CHAPTER 4761
DEPARTMENT OF HEALTH
RESIDENTIAL LEAD ABATEMENT

4761.0100 APPLICABILITY.

Parts 4761.0100 to 4761.0800 apply to anyone performing or ordering performance of abatement on residential sources of lead exposure to people or the environment.

Statutory Authority: *MS s 144.05; 144.12; 144.878*

History: *15 SR 2138*

4761.0200 DEFINITIONS.

Subpart 1. **Scope.** For purposes of parts 4761.0100 to 4761.0800, the following terms have the meanings given them.

Subp. 2. **Abatement.** "Abatement" has the meaning given in Minnesota Statutes, section 144.871, subdivision 2.

Subp. 3. **Abatement contractor.** "Abatement contractor" has the meaning given in Minnesota Statutes, section 144.871, subdivision 3.

Subp. 4. **Abrasive blasting.** "Abrasive blasting" means the use of air pressure and an abrasive grit to remove a surface coating.

Subp. 5. **Assessment.** "Assessment" means preabatement sampling and analysis, as described in part 4761.0400, for sources of lead exposure in a residence.

Subp. 6. **Bare soil.** "Bare soil" has the meaning given in part 4760.0015.

Subp. 7. **Board of health.** "Board of health" has the meaning given in Minnesota Statutes, section 145A.03 or 145A.07.

Subp. 8. **Deteriorated paint or deteriorating paint.** "Deteriorated paint" or "deteriorating paint" means paint that has become or is becoming chipped, peeled, or otherwise separated from its substrate or that is attached to damaged substrate.

Subp. 9. **Elevated blood lead level.** "Elevated blood lead level" means at least 25 micrograms of lead per deciliter of whole blood.

Subp. 10. **Encapsulation.** "Encapsulation" has the meaning given in Minnesota Statutes, section 144.871, subdivision 7.

Subp. 11. **High efficiency particulate air filter.** "High efficiency particulate air filter" means a filter capable of trapping and retaining at least 99.97 percent of all monodispersed particles 0.3 microns in diameter or larger.

Subp. 12. **Intact paint.** "Intact paint" means any paint that is not deteriorated paint or deteriorating paint as defined in subpart 8.

Subp. 13. **Modified-wet abrasive blasting.** "Modified-wet abrasive blasting" means abrasive blasting with the addition of a minimum quantity of water to the air and abrasive stream so that dispersal of particulate matter is suppressed but there is no adherence of waste material to the substrate.

Subp. 14. **Reassessment.** "Reassessment" means postabatement sampling and analysis, as described in part 4761.0600, for sources of lead exposure in a residence.

Subp. 15. **Residence.** "Residence" means:

A. every structure used or intended for use as single family habitation, including exterior structure and ground surfaces, and every other structure located within the same lot;

B. a dwelling unit within a structure used or intended for use as multifamily habitation, including common areas located within the same lot and exterior structure and ground surfaces but not including other dwelling units; or

C. every location, such as a residential child care facility, in which the child regularly spends several hours per day and all associated structures and areas to which the child has access.

Subp. 16. **Substrate.** "Substrate" means a building material, such as wood, Sheetrock, or plaster, that is coated by paint or other surface coating.

Subp. 17. **Vacuum blasting.** "Vacuum blasting" means dry abrasive blasting with a blast nozzle that is surrounded by a chamber under negative air pressure that is held against the coated surface.

Subp. 18. **Waterblasting.** "Waterblasting" means the use of pressurized water to remove a surface coating.

Subp. 19. **Window well.** "Window well" means the horizontal surface on which the sash of a window sits when the window is closed.

Subp. 20. **Windowsill.** "Windowsill" means the interior horizontal ledge at the base of a window opening.

Subp. 21. **X-ray fluorescence analyzer.** "X-ray fluorescence analyzer" means a portable or laboratory instrument that measures lead by gamma ray-induced fluorescence of lead atoms.

Statutory Authority: *MS s 144.05; 144.12; 144 878*

History: *15 SR 2138*

4761.0300 STANDARDS.

Subpart 1. **Paint.** Residential paint must not contain lead in a concentration of one-half of one percent (5,000 parts per million) or more by dry weight or register one milligram of lead per square centimeter or more as measured by x-ray fluorescence analyzer unless laboratory analysis shows that the lead content is less than one-half of one percent.

Subp. 2. **Dust.** Residential dust must not contain lead in a concentration of 80 micrograms of lead or more per square foot on a hard-surfaced floor, 300 micrograms of lead or more per square foot on a windowsill, and 500 micrograms of lead or more per square foot on a window well. Residential dust must not contain lead in a concentration of 300 parts per million in carpeting.

Subp. 3. **Drinking water.** Drinking water must not contain 50 micrograms of lead or more per liter of water.

Statutory Authority: *MS s 144.05; 144.12; 144.878*

History: *15 SR 2138*

4761.0400 ASSESSMENT.

Subpart 1. **General.** A board of health must conduct an assessment and act on the findings of an assessment as described in this part.

Subp. 2. **Assessment required.** A board of health must conduct an assessment of a residence to determine sources of lead exposure if a pregnant woman in the residence has a blood lead level of at least ten micrograms per deciliter or if a child in the residence has an elevated blood lead level.

Subp. 3. **Abatement required.** A board of health must order a property owner to perform abatement on a lead source that exceeds a standard in part 4761.0300 or a soil standard adopted by the Pollution Control Agency under Minnesota Statutes, section 144.878, subdivision 2, paragraph (b), at the residence of a pregnant woman who has a blood lead level of at least ten micrograms per deciliter or of a child who has an elevated blood lead level.

Subp. 4. **Paint.** In conducting an assessment, a board of health must test paint from each type of surface, such as a wall, floor, window well, windowsill, ceiling, shelf, door, or fixture. A board of health must test all deteriorating paint and must test intact paint on surfaces that are accessible to small children as chewable or lead-dust producing surfaces and that are sources of actual lead exposure. A board of health is not required to test paint on every surface within a residence. The selected surfaces must be tested by either:

A. X-ray fluorescence analyzer measurement of in-place paint; or

B. "Test Methods for Evaluating Solid Waste, 1A: Laboratory Manual for Physical/Chemical Methods," Chapter 3, Acid Digestion of Sludges and Soils, United States Environmental Protection Agency, September 1986. This publication is incorporated by reference and is available through the Minitex interlibrary loan system. This publication is not subject to frequent change.

Subp. 5. **Dust.** In conducting an assessment, a board of health must test dust from each type of horizontal hard surface, such as a floor, window well, windowsill, shelf, or fixture. Carpeting, if any, must be tested for lead in dust nearest the main entrance to the residence and elsewhere within the residence if the carpet appears to the board of health to be in a soiled or worn condition or has not been subject to regular cleaning with a vacuum cleaner. A board of health must also test dust from surfaces that are accessible to small children, that are lead-dust producing, and that are actual sources of lead exposure. A board of health is not required to test dust on every surface within a residence. Dust samples from hard surfaces must be analyzed by a method approved by the United States Environmental Protection Agency as described in subpart 4, item B. Dust samples from carpeting must be analyzed by a method described in "Determination of Lead in Soil," Soil Testing and Research Analytical Laboratories, Department of Soil Science/Agricultural Experiment Station, University of Minnesota, Saint Paul, Minnesota, July 1990. This publication is incorporated by reference and is available through the Minitex interlibrary loan system. This publication is not subject to frequent change. A dust sample must be collected from an area of one square foot, if possible. For hard surfaces, either the method described in item A or B may be used. For carpeting, the method described in item B must be used. If the method in item B fails to collect enough of a dust sample from carpeting to conduct analysis, then the carpeting is considered to be in compliance. The information listed in item C must be recorded for each dust sample.

A. The person collecting the dust sample must wear disposable gloves and use a commercial wipe moistened with a nonalcohol wetting agent and use the following method:

(1) if the package of wipes has been opened, discard the first wipe;

(2) seal the next wipe in a 50 milliliter polypropylene tube so it can be used as a laboratory blank;

(3) measure the area of the surface to be sampled and place a wipe flat on it;

(4) rub, but do not scrub, the wipe in an "S" pattern once over the entire area;

(5) fold the wipe in half so that the dust is folded into the wipe;

(6) rub the wipe in another "S" pattern over the entire measured area but at 90 degrees to the first "S" pattern; and

(7) fold the wipe and seal it in a 50 milliliter polypropylene tube.

B. The person collecting the dust sample must use the following method:

(1) use a calibrated air pump at a flow rate of at least two liters of air per minute to draw air and dust into the sampling port of a filter cassette through a three-millimeter interior diameter sampling tube cut at a 45-degree angle;

(2) pass the sampling tube over the surface three times, alternating directions; and

(3) disconnect and seal the filter cassette until analysis.

C. The person collecting the sample must record the following information:

(1) name of the person collecting the sample;

(2) the address and location within the residence where each dust sample was collected;

(3) the surface area measured and the type of surface sampled, such as a floor or windowsill, and type of sample, such as a preabatement sample or postabatement sample; and

(4) the date on which the sample was collected.

Regardless of the actual area measured, a laboratory can convert units to micrograms per square foot, which is the unit of measurement in the standard.

Subp. 6. **Drinking water.** In conducting an assessment, the board of health must test the drinking water in the residence. Drinking water must be collected by the method described in "Lead in School's Drinking Water," prepared by the Office of Drinking Water, United States Environmental Protection Agency, Document EPA 570/9-89-001, January 1989. This publication is incorporated by reference and is available through the Minitex interlibrary loan system. This publication is not subject to frequent change. Drinking water must be analyzed by a method approved by the United States Environmental Protection Agency in Code of Federal Regulations, chapter 40, part 136, table 1B "List of Approved Inorganic Test Procedures for Atomic Absorption or Inductively Coupled Plasma," Washington, D.C., Government Printing Office.

Subp. 7. **Soil.** In conducting an assessment, the board of health must test bare soil from the residence. The board of health need not collect and test soil from the residence for possible soil lead if the property owner agrees to treat the bare soil according to the abatement procedures adopted by the Pollution Control Agency under Minnesota Statutes, section 144.878, subdivision 2, paragraph (b). Soil must be collected according to items A to F and must be analyzed by a method described in "Determination of Lead in Soil," prepared by the Soil Testing and Research Analytical Laboratories, Department of Soil Science/ Agricultural Experiment Station, University of Minnesota, Saint Paul, Minnesota, July 1990. This publication is available through the Minitex interlibrary loan system and is incorporated by reference. This publication is not subject to frequent change.

A. A map shall be prepared of the residential property showing the main residential structure, gardens, sidewalks, play areas, and other features and structures.

B. Bare soil samples must be obtained from each of the following areas:

(1) within three feet of the foundation;

(2) within three feet of a street, sidewalk, alley, or driveway; and

(3) an area of the residential property not described in subitems (1) and (2).

C. For each sample location described in item B, composite samples must be collected consisting of five to ten bare soil subsamples.

D. A standard soil sampling tube or a putty knife is an acceptable sampling tool. The sampling tool must be cleaned prior to each use.

E. Bare soil samples must be collected to two centimeters in depth and must include the surface soil.

F. Bare soil samples must be labeled with the date, address of property, sample location as described in item B, and the name of the person collecting the samples.

Subp. 8. **Soil assessment beyond a residence.** If a board of health undertakes the assessment of lead contamination in an area beyond a residence, the board of health must conduct the assessment according to the methods described in this subpart.

A. The area must be no greater than a census tract.

B. A map of the area must be prepared that shows the location of residences, boulevards, streets, alleys, schools, playgrounds, and all areas of bare soil.

C. Twelve samples must be collected from each soil sample location described in subitems (1), (2), and (3). For purposes of this subpart, soil sample location means soil collected within:

(1) three feet of a foundation;

(2) three feet of a street, sidewalk, alley, or driveway; and

(3) an area of the residential property not described in subitems (1) and (2).

D. Each soil sample collected must be two centimeters in depth and must include the soil surface.

E. A standard soil sampling tube or a putty knife is an acceptable sampling tool. The sampling tool must be cleaned prior to each use.

F. Soil samples must be labeled with the date, city or township and county, census tract number, name of person doing the sampling, and soil sample location.

Statutory Authority: *MS s 144.05; 144.12; 144.878*

History: *15 SR 2138*

4761.0500 LEAD ABATEMENT METHODS.

Subpart 1. **General.** Any person performing lead abatement must use the preparations, abatement methods, and cleanup methods in this part. In addition, this part applies whether the abatement was ordered by a board of health or undertaken voluntarily. Lead abatement ordered by a board of health must not begin until an assessment of lead sources within the residence is completed by the board of health according to part 4761.0400 or until the property owner agrees in writing with the board of health to treat all paint, dust, and drinking water according to the requirements of this part.

Subp. 2. **Paint abatement preparations.** Abatement of lead-based paint must not begin until the requirements in items A to E have been met.

A. Preparations must be made to minimize dust generation and dispersal during abatement and to contain any semisolid or liquid wastes generated during abatement. Double six mil or equivalent thickness plastic bags or leakproof containers must be on-site to collect all debris, dust, and other waste generated by abatement.

B. The party undertaking abatement must notify the occupants of the residence of the presence of lead and of the schedule for abatement.

