United States
Environmental Protection
Agency

Office of Water
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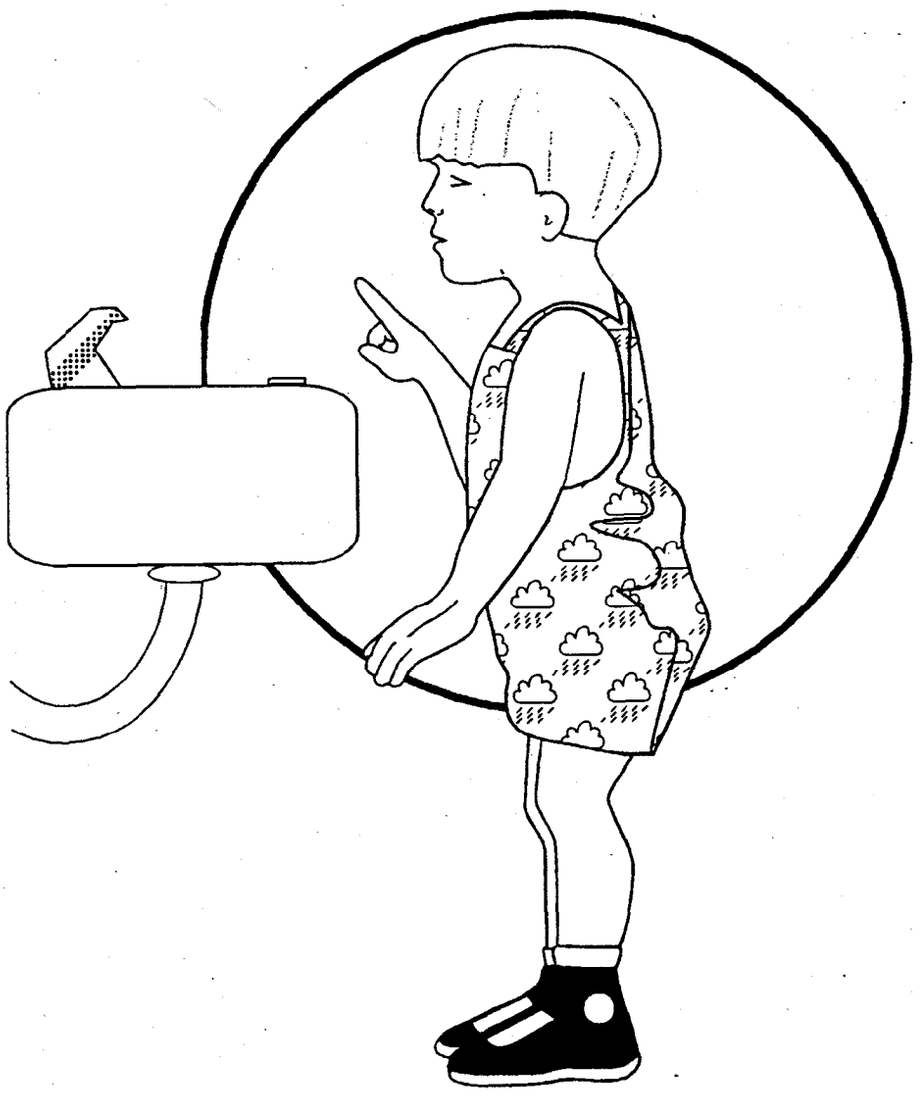
EPA

Sampling for Lead in Drinking Water in Nursery Schools and Day Care Facilities



Purpose of This Booklet

This booklet provides simple, step-by-step instructions for sampling drinking water for lead and for selecting remedies when contamination problems are found. The document is intended to assist owners and operators of small nursery schools and day care facilities. Exposure to lead is a significant health concern, especially for young children and infants whose growing bodies tend to absorb more lead than the average adult.

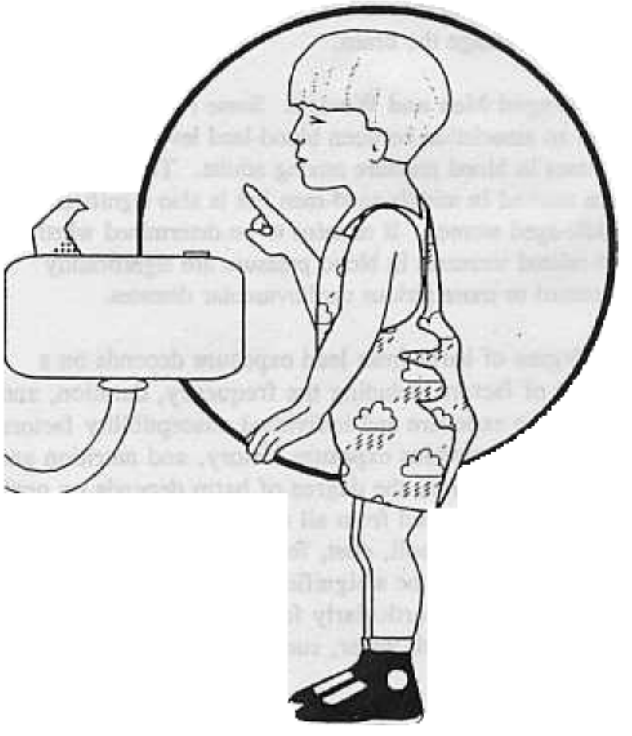
Lead generally gets into drinking water through contact with plumbing materials containing lead. The longer water remains in contact with leaded-plumbing, the more the opportunity exists for lead to leach or dissolve into water. Buildings with on again/off again water use patterns, such as day care centers and nursery schools, may be more susceptible to elevated lead concentrations. Water may sit in the pipes of these facilities for significant periods, such as overnight and during weekends, and thus enable more lead to leach into the water.

Even though water delivered from your community's public water supply must meet Federal and State standards for lead, you may still end up with too much lead in your drinking water because of the plumbing in your facility and because of your facility's water use patterns. The only way to be certain that lead is not a problem in your nursery school or day care center is to test various drinking water outlets (fountains, faucets, and coolers) for the substance. If problems are found, they can then be corrected.

This booklet provides advice on how you might proceed to test for lead and implement remedies if problems are found. If you rent your facility, inform the building owner of your plans to conduct testing and solicit his cooperation in correcting any lead problems identified.

If you own or direct a large nursery school or day care facility, or if you plan to test all of your drinking water outlets yourself, you should obtain a copy of *Lead in Drinking Water in Schools and Non-Residential Buildings*. This U.S. Environmental Protection Agency (EPA) publication contains:

- Information on the causes and effects of lead in drinking water.
- Step-by-step instructions for sampling water for lead.
- Advice on short- and long-term solutions to lead problems.



Background Information

Health Effects of Lead: Why You Should Be Concerned

Lead is a toxic metal that can be harmful to human health when ingested or inhaled. Unlike most other contaminants, lead is stored in our bones and is later released into our bloodstreams. As a result, even small doses can accumulate and become significant. The groups most vulnerable to lead include fetuses and young children.

Pregnant Women and Fetuses: Accumulated lead stored in mothers may damage a child before it is born, causing a lower birth weight and slowing down normal physical and mental development. Recently published studies suggest that even low levels in a mother may later affect an infant's mental performance.

Young Children: Young children, especially those under the age of six, process lead differently than adults. Their growing bodies tend to absorb and withhold more lead, putting them at higher risk of lead contamination. Even at low levels of lead exposure, children may experience lower IQ levels, impaired hearing, reduced attention span, and poor classroom performance. At high levels, lead can seriously damage the brain.

Middle-aged Men and Women: Some recent studies have found an association between blood-lead levels and slight increases in blood pressure among adults. The relationship is more marked in middle-aged men but is also significant for middle-aged women. It remains to be determined whether lead-related increases in blood pressure are significantly connected to more serious cardiovascular diseases.

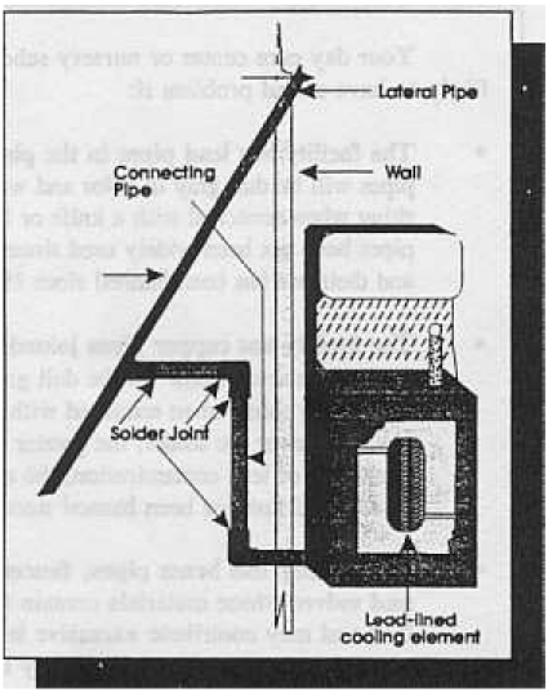
The degree of harm from lead exposure depends on a number of factors including the frequency, duration, and dose of the exposure and individual susceptibility factors, such as age, previous exposure history, and nutrition and health. In addition, the degree of harm depends on one's total exposure to lead from all sources in the environment—air, soil, dust, food, and water. Lead in drinking water can be a significant contributor to overall exposure to lead, particularly for infants whose diet consists of liquids made with water, such as baby food formula.

How Lead Gets into Drinking Water

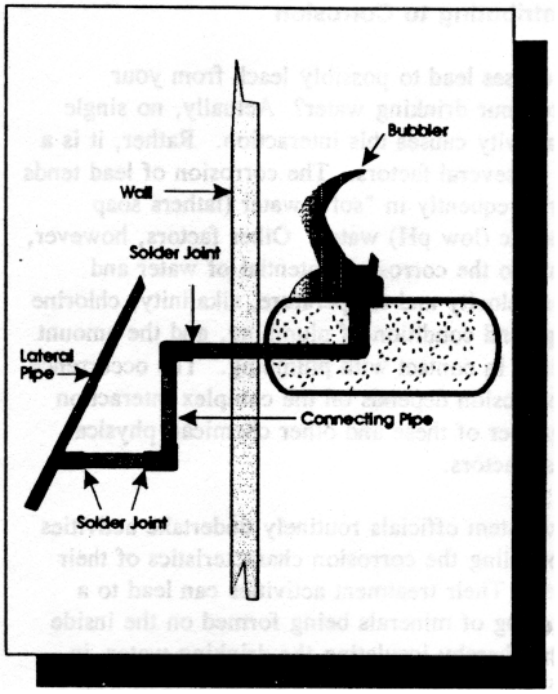
Drinking water before treatment, whether it comes from underground or from a surface source such as a lake or reservoir, contains little if any lead. Lead usually gets into drinking water after it leaves the local treatment plant or private well and comes into contact with plumbing materials in individual homes and businesses that contain lead. The physical/chemical interaction that occurs between the water and plumbing is known as "corrosion."

Some interior pipes, soldered piping joints, faucets, valves, and fittings are the primary contributors of lead to drinking water. Sediment trapped in some pipes and fixtures may also contribute lead to drinking water. Water coolers manufactured before 1988 may contain lead parts or lead-lined water storage tanks and contribute excessive levels of lead to drinking water. Pictures of some common drinking water outlets are shown in Exhibit 1.

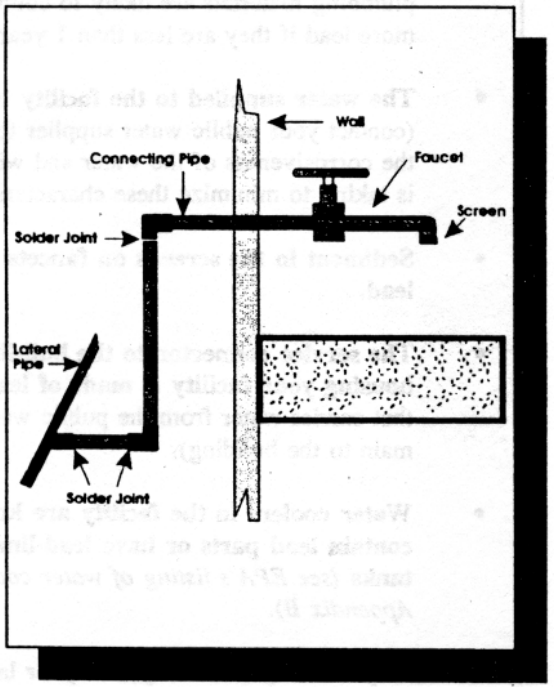
The critical issue is that even though your public water supplier may send you water that meets all Federal and State public health standards for lead, you may still end up with too much lead in your drinking water because of the plumbing in your nursery school or day care center. That is why testing your drinking water outlets for lead is so important.



Water Cooler



Bubbler



Faucet (Tap)

Sources of Lead in Drinking Water

Common sources of lead in drinking water include;

- solder
- fluxes
- pipes and pipe fittings
- fixtures (e.g., brass faucets containing alloys of lead)
- sediments

Exhibit 1. Common Drinking Water Outlets

Background Information

Factors Contributing to Corrosion

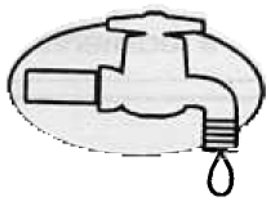
What causes lead to possibly leach from your plumbing into your drinking water? Actually, no single situation or activity causes this interaction. Rather, it is a combination of several factors. The corrosion of lead tends to occur more frequently in "soft" water (lathers soap easily) and acidic (low pH) water. Other factors, however, also contribute to the corrosion potential of water and include water velocity and temperature, alkalinity, chlorine levels, the age and condition of plumbing, and the amount of time water is in contact with plumbing. The occurrence and rate of corrosion depends on the complex interaction between a number of these and other chemical, physical, and biological factors.

Public water system officials routinely undertake activities aimed at controlling the corrosion characteristics of their water supplies. Their treatment activities can lead to a protective coating of minerals being formed on the inside layer of pipes, thereby insulating the drinking water, in effect, from lead. Given that the health effects of lead occur at very low levels, these activities are critical. The activities undertaken by individual homeowners and building owners/operators to identify and remove problem plumbing are also critical.

How Lead in Drinking Water is Regulated

Lead is regulated in drinking water under a Federal body of law known as the Safe Drinking Water Act (SDWA). This Act was initially passed in 1974 and, in part, requires EPA to establish regulations for known or potential contaminants in drinking water for the purpose of protecting public health. Major amendments were passed to the SDWA in 1986. These amendments included, in part, some specific provisions for controlling lead in drinking water:

- A new regulation to minimize lead and the corrosivity of water supplied by public water systems (known as the **Lead and Copper Rule**; took effect May 1991).



Your day care center or nursery school is most likely to have a lead problem if:

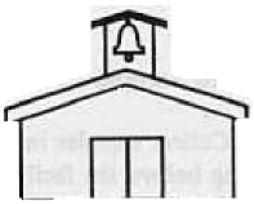
- **The facility has lead pipes in the plumbing** (the pipes will be dull gray in color and will appear shiny when scratched with a knife or key; lead pipes have not been widely used since the 1930s and their use has been banned since 1986).
- **The facility has copper pipes joined by lead solder** (the solder joint will be dull gray in color and appear shiny when scratched with a knife or key; the newer the solder, the greater the likelihood of lead contamination; the use of lead solders and flux has been banned since 1986).
- **The facility has brass pipes, faucets, fittings and valves** (these materials contain alloys of lead and may contribute excessive levels of lead to drinking water even though they meet the lead-free requirements of the Safe Drinking Water Act—less than 8 percent lead; these plumbing materials are likely to contribute more lead if they are less than 1 year old).
- **The water supplied to the facility is corrosive** (contact your public water supplier to determine the corrosiveness of the water and what steps it is taking to minimize these characteristics).
- **Sediment in the screens on faucets contain lead.**
- **The service connector to the building housing your facility is made of lead** (the pipe that carries water from the public water system main to the building).
- **Water coolers in the facility are known to contain lead parts or have lead-lined water tanks** *(see EPA's listing of water coolers in Appendix B).*

Note: If you rent your facility, ask your landlord to help identify potential sources of lead in drinking water in the building.

A requirement that only lead-free materials be used in new plumbing and in plumbing repairs; solders and flux are to contain less than 0.2 percent lead and pipes and fittings are to contain less than 8 percent lead (referred to as the **Lead Ban**; effective 1986).

In 1988, Congress passed the **Lead Contamination Control Act (LCCA)**, which further amended the SDWA. This law was passed to reduce the dangers of lead exposure to children by drinking water at schools and day care centers. In part, the LCCA required:

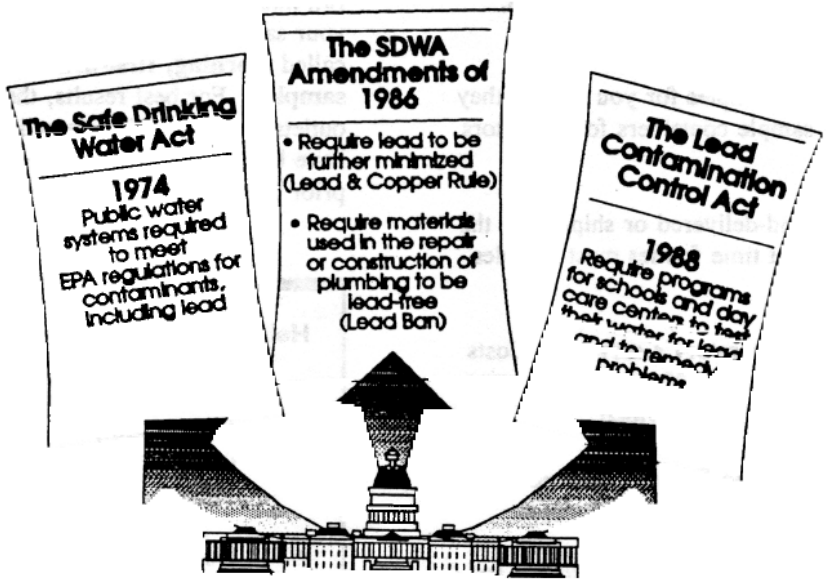
States to establish a program to assist schools and day care centers in testing for and remedying lead contamination problems.



EPA to publish guidance to assist schools and day care centers in testing for and remedying lead in drinking water problems *(this booklet and EPA's publication "Lead in Drinking Water in Schools and Non-Residential Buildings" represents this guidance).*

EPA to publish a list of water coolers that are not lead-free, including a separate list of coolers that have lead-lined tanks *(see Appendix B for a listing)*; the Consumer Product Safety Commission (CPSC) was to subsequently issue an order requiring manufacturers and importers of water coolers with lead-lined tanks to repair, replace or recall, and provide a refund for such coolers; civil and criminal penalties were also established to prohibit the further manufacture and sale in interstate commerce of coolers that are not lead-free.

Schools and day care centers that conduct lead testing to inform the school community about the testing effort and make the test results available for inspection; guidance on this topic is provided later in this booklet under the section entitled *Outreach—Notify Parents and Staff.*

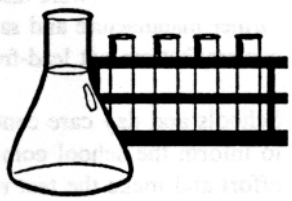


Some States and local jurisdictions have lead testing programs that are more comprehensive than the LCCA. Consult your State/local education or drinking water program to learn about any such program. At a minimum, these organizations should be able to provide you with technical assistance as you undertake sampling.

Testing Your Water for Lead

You cannot see, taste or smell dissolved lead in water. Testing is the only way to determine whether lead is a problem in your nursery school or day care center. This section outlines how you can go about sampling and interpreting test results. If you rent your facility, notify the building owner of your testing plans and provide him with a copy of your test results. You should encourage your landlord to participate in the testing process and to take corrective actions if lead problems are found.

Who Will Collect and Analyze Samples?



In general, most nursery schools and day care centers will need to contract with a certified drinking water laboratory to collect and analyze samples. Contact your State drinking water program or EPA's Safe Drinking Water Hotline *(see Appendix A)* for a list of certified laboratories in your area. Once you have identified possible laboratories, consider the following issues prior to making a selection:

Will the laboratory take samples for you or will they provide training and sample containers for collectors designated by you?

Will the samples be hand-delivered or shipped to the laboratory? Within what time frames must samples reach the laboratory?

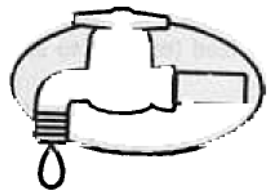
What is the cost of the laboratory's services? Costs should range between $10 and $30, depending upon the extent of the services to be provided.

What is the laboratory's time frame for providing sample results?

What documentation will the laboratory provide to note sample results? If lead contamination problems are found, sample records and test results will assist you in pinpointing the sources of problems.

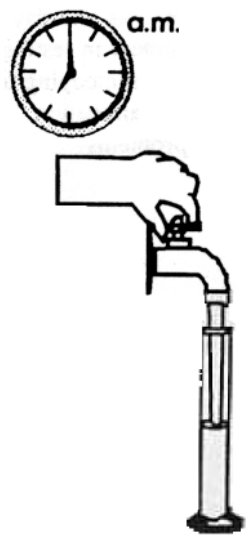
- Is the laboratory willing to establish a written agreement or contract with you for the services to be provided?

Where to Sample



Test all drinking water outlets in your nursery school or day care center for lead where water is normally drawn for drinking or food preparation for children. This is likely to include such outlets as faucets in kitchens, classrooms, and bathrooms; bubblers; water coolers; and bottled water dispensers.

When to Sample



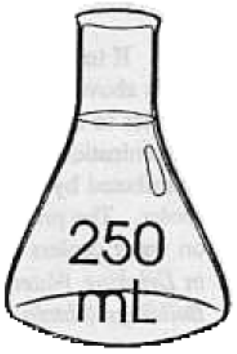
Collect samples in the morning **before** the facility opens and **before** any water is used (this includes toilet flushing). Collect water in your sample containers immediately after opening the faucet or turning on your drinking water outlet. Do not let any water run into the basin before collecting your sample. These samples are called **morning, first-draw samples.** For best results, the outlets you are testing should not have been used for 8 to 18 hours prior to collection of samples.

Helpful Hints

- **Do not** take samples after a vacation or weekend (if the facility is unused during these periods) as the water collected would not be representative of water the children normally drink.
- **Do not** close the control valve to a water cooler or sink to prevent its use before sampling. Small scrapings from the valves may get into the sample and produce inaccurate results. If necessary, place a sign or box over the unit to prevent its use for 8 to 18 hours before collecting the sample.

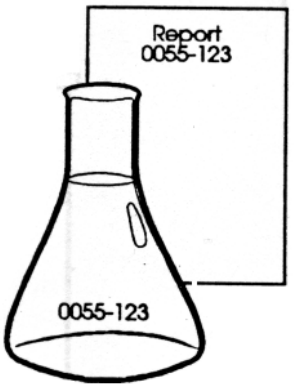
How to Handle Sample Containers

If you take the samples yourself, the laboratory will provide you with sampling containers and instructions. Carefully follow the instructions for handling the containers. Do not rinse the containers because the laboratory may have added a small amount of a chemical to preserve the sample until it reaches the laboratory. Avoid contact with this chemical. Fill the container only to the level indicated (250 milliliters).



Label each container with your name and the specific location where the sample was collected. You may also wish to number your samples. In your own files, keep a separate record for each sample with the location, sample number, date and time the sample was collected, and any other pertinent information (e.g., manufacturer and model number).

Either mail or deliver your samples to the laboratory, depending upon the arrangements you worked out in advance. The "holding" time on samples is usually short, so samples should generally be shipped the same day they are collected. Some laboratories do not want samples shipped near the end of a week because they are not open on weekends to receive them.



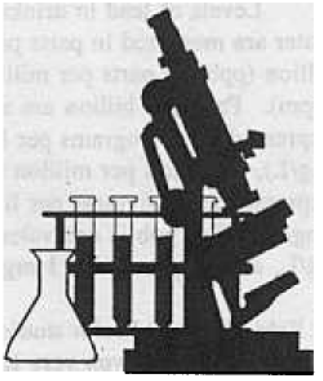
Interpreting Test Results

Levels of lead in drinking water are measured in parts per billion (ppb) or parts per million (ppm). Parts per billion are also expressed as micrograms per liter (μg/L), and parts per million are also expressed as milligrams per liter (mg/L). One ppb is equivalent to 1 μg/L, and 1 ppm equals 1 mg/L.

In light of recent health studies, which reveal that even very low levels of lead in drinking water can be harmful, especially to children, EPA recommends that you take action if samples from any of your drinking water outlets show lead levels **over 20 ppb**. Any drinking water outlet with test results at or above this level should not be used for water consumption until the source of contamination is found and corrective actions are taken to reduce the lead level below 20 ppb. Consider providing water from a known lead-free source until the situation is remedied.

>20 ppb

Follow-Up Samples



Follow-up samples should be taken from all outlets with lead levels over 20 ppb. A comparison of **morning, first-draw sample** results and **follow-up sample** results from the same outlet will help you determine whether lead is coming from the outlet itself or from the building's interior plumbing. The second sample (or follow-up sample) is called a **flushed sample** and is more representative of water being consumed in your nursery school or day care center during the day. This sample generally shows a lower lead level.

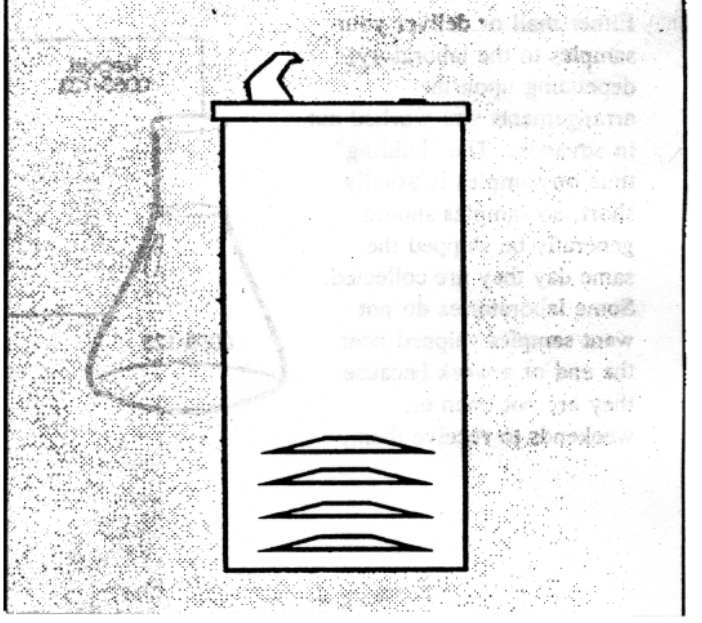
Collect a flushed sample in the morning **before** the facility opens and **before** any water is used. At each outlet being tested, allow the water to run for 30 seconds and then collect a 250 milliliter sample.

If the test results from the follow-up samples show lead levels above 20 ppb, lead is being contributed from the building's interior plumbing. You will need to take additional samples to pinpoint the specific sources of lead. If you plan to conduct such sampling yourself, consult EPA's publication *Lead in Drinking Water in Schools and Non-Residential Buildings* for guidance *(obtain through your State drinking water program—see Appendix A for contact information)*. If you rent your facility, ask your landlord to conduct follow-up testing and to implement any necessary corrective measures.

Pay Special Attention to Water Coolers

If test results from any water cooler show lead levels above 20 ppb, you may need to take additional samples to determine the origin of the lead contamination. There is the possibility that lead is being contributed by the building's plumbing and not the cooler. The procedures for conducting follow-up tests on water coolers is specified in EPA's publication *Lead in Drinking Water in Schools and Non-Residential Buildings (obtain through your State drinking water program—see Appendix A for contact information).*

If you have not already done so, check to see if the make and model number of your cooler is listed by EPA as containing lead parts or a lead-lined tank *(see Appendix B)*. If you have a water cooler that has a lead-lined tank, contact the manufacturer to determine their requirements for repairing, replacing, or providing a refund, or contact the CPSC for follow-up steps *(see Appendix A)*.



Correcting Lead Contamination Problems

Routine Control Measures

To minimize children's exposure to lead, there are several activities you can conduct on a routine basis. These activities include:

(1) **Flush all drinking water outlets.** Until you receive your test results and implement corrective measures for any lead contamination problems, flush all drinking water outlets every morning before the children arrive. Refrain from consuming water that has been in contact with plumbing for more than 6 hours, such as overnight or during the weekend. Flushing drinking water outlets is important because the longer water is exposed to lead pipes or solder, the greater the likelihood of lead contamination. Before using water for drinking or cooking, flush the cold water faucet by allowing the water to run until you feel the water become as cold as it will get. You must do this for each drinking water faucet.

Even if all of your morning, first-draw samples show low lead levels, there is still a possibility that lead may get into any water that sits in your plumbing for long periods (such as during vacations or over long weekends). To be safe, on the first day back, flush all drinking water outlets prior to opening the facility.

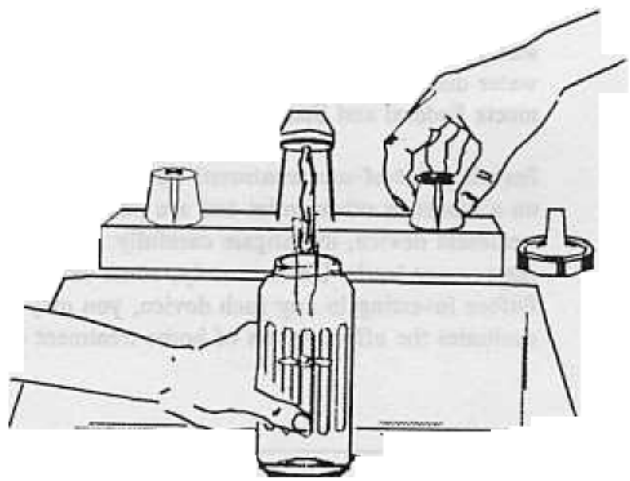
(2) **Use only cold water to prepare food and drinks.** Hot water dissolves lead more quickly than cold water and is therefore more likely to contain greater amounts of lead. If hot water is needed, water should be drawn from the cold water tap and heated. Use only thoroughly flushed water from the cold water tap for **drinking *and* when making formula, juices, or foods.**

(3) **Clean all screens of debris on a regular basis.** Small screens on the end of a faucet can trap sediments containing lead. These sediments can cause high lead levels in drinking water.

Possible Remedies

In order to determine which remedies will work in your nursery school or day care center, it is important to pinpoint the sources of lead in your facility. This is accomplished through conducting follow-up testing and then comparing these results with those of your morning, first-draw samples. *(See EPA's publication "Lead in Drinking Water in Schools and Non-Residential Buildings" for further information on this topic—order document through your State drinking water program listed in Appendix A).*

Before implementing any remedy, all options available should be considered *(see Exhibit 2 for a list of possible remedies).* Decisions should be based on such factors as ease of implementation, operation and maintenance, and costs. Following implementation of any remedy, additional follow-up testing should be conducted to ensure that the remedy employed is actually successful at reducing lead exposure. Contact your State drinking water program for advice in this area *(see Appendix A for contact information)*, or consider hiring a licensed plumber or water supply professional. If you rent your facility, ask the building owner to take follow-up samples and institute corrective measures.



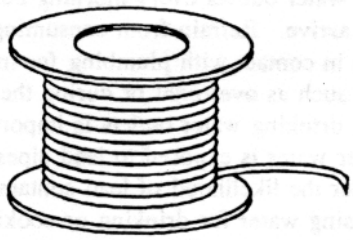
Possible Remedies for Addressing Both Widespread and Localized Lead Contamination Problems:

- If you have a private well, **treat the water for corrosion before it enters the building** with calcite filters, soda ash, or a phosphate solution tank and feeder units. These devices are commercially available.

- **Flush all outlets prior to use** *(see instructions above for flushing under "Routine Control Measures").*

- **Remove sources of lead in the plumbing system.** These remedies are probably more appropriate for localized contamination problems and are best handled by a licensed plumber:

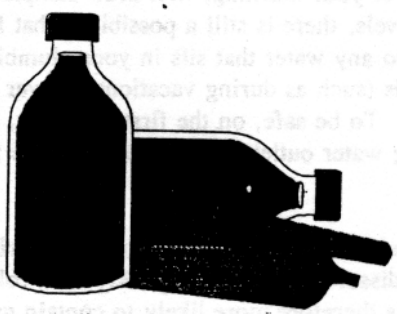
  - Replace solder joints with lead-free joints.
  - Replace the outlet or fixture/faucet with lead-free materials.
  - Replace piping with lead-free materials.



Note: New brass faucets, fittings, and valves may contribute lead to drinking water even though they meet the lead-free requirements of the Safe Drinking Water Act (i.e., they contain less than 8 percent lead). Before purchasing any such materials, request the results of lead testing information from the manufacturer or distributor.

- **By-pass the sources of lead contamination.** This remedy is also probably most appropriate for addressing a localized contamination problem and could best be implemented by a licensed plumber.

- **Provide an alternative and lead-free source of drinking water**, such as bottled water. Make sure that you require a written statement from the bottled water distributor guaranteeing that the water quality meets Federal and State bottled water standards.

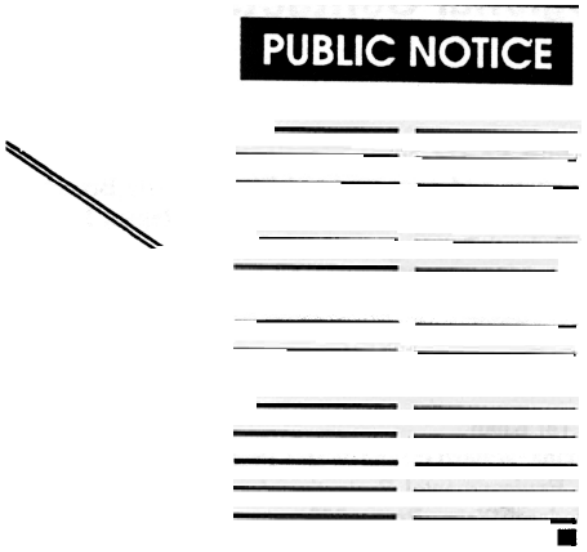


- **Install point-of-use treatment devices** (often referred to as home treatment devices). These devices are installed on a faucet or other outlet and are intended to remove specific contaminants. If you are interested in a home treatment device, investigate carefully. Some treatment devices that claim to remove many contaminants often do not remove lead. Unfortunately, some devices, if not maintained properly, may actually *increase* lead levels. Before investing in any such device, you may want to contact NSF International, an independent organization that evaluates the effectiveness of home treatment units *(see Appendix A for contact information).*

Exhibit 2. Possible Remedies

Outreach—Notify Parents and Staff

The LCCA of 1988 requires you to notify parents, staff, and other employee organizations that test results are available. You might use fliers, letters mailed to the home, or a parent meeting to disseminate this information. It is a good idea to include information on the details of your sampling program, what you are doing and why, so that those concerned will know how you have identified and corrected any lead problems.



Some helpful hints for effective communication include:

- Take the initiative.

  Anticipate questions.

  Be a good source of information.

- Keep people up to date on your progress.

Appendix A—Listing of EPA Regional, State Drinking Water, and Other Contacts

Regional Contacts

Region I

Ms. Ellie Kwong
Groundwater Management and Water Supply Branch
U.S. Environmental Protection Agency Region I
JFK Federal Building
Boston, MA 02203
(617) 565-3620

Region II

Mr. Taj Khan
Drinking Water/Ground Water Protection Branch
U.S. Environmental Protection Agency Region II
26 Federal Plaza, Room 853
New York, NY 10278
(212) 264-1358

Region III

Mr. George Rizzo
Drinking Water/Ground Water Protection Branch
U.S. Environmental Protection Agency Region III
841 Chestnut Street
Philadelphia, PA 19107
(215) 597-0609

Region IV

Mr. Tom DeGaetano
Municipal Facilities Branch
U.S. Environmental Protection Agency Region IV
345 Courtland Street, NE
Atlanta, GA 30365
(404) 347-2913

Region V

Mr. John Delessandro
Technical Support Unit
U.S. Environmental Protection Agency Region V
77 West Jackson
Chicago, IL 60604
(312) 353-4914

Region VI

Mr. Len Pardee
Water Supply Branch
U.S. Environmental Protection Agency Region VI
First Interstate Bank Tower at Fountain Place
1445 Ross Avenue, 12th Floor, Suite 1200
Dallas, TX 75202
(214) 655-8086

Region VII

Ms. Elizabeth Murtagh-Yaw
Drinking Water Branch
U.S. Environmental Protection Agency Region VII
726 Minnesota Avenue
Kansas City, KS 66101
(913) 551-7440

Region VIII

Ms. Marty Swickard,
PWSP Section - 8WM-DW
Drinking Water Branch
U.S. Environmental Protection Agency Region VIII
999 18th Street, Suite 500
Denver, CO 80202
(303) 293-1629

Region IX

Ms. Cheryl Gustafson
Public Water Supply Section
U.S. Environmental Protection Agency Region IX
75 Hawthorne Street
San Francisco, CA 94105
(415) 744-1828

Region X

Ms. Wendy Marshall
Lead Contact WD-132
Ground Water and Drinking Water Branch
U.S. Environmental Protection Agency Region X
1200 Sixth Avenue
Seattle, WA 98101
(206) 553-1890

State LCCA Contacts

EPA REGION

Connecticut

Mr. Bob Rivard, Supervising Sanitary Engineer
Water Supply Section
Connecticut Department of Health Services
150 Washington Street
Hartford, CT 06106
(203) 566-1253

Maine

Mr. Peter Moulton, Drinking Water Manager
Drinking Water Program
Maine Division of Health
State Station 10
Augusta, ME 04333
(207) 287-2070

Massachusetts

Mr. Chuck Larson, Environmental Engineer
Division of Water Supply
Massachusetts Department of Environmental Protection
One Winter Street
Boston, MA 02108
(617) 292-5857

New Hampshire

Mr. Richard Thayer, Sanitary Engineer
New Hampshire Department of Environmental Services
P.O. Box 95
6 Haven Drive
Concord, NH 03301
(603) 271-3139

Rhode Island

Ms. Donna Pytell, Sanitary Engineer
Division of Drinking Water Quality
Rhode Island Department of Health
3 Capitol Hill
Providence, RI 02908
(401) 277-6867

Vermont

Ms. Jean Nicolai/Benson Sargent
Drinking Water Program
Water Supply Division
Vermont Department of Health
Old Pantry Building
103 South Main Street
Waterbury, VT 05671-0403
(802) 241-3400

EPA REGION II

New Jersey

Mr. Sonny Saroya
Bureau of Safe Drinking Water
Division of Water Resources
New Jersey Department of Environmental Protection
P.O. Box CN-029
Trenton, NJ 08625
(609) 292-5550

New York

Mr. David Mead
New York Department of Health
2 University Plaza/Western Avenue
Room 406
Albany, NY 12203-3399
(518) 458-6706

Puerto Rico

Mrs. Olga I. Rivera, Acting Director
Puerto Rico Department of Health
Edificio A. Centro Medico
Call Box 70184
San Juan, PR 00936
(809) 763-4307

Virgin Islands (St. Thomas)

Mr. Ira Hobson, Supervisor, PWSS Program
Government of the Virgin IslandsDepartment of Planning and Natural Resources
Nisky Center, Suite 231, Nisky 45A
St. Thomas, VI 00802
(809) 774-3320

EPA REGION III

Delaware

Mr. Ed Hallock
Environmental Health Specialist III
Public Water System Supervision Program
Division of Public Health
Delaware Department of Health and Social Services
P.O. Box 637
Dover, DE 19901
(302) 739-5410
[Both Lead and Drinking Water Contact]

District of Columbia

Preventive Health Services
Commission of Public Health
Government of the District of Columbia
1660 L. Street, NW, Suite 815
Washington, DC 20036
(202) 673-6741
[Childhood Lead Poisoning Prevention Contact]

Maryland

Ms. Susan Guyaux
Center for Special Toxics
Lead Poisoning Prevention Program
Maryland Department of the Environment
2500 Broening Highway
Baltimore, MD 21224
(410) 631-3859
[Lead Contact]

Pennsylvania

Mr. Frederick A. Marrocco, Chief
Division of Water Supplies
Pennsylvania Department of Environmental Resources
P.O. Box 2357
Harrisburg, PA 17120
(717) 787-9037
[Both Lead and Drinking Water Contact]

Virginia

Mr. Robert B. Stroube, M.D., M.P.H.
State Health Commissioner
Virginia Department of Health
109 Governor Street
Richmond, VA 23219
(804) 786-3561
[Lead Contact]

West Virginia

Mr. Donald A. Kuntz, P.E. Director
Environmental Engineering Division
Office of Environmental Health Services
West Virginia Department of Health and Human Resources
815 Quarrier Street, Suite 418
Charleston, WV 25301
(304) 558-2981
[Both Lead and Drinking Water Contact]

