§ 745.227  Work practice standards for conducting lead-based paint activities: target housing and child-occupied facilities.

(a) Effective date, applicability, and terms. (1) Beginning on March 1, 2000, all lead-based paint activities shall be performed pursuant to the work practice standards contained in this section.

(2) When performing any lead-based paint activity described by the certified individual as an inspection, lead-hazard screen, risk assessment or abatement, a certified individual must perform that activity in compliance with the appropriate requirements below.

(3) Documented methodologies that are appropriate for this section are found in the following: The U.S. Department of Housing and Urban Development (HUD) Guidelines for the Evaluation and Control of Lead-Based Paint Hazards in Housing; the EPA Guidance on Residential Lead-Based Paint, Lead-Contaminated Dust, and Lead-Contaminated Soil; the EPA Residential Sampling for Lead: Protocols for Dust and Soil Sampling (EPA report number 7474–R–95–001); Regulations, guidance, methods or protocols issued by States and Indian Tribes that have been authorized by EPA; and other equivalent methods and guidelines.

(4) Clearance levels are appropriate for the purposes of this section may be found in the EPA Guidance on Residential Lead-Based Paint, Lead-Contaminated Dust, and Lead Contaminated Soil or other equivalent guidelines.

(b) Inspection. (1) An inspection shall be conducted only by a person certified by EPA as an inspector or risk assessor and, if conducted, must be conducted according to the procedures in this paragraph.

(2) When conducting an inspection, the following locations shall be selected according to documented methodologies and tested for the presence of lead-based paint:
(i) In a residential dwelling and child-occupied facility, each component with a distinct painting history and each exterior component with a distinct painting history shall be tested for lead-based paint, except those components that the inspector or risk assessor determines to have been replaced after 1978, or to not contain lead-based paint; and

(ii) In a multi-family dwelling or child-occupied facility, each component with a distinct painting history in every common area, except those components that the inspector or risk assessor determines to have been replaced after 1978, or to not contain lead-based paint.

(3) Paint shall be sampled in the following manner: (i) The analysis of paint to determine the presence of lead shall be conducted using documented methodologies which incorporate adequate quality control procedures; and/or

(ii) All collected paint chip samples shall be analyzed according to paragraph (f) of this section to determine if they contain detectable levels of lead that can be quantified numerically.

(4) The certified inspector or risk assessor shall prepare an inspection report which shall include the following information:

(i) Date of each inspection.

(ii) Address of building.

(iii) Date of construction.

(iv) Apartment numbers (if applicable).

(v) Name, address, and telephone number of the owner or owners of each residential dwelling or child-occupied facility.

(vi) Name, signature, and certification number of each certified inspector and/or risk assessor conducting testing.

(vii) Name, address, and telephone number of the certified firm employing each inspector and/or risk assessor, if applicable.

(viii) Each testing method and device and/or sampling procedure employed for paint analysis, including quality control data and, if used, the serial number of any x-ray fluorescence (XRF) device.

(ix) Specific locations of each painted component tested for the presence of lead-based paint.

(x) The results of the inspection expressed in terms appropriate to the sampling method used.

(c) Lead hazard screen. (1) A lead hazard screen shall be conducted only by a person certified by EPA as a risk assessor.

(2) If conducted, a lead hazard screen shall be conducted as follows:

(i) Background information regarding the physical characteristics of the residential dwelling or child-occupied facility and occupant use patterns that may cause lead-based paint exposure to one or more children age 6 years and under shall be collected.

(ii) A visual inspection of the residential dwelling or child-occupied facility shall be conducted to:

(A) Determine if any deteriorated paint is present, and

(B) Locate at least two dust sampling locations.

(iii) If deteriorated paint is present, each surface with deteriorated paint, which is determined, using documented methodologies, to be in poor condition and to have a distinct painting history, shall be tested for the presence of lead.

(iv) In residential dwellings, two composite dust samples shall be collected, one from the floors and the other from the windows, in rooms, hallways or stairwells where one or more children, age 6 and under, are most likely to come in contact with dust.

(v) In multi-family dwellings and child-occupied facilities, in addition to the floor and window samples required in paragraph (c)(1)(iii) of this section, the risk assessor shall also collect composite dust samples from common areas where one or more children, age 6 and under, are most likely to come into contact with dust.

(3) Dust samples shall be collected and analyzed in the following manner:

(i) All dust samples shall be taken using documented methodologies that incorporate adequate quality control procedures.

(ii) All collected dust samples shall be analyzed according to paragraph (f) of this section to determine if they contain detectable levels of lead that can be quantified numerically.
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(4) Paint shall be sampled in the following manner: (i) The analysis of paint to determine the presence of lead shall be conducted using documented methodologies which incorporate adequate quality control procedures; and/or (ii) All collected paint chip samples shall be analyzed according to paragraph (f) of this section to determine if they contain detectable levels of lead that can be quantified numerically.

(5) The risk assessor shall prepare a lead hazard screen report, which shall include the following information:

(i) The information required in a risk assessment report as specified in paragraph (d) of this section, including paragraphs (d)(11)(i) through (d)(11)(iv), and excluding paragraphs (d)(11)(xv) through (d)(11)(xviii) of this section. Additionally, any background information collected pursuant to paragraph (c)(2)(i) of this section shall be included in the risk assessment report; and

(ii) Recommendations, if warranted, for a follow-up risk assessment, and as appropriate, any further actions.

(d) Risk assessment. (1) A risk assessment shall be conducted only by a person certified by EPA as a risk assessor and, if conducted, must be conducted according to the procedures in this paragraph.

(2) A visual inspection for risk assessment of the residential dwelling or child-occupied facility shall be undertaken to locate the existence of deteriorated paint, assess the extent and causes of the deterioration, and other potential lead-based paint hazards.

(3) Background information regarding the physical characteristics of the residential dwelling or child-occupied facility and occupant use patterns that may cause lead-based paint exposure to one or more children age 6 years and under shall be collected.

(4) The following surfaces which are determined, using documented methodologies, to have a distinct painting history, shall be tested for the presence of lead:

(i) Each friction surface or impact surface with visibly deteriorated paint; and

(ii) All other surfaces with visibly deteriorated paint.

(5) In residential dwellings, dust samples (either composite or single-surface samples) from the interior window sill(s) and floor shall be collