lead-contaminated dirt.

**C. How Lead Affects People's Health**

For children 5 years old and younger, lead levels of 10 micrograms or more in a deciliter of blood can damage children's ability to learn. A microgram is one millionth of a gram. A deciliter is about half a cup of liquid. At levels higher than 10 micrograms per deciliter, lead can damage people's kidneys and reproductive systems. At very high levels, lead poisoning can cause mental retardation, coma, convulsions, and death. Of all people, young children face the most danger from exposure to lead because their growing bodies absorb lead more easily than adults' bodies. Pregnant women and women of childbearing age are also at increased risk for lead poisoning because lead ingested by a mother can affect the unborn fetus.

**D. Levels of Lead Found in the U.S. Population**

Scientists tested the blood of a representative sample of the U.S. population for lead. Since 1976, CDC has measured levels of lead in children's blood as part of a large national survey. This Second Report shows that for children 1-5 years old, lead levels keep going down. The Report shows that the geometric mean (a special mathematical average) blood lead level for children 1-5 years old is 2.23 micrograms per deciliter.

During 1991 through 1994, 4.4% of children 1-5 years old had more than 10 micrograms of lead per deciliter of blood. In contrast, for 1999 and 2000, 2.2% of children in this age group had lead levels that were above 10 micrograms per deciliter.

These decreases show that public health efforts to reduce children's exposure to lead have

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succeeded. However, children's exposure to lead in homes containing lead-based paint and lead-contaminated dust is still a serious public health concern.

#### For More Information

- *Agency for Toxic Substances and Disease Registry (ATSDR)*  
Tox Profile on Lead: [www.atsdr.cdc.gov/toxprofiles/phs13.html](http://www.atsdr.cdc.gov/toxprofiles/phs13.html)  
ToxFAQ on Lead: [www.atsdr.cdc.gov/tfacts13.html](http://www.atsdr.cdc.gov/tfacts13.html)
- *U.S. Environmental Protection Agency (EPA)*  
Lead in Paint, Dust, and Soil: [www.epa.gov/opptintr/lead](http://www.epa.gov/opptintr/lead)
- *U.S. Environmental Protection Agency (EPA)* [www.epa.gov/ne/assistance/univ/index.html](http://www.epa.gov/ne/assistance/univ/index.html)
- *U.S. Department of Housing and Urban Development (HUD), Office of Healthy Homes and Lead-Hazard Control:*  
[www.hud.gov/offices/lead](http://www.hud.gov/offices/lead)
- *U.S. Department of Health and Human Services, Centers for Disease Control and Prevention (CDC):* [www.cdc.gov/nceh/lead/lead.htm](http://www.cdc.gov/nceh/lead/lead.htm)

Contact the Department of Risk Management at 710-4586 for further information.