EPA REGION IV

Alabama

Mr. Joe Alan Power, Director
Public Water Supply Branch
Alabama Department of Environmental Management
1751 Congressman W.L. Dickinson Drive
Montgomery, AL 36109-2698
(205) 271-7773

Florida

Mr. Van Hoofnagle, Administrator
Drinking Water Section
Florida Department of Environmental Regulation
Twin Towers Office Building
2600 Blair Stone Road
Tallahassee, FL 32399-2400
(904) 487-1762

Georgia

Mr. Fred D. Lehman, Manager
Drinking Water Program
Georgia Department of Natural Resources
Floyd Towers East, Suite 1362
205 Butler Street, SE
Atlanta, GA 30334
(404) 651-2750

Kentucky

Mr. John T. Smither, Manager
Drinking Water Branch
Kentucky Natural Resources and
Environmental Protection Cabinet
14 Reilly Road
Frankfort, KY 40601
(502) 564-3410

Mississippi

Mr. David Mitchell, Director
Division of Water Supply
Mississippi State Department of Health
P.O. Box 1700
Jackson, MS 39205
(601) 960-7518

North Carolina

Mr. Wallace Venrick, Chief
Public Water Supply Section
North Carolina Department of Environmental Health
and Natural Resources
Division of Environmental Health
P.O. Box 29536
Raleigh, NC 27626-0536
(919) 733-2321

South Carolina

Mr. Robert E. Malpass, Chief
Bureau of Drinking Water Protection
South Carolina Department of Health
and Environmental Control
2600 Bull Street
Columbia, SC 29201
(803) 733-5310

Tennessee

Mr. David Draughon, Director
Division of Water Supply
Tennessee Department of Environment and Conservation
401 Church Street
Sixth Floor, L & C Tower
Nashville, TN 37219-5404
(615) 532-0191

EPA REGION V

Illinois

Mr. Dean Thady
State Plumbing Consultant
Office of Health Protection
Illinois Department of Public Health
525 West Jefferson Street
Springfield, IL 62761
(217) 524-0799
[For questions on plumbing]

Mr. G. Michael Brant
Office of Health Protection
Division of Environmental Health
Illinois Department of Public Health
525 West Jefferson Street
Springfield, IL 62761
(217) 524-5830
[For questions on fountains in schools]

Indiana

Mr. Wayne Brattain
Drinking Water Branch
Indiana Department of Environmental Management
P.O. Box 6015
Indianapolis, IN 46206-6015
(317) 233-4179

Michigan

Division of Water Supply
Michigan Department of Public Health
3423 North Logan/Martin L. King Jr. Boulevard
P.O. Box 30195
Lansing, MI 48909
(517) 335-9215

Minnesota

Ms. Lih-In Rezania
Drinking Water Protection Section
Division of Environmental Health
Minnesota Department of Health
925 Delaware Street, SE
P.O. Box 59040
Minneapolis, MN 55459-0040
(612) 627-5488

Ohio

Mr. Dan Chatfield
Ohio Department of Health
246 North High Street
P.O. Box 118
Columbus, OH 43266-0118
(614) 466-1450

Wisconsin

Ms. Cindy Diedrich
Public Water Supply Section
Bureau of Water Supply
Wisconsin Department of Natural Resources
101 South Webster Street
P.O. Box 7921
Madison, WI 53707
(608) 267-2451

EPA REGION VI

Arkansas

Engineering Division
Arkansas Department of Health
4815 West Markham
Little Rock, AR 72203-3867
(501) 661-2623

Louisiana

Louisiana Department of Health and Hospitals
Office of Public Health
P.O. Box 60630, Room 403
New Orleans, LA 70160
(504) 568-5100

New Mexico

New Mexico Environmental Department
1190 St. Francis Drive
P.O. Box 26110
Santa Fe, NM 87502
(505) 827-7536

Oklahoma

Oklahoma Department of Environmental Quality
Water Quality Service-0207
1000 NE 10th Street
P.O. Box 53551
Oklahoma City, OK 73117-1212
(405) 271-5205 x148

Texas

Texas National Resource Conservation Commission
P.O. Box 13087
Austin, TX 78711-3087
(512) 908-6020

EPA REGION VII

Iowa

Ms. Rita Gergely
Bureau of Health Engineering and Consumer Safety
Division of Disease Prevention
Iowa Department of Public Health
Lucas State Office Building
321 East 12th Street
Des Moines, IA 50319-0075
(512) 242-6340

Kansas

Contact school system for information

Missouri

Mr. Mike Carter
Bureau of Environmental Epidemiology
Missouri Department of Health
P.O. Box 570
Jefferson City, MO 65102
(314) 751-6102 or 1-800-392-7245

Nebraska

Mr. Jack Daniel, Director
Division of Drinking Water and Environmental Sanitation
Nebraska Department of Health
301 Centennial Mall South
P.O. Box 95007
Lincoln, NE 68509
(402) 471-2541

EPA REGION VIII

Colorado

Ms. Michelle Bolyard
Drinking Water Section
Water Quality Control Division
Colorado Department of Health
4300 Cherry Creek Dr. South
Denver, CO 80222
(303) 692-3539

Montana

Mr. Terry Campbell
Drinking Water Section, Water Quality Bureau
Montana Department of Health and Environmental Sciences
Cogswell Building
Helena, MT 59620
(406) 444-5256

North Dakota

Mr. Sherwin Wanner
North Dakota State Department of Health
and Consolidated Laboratories
Municipal Facilities Division
1200 Missouri Avenue, Box 5520
Bismarck, ND 58502-5520
(701) 221-5210

South Dakota

Mr. Michael Getty
South Dakota Department of Environmental
and Natural Resources
Office of Drinking Water
Joe Foss Building
Pierre, SD 57501-3181
(605) 773-3754

Utah

Ms. Patti Fauver
Utah Department of Environmental Quality
Division of Drinking Water
P.O. Box 144830
Salt Lake City, UT 84114-4830
(801) 538-6159

Wyoming

Ms. Maureen Doughtie
United States Environmental Protection Agency Region 8
PWSIE Section
999 18th Street, Suite 500
Denver, CO 80202
(303) 293-1629

EPA REGION IX

Arizona

Mr. Michael Kleminski
Compliance Officer
Drinking Water Compliance Unit
Arizona Office of Water Quality
3033 North Central Avenue
Phoenix, AZ 85012
(602) 207-4641

California

Technical Programs Branch
California Department of Health Services
Division of Drinking Water
2151 Berkeley Way, Room 113
Berkeley, CA 94704
(510) 540-2154

Hawaii

Hawaii Department of Health
Five Waterfront Plaza, Suite 250
500 Ala Moana Boulevard
Honolulu, HI 96813
(808) 586-4258

Nevada

Nevada Department of Human Resources
Bureau of Health Protection Services
505 East King Street
Carson City, NV 89710
(702) 687-4750

EPA REGION X

Alaska

Alaska Department of Environmental Conservation
Drinking Water Program Manager
410 Willoughby, Suite 105
Juneau, AK 99801
(907) 465-5300