C. For interior paint abatement:

(1) sources of damage to surfaces to be abated, such as leaking roofs or plumbing, must be repaired;

(2) residents must be relocated and all personal possessions, rugs, and furniture must be cleaned of lead and relocated;

(3) the rooms to be abated must be sealed from the rest of the residence and from the exterior by securely taping six mil or equivalent thickness tarpaulins or plastic over windows or doors not to be used during abatement and over any other openings into the work area such as, but not limited to, heating vents; air conditioning vents; and plumbing, electrical, or telephone system penetrations of floors, walls, or ceilings in the rooms to be abated;

(4) any fixtures, furnishings, or carpeting that cannot be removed but that are not to be abated must be covered with two layers of six mil or equivalent thickness tarpaulins or plastic;

(5) for removal and replacement of exterior doors and windows, tarpaulins or plastic must be placed to contain dust and debris on both the interior and exterior sides; and

(6) other preparations due to unusual circumstances such as unique structural components affecting the work area must be made as needed to prevent dispersal of lead from abatement procedures.

D. For exterior paint abatement:

(1) occupants of the residence to be abated and of adjoining residences must be advised to remove all personal property from the lot before abatement and to close all doors, windows, and storm windows during abatement;

(2) tarpaulins or plastic must be:

(a) secured to the residence foundation;

(b) overlapped at least 18 inches where the tarpaulins or plastic meet and secured to each other;

(c) laid over the ground at least 15 feet in all horizontal directions from the surface to be abated. An additional five feet of tarpaulin is required for each floor to be abated above the first floor to a maximum of 25 feet; and

(d) in good condition.

E. Exterior abrasive blasting, waterblasting, modified-wet abrasive blasting, and vacuum blasting must be performed in a manner that contains all lead-contaminated dust, debris, and water for proper disposal and prevents lead exposure to people or the environment. Compliance with rules adopted by the Pollution Control Agency under Minnesota Statutes, section 144.878, subdivision 2, paragraph (c), constitutes compliance with this subpart.

Subp. 3. **Paint abatement methods.** Except as prohibited in subpart 4, paint that exceeds a standard in part 4761.0300 must be abated by the methods in this subpart.

A. Deteriorated paint or deteriorating paint that exceeds a standard in part 4761.0300, must either be:

(1) removed with the substrate and replaced with new substrate that complies with the standard in part 4761.0300; or

(2) removed from the substrate by:

(a) misted scraping or misted wire brushing;

(b) stripping with chemical paint strippers either on-site or off-site with removal of chemical strippers from surfaces and direct placement into leakproof containers;

(c) heating with a heat gun that does not exceed 700 degrees Fahrenheit;

(d) exterior abrasive blasting;

(e) exterior waterblasting or interior waterblasting only in a masonry or stone basement;

(f) exterior modified-wet abrasive blasting; or

(g) vacuum blasting.

B. All damaged substrate must be patched to a smooth surface, sealed, and repainted or covered with material that complies with the standards in part 4761.0300 except that paint used to repaint substrate must not have a lead concentration of 6/100 of one percent (600 parts per million) or more by dry weight.

C. Intact paint that exceeds a standard in part 4761.0300 must be abated if it is on a chewable or lead-producing surface and is a source of actual lead exposure. A property owner may choose to have intact lead paint abated even if it is

not on a chewable or lead-producing surface or is not a source of actual lead exposure. Intact paint must be abated according to the abatement preparations and methods described in this part. Intact paint must either be:

(1) removed by a method described in item A; or

(2) encapsulated with an impervious material that is securely attached to the substrate. All seams must be caulked. Examples of the impervious material include, but are not limited to, plywood, Sheetrock, tile, fiberglass, linoleum, and vinyl, metal, or wood exterior siding.

Subp. 4. **Prohibited paint abatement methods.** The following abatement methods are prohibited:

A. open flame torching;

B. use of a heat gun above 700 degrees Fahrenheit;

C. dry sanding manually;

D. dry sanding with a power sander unless a high efficiency particulate air filter is attached;

E. dry scraping or dry wire brushing;

F. stripping with a methylene chloride based stripper;

G. removing any chemical paint stripper with sprayed water;

H. covering with contact paper, flexible wallcovering of less than 21 ounces per square yard, or new paint; and

I. for interior abatement, abrasive blasting, waterblasting except in a masonry or stone basement, or modified-wet abrasive blasting.

