

Sources of additional help and information:

Government Agencies

North Carolina Department of Health and Human Services, Industrial Hygiene Consultation Unit (919) 707-5950

North Carolina Department of Health and Human Services, Health Hazards Control Unit (919) 707-5950

North Carolina Department of Labor, Division of Occupational Safety and Health, Education, Training and Technical Assistance Bureau (919) 807-2875

United States Department of Labor, Occupational Safety and Health Administration (OSHA) Area Office (919) 790-8096

National Institute for Occupational Safety and Health (NIOSH) 1-800-35-NIOSH (1-800-356-4674)

Nongovernment Resources

American Industrial Hygiene Association (703) 849-8888

National Lead Information Center Hotline 1-800-424-LEAD (1-800-424-5323)

American Conference of Governmental Industrial Hygienists (513) 742-2020



State of North Carolina • Michael F. Easley, Governor
Department of Health and Human Services
Carmen Hooker Odom, Secretary

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LEAD
FACTS



What
Employers
Need to
Know

Occupational Health Surveillance Program

Occupational and Environmental
Epidemiology Branch
Division of Public Health
NC Dept. of Health and Human Services
1912 Mail Service Center
Raleigh, North Carolina 27699-1912

TEL: 1-800-200-7090
919-707-5940
FAX: 919-870-4810

Lead is a common metal found in many workplaces and products.

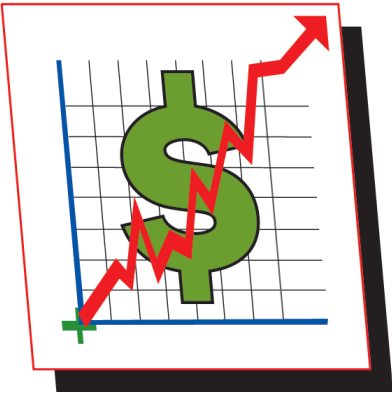
Some workplaces, operations and products with lead include:

- Abrasive blasting
- Ammunition
- Auto radiator repair
- Battery manufacturing and recycling
- Brass and bronze
- Ceramics
- Construction and demolition
- Fishing tackle
- Firing ranges
- Printing
- Primary lead smelting
- Renovation
- Ship building, repair, and demolition
- Soldering
- Stained glass
- Welding, brazing, and burning

Lead in the workplace is measured by air and surface sampling. **Airborne lead** can be a **fume** (small solid particles, formed by the condensation of vapors of solid materials) or a **dust** (small solid particles, created by the breaking-up of larger particles), or **dross** (a fluffy gray-white powder that forms on the surface of molten lead).

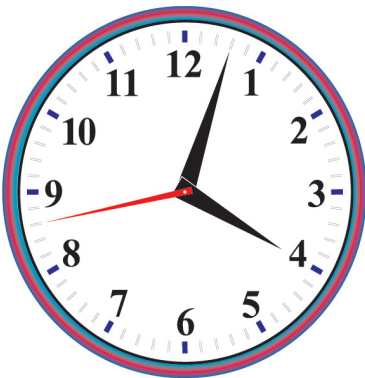
Workers are usually exposed to lead by **inhalation** (breathing dust or fumes). Operations which heat lead above 800° F are particularly hazardous. Workers can also be exposed by ingestion (getting lead inside the mouth by eating, drinking or smoking with dust on their hands, face and clothes).

Lead exposure is a serious health threat to your workers and may be costly to your business.



Direct costs from lead exposure can include lost man-hours, medical bills, increased workers' compensation claims and premiums, as well as fines from regulatory agencies (OSHA and EPA).

Indirect costs from lead exposure can include lower employee productivity and morale.



Lead exposure is preventable. Below are some control techniques that work.

The health effects of lead exposure can be very serious.

Lead can harm the:

- brain (fatigue, irritability and difficulty concentrating)
- nerves (tremors and muscle weakness)
- blood (anemia)
- kidneys
- reproductive organs (sterility and loss of function)
- digestive system (abdominal pain, vomiting and weight loss)

Workers can take lead home on their clothes, shoes, hats and skin and expose family members.

Young children are much more sensitive than adults. Children exposed to lead can have permanent behavioral problems and slow mental development. Pregnant women can pass lead to the fetus.

Workers' exposures to lead are measured by blood tests. The Centers for Disease Control and Prevention recommend that adult blood lead levels should be below 25 micrograms per deciliter ($\mu\text{g}/\text{dL}$).

In North Carolina, physicians and laboratories must report certain adult blood lead levels to the North Carolina Department of Health and Human Services, Occupational Surveillance Unit. Fact sheets about adult blood lead testing are provided to patients and clinics.

Call **1-800-200-7090** for more details.

Keep lead out of the environment.

Substitute lead-free materials if possible.

Maintain molten lead at the lowest feasible temperature to reduce lead fumes.

Analyze paint samples before renovation and demolition activities involving welding or burning.

Don't burn, weld, or use heat guns on lead-based paint.

Use well-designed and maintained local exhaust ventilation systems.

Use wet methods when removing lead-based paint to reduce dust.



Protect workers from lead exposure.

Prohibit eating, drinking, smoking and applying cosmetics in lead work areas.

Provide workers with dedicated work clothes and shoes. **Launder** lead-contaminated items separately from street clothes.

Provide workers with separate storage areas for work clothes and street clothes.

Provide convenient and clean locations for workers to wash hands and faces when leaving lead work areas.

Use respirators as a last resort. Follow the OSHA Respiratory Protection Standard.

Train workers about lead.

Show where lead can be found in the workplace.

Explain how exposure can occur and be measured.

Inform about health effects of lead exposure.

Teach control methods to keep lead out of the environment and to prevent exposure.

OSHA (Occupational Safety & Health Administration) has developed lead standards to protect employees and employers:

29 CFR 1910.1025 for General Industry
29 CFR 1926.62 for Construction

In North Carolina, worker safety and health standards are administered by the North Carolina Department of Labor, Division of Occupational Safety and Health.

The lead standards apply to all employers with workers exposed to lead.

If the airborne lead is above the Action Level, 30 micrograms per cubic meter ($\mu\text{g}/\text{m}^3$) of air, employers must establish an air monitoring program.

If the airborne lead is above the Permissible Exposure Limit, 50 $\mu\text{g}/\text{m}^3$, employers must establish a program with engineering controls, respiratory protection, personal protective equipment, administrative controls, housekeeping, medical surveillance, and worker training to reduce lead exposures.

**Call the North Carolina Department of Labor at 1-800-LABOR NC
(1-800-522-6762)**

for help with the specific requirements for your workplace.

This fact sheet is intended as a general description only and does not carry the force of legal opinion.