Idaho

Mr. Eldon Nelson, Support Services Supervisor
Idaho Department of Education
650 West State
Boise, ID 83720
(208) 334-2203

Oregon

Mr. Dave Leland, Supervisor
Drinking Water Section
Oregon Health Division
P.O. Box 14450
Portland, OR 97214-0450
(503) 731-4010

Washington

Washington Department of Health
Division of Drinking Water
P.O. Box 47822
Olympia, WA 98504-7822
(206) 753-9674

Other Contacts

Consumer Product Safety Commission (CPSC)
Washington, DC 20207
(800) 638-8772

EPA's National Safe Drinking Water Hotline
(800) 426-4791
Hotline operates Monday through Friday, 9:00 a.m. to 5:30 p.m. (EST), except Federal holidays

NSF International
3475 Plymouth Road
P.O. Box 1468
Ann Arbor, MI 48106

Appendix B—Water Cooler Summary

The Lead Contamination Control Act (LCCA), which amended the Safe Drinking Water Act, was signed into law on October 31, 1988 (P.L. 100-572). The potential of water coolers to supply lead to drinking water in schools and day care centers was a principle focus of this legislation. Specifically, the LCCA mandated that the Consumer Product Safety Commission (CPSC) order the repair, replacement, or recall and refund of drinking water coolers with lead-lined water tanks. In addition, the LCCA called for a ban on the manufacture or sale in interstate commerce of drinking water coolers that are not lead-free. Civil and criminal penalties were established under the law for violations of this ban. With respect to a water cooler that may come in contact with drinking water, the LCCA defined the term "lead-free" to mean:

> "not more than 8 percent lead, except that no drinking water cooler which contains any solder, flux, or storage tank interior surface which may come in contact with drinking water shall be considered lead free if the solder, flux, or storage tank interior surface contains more than 0.2 percent lead."

Another component of the LCCA was the requirement that EPA publish and make available to the states a list of drinking water coolers, by brand and model, that are not lead-free. In addition, EPA was to publish and make available to the states a separate list of the brand and model of water coolers with a lead-lined tank. EPA is required to revise and republish these lists as new information or analyses become available.

Based on responses to a Congressional survey in the winter of 1988, three major manufacturers, the Halsey Taylor Company, EBCO Manufacturing Corporation, and Sunroc Corporation, indicated that lead solder had been used in at least some models of their drinking water coolers. On April 10, 1988, EPA proposed in the *Federal Register* (at 54 *FR* 14320) lists of drinking water coolers with lead-lined tanks and coolers that are not lead-free. Public comments were received on the notice, and the list was revised and published on January 18, 1990 (Part III, 55 *FR* 1772). *See Table B-1 for a list of water coolers with lead components.*

[1]Based on an analysis of 22 water coolers at a U.S. Navy facility and subsequent data obtained by EPA, EPA believes the most serious cooler contamination problems are associated with water coolers that have lead-lined tanks.

Prior to publication of the January 1990 list, EPA determined that Halsey Taylor was the only manufacturer of water coolers with lead-lined tanks.[1] Table B-2 presents a listing of model numbers of the Halsey Taylor drinking water coolers with lead-lined tanks that had been identified by EPA as of January 18, 1990.

Since the LCCA required the CPSC to order manufacturers of coolers with lead-lined tanks to repair, replace or recall and provide a refund of such coolers, the CPSC negotiated such an agreement with Halsey Taylor through a consent order published on June 1, 1990 (at 55 *FR* 22387). The consent agreement calls on Halsey Taylor to provide a replacement or refund program that addresses all the water coolers listed in Table B-2 as well as "all tank-type models of drinking water coolers manufactured by Halsey Taylor, whether or not those models are included on the present or on a future EPA list." Under the consent order, Halsey Taylor agreed to notify the public of the replacement and refund program for all tank type models.

If you have one of the Halsey Taylor water coolers noted in Table B-2, contact Halsey Taylor *(address and phone noted below)* to learn more about the requirements surrounding their replacement and refund program.

Halsey Taylor
2222 Camden Court
Oak Brook, IL 60520
(708) 574-3500

SPECIAL NOTE:

Experience indicates that newly installed brass plumbing components containing 8 percent or less lead, as allowed by the LCCA and the Lead Ban, can contribute high lead levels to drinking water for a considerable period after installation. U.S. water cooler manufacturers have notified EPA that since September 1993, the components of water coolers that come in contact with drinking water have been made with non-lead alloy materials. These materials include stainless steel for fittings and water control devices, brass made of 60 percent copper and 40 percent zinc, terillium copper, and food grade plastic.

Appendix B—Water Cooler Summary

Table B-1
Water Coolers With Other Lead Components

EBCO Manufacturing

- All pressure bubbler water coolers with shipping dates from 1962 through 1977 have a bubbler valve containing lead. The units contain a single, 50-50 tin-lead solder joint on the bubbler valve. Model numbers for coolers in this category are not available.

- The following models of pressure bubbler coolers produced from 1978 through 1981 contain one 50-50 tin-lead solder joint each.

CP3	DP15W	DPM8	7P	13P	DPM8H	DP15M	DP3R	DP8A
DP16M	DP5S	C10E	PX-10	DP7S	DP13SM	DP7M	DP7MH	DP7WD
WTC10	DP13M-60	DP14M	CP10-50	CP5	CP5M	DP15MW	DP3R	DP14S
DP20-50	DP7SM	DP10X	DP13A	DP13A-50	EP10F	DP5M	DP10F	CP3H
CP3-50	DP13M	DP3RH	DP5F	CP3M	EP5F	13PL	DP8AH	DP13S
CP10	DP20	DP12N	DP7WM	DP14A-50/60				

Halsey Taylor

Lead solder was used in these models of water coolers manufactured between 1978 and the last week of 1987:

WMA-1	SCWT/SCWT-A	SWA-1	DC/DHC-1
S3/5/10D	BFC-4F/7F/4FS/7FS	S300/500/100D	

The following coolers manufactured for Haws Drinking Faucet Company (Haws) by Halsey Taylor from November 1984 through December 18, 1987 are not lead-free because they contain 2 tin-lead solder joints. The model designations for these units are as follows:

HC8WT	HC14F	HC6W	HWC7D	HC8WTH	HC14FH	HC8W	HC2F	HC14WT
HC14FL	HC14W	HC2FH	HC14WTH	HC8FL	HC4F	HC5F	HC14WL	HCBF7D
HC4FH	HC10F	HC16WT	HCBF7HO	HC8F	HC8FH	HC4W	HWC7	

Table B-2
Halsey Taylor Water Coolers With Lead-Lined Tanks

- The following six model numbers have one or more units in the model series with lead-lined tanks:

  WM8A WT8A GC10ACR GC10A GC5A RWM13A

- The following models and serial numbers contain lead-lined tanks:

WM14A Serial No. 843034	WM14A Serial No. 843006	WT11A Serial No. 222650
WT21A Serial No. 64309550	WT21A Serial No. 64309542	LL14A Serial No. 64346908