Subp. 5. **Dust abatement.** Interior dust that exceeds a standard in part 4761.0300 must be abated both by use of a high efficiency particulate air filter vacuum and by washing with trisodium phosphate solution containing at least one ounce of five percent trisodium phosphate per gallon unless the board of health determines that one or the other of these methods is unsuited to the surface to be cleaned. A wet shop vacuum cleaner may be used with trisodium phosphate solution. Waterproof gloves must be worn by anyone working with trisodium phosphate solution. A final rinse with clean water must be done after the final wash with trisodium phosphate solution. Use of a household vacuum cleaner instead of a high efficiency particulate air filter vacuum is prohibited.

Subp. 6. **Daily cleanup.** Waste must be cleaned daily from the worksite so no visible deposits remain. On-site storage of waste is allowed only in covered containers and the storage site must be secure from intrusion.

Subp. 7. **Final cleanup.** To avoid recontamination, cleanup must proceed downward from the highest point abated or exposed to dust or debris from abatement and outward from the room furthest from the exit. For interior abatement work, a final cleanup must be conducted no sooner than 24 hours after and no later than seven days after completion of active abatement. This final cleanup must include a high efficiency particulate air filter vacuuming of all surfaces abated or exposed to lead from abatement followed by washing of these surfaces with trisodium phosphate solution containing at least one ounce of five percent trisodium phosphate per gallon. Waterproof gloves must be worn by anyone working with trisodium phosphate solution. A final rinse with clean water must be done after the final wash with trisodium phosphate solution. Use of a household vacuum cleaner instead of a high efficiency particulate air filter is prohibited. Cleanup must be repeated until reassessment demonstrates compliance with the standards in part 4761.0300. For exterior abatement work, final cleanup must be conducted no later than seven days after the lead source has been removed or encapsulated. Rain gutters must be cleaned of any debris and waste.

Subp. 8. **Drinking water abatement.** Residential drinking water that exceeds a standard in part 4761.0300 must be abated by disconnection of the plumbing fixture at which a violation of the standards in part 4761.0300 was found or by

daily flushing of the fixture before using water from the fixture or by provision of bottled water or other source of potable water that complies with the standards in part 4761.0300.

Statutory Authority: *MS s 144.05; 144.12; 144.878*

History: *15 SR 2138*

4761.0600 REASSESSMENT.

Subpart 1. **Reassessment required.** Abatement of lead in paint and dust is considered successfully completed when reassessment demonstrates compliance with standards in part 4761.0300. A board of health must conduct the reassessment of a residence for which orders were issued under part 4761.0400, subpart 1.

Subp. 2. **Sample collection.** In conducting a reassessment, a board of health must collect interior dust samples from each type of horizontal surface that has been abated or exposed to dust from abatement. A board of health is not required to sample dust from every surface within a residence. A board of health must collect dust samples according to the method described in part 4761.0400, subpart 5.

Subp. 3. **Sample analysis.** Dust samples must be analyzed by a method described in part 4761.0400.

Statutory Authority: *MS s 144.05; 144.12; 144.878*

History: *15 SR 2138*

4761.0700 ABATEMENT CONTRACTOR DUTIES.

Subpart 1. **Equipment required.** An abatement contractor must provide employees with hooded coveralls, shoe coverings, gloves, and toxic dust respirators listed on the Certified Equipment List of the National Institute of Occupational Health, United States Department of Health and Human Services, Washington, D.C., Government Printing Office, January 1989. This publication is incorporated by reference and is available through the Minitex interlibrary loan system. This publication is not subject to frequent change. The abatement contractor must ensure that employees properly use these items during work described in part 4761.0500 and that employees do not wear or take these items away from the worksite except as necessary for proper cleaning and storage or for proper disposal, if not reusable. Reused work clothing and cleaning materials such as rags must be laundered separately from other clothing and cleaning materials. Disposable clothing and cleaning materials must be disposed with lead-contaminated waste. Hand and face washing facilities must be provided by the contractor and used by employees prior to leaving the work site.

Subp. 2. **Prohibited actions.** An abatement contractor and the contractor's employees must not eat, drink, or smoke in the worksite during work described in part 4761.0500. A visitor must not eat, drink, or smoke in the worksite.

Subp. 3. **Registration.** As required by Minnesota Statutes, section 144.876, an abatement contractor must register with the commissioner. Prior to commencing the initial lead abatement project, an abatement contractor must register with the commissioner's designee by providing the company name, telephone number, and address, general contractor's license number, if any, and the name of at least one contact person.

Statutory Authority: *MS s 144.05; 144.12; 144.878*

History: *15 SR 2138*

4761.0800 VARIANCES.

The commissioner may grant a variance to part 4761.0500 according to the procedures and criteria specified in parts 4717.7000 to 4717.7050

Statutory Authority: *MS s 144 05, 144.12; 144.878*
History: *15 SR 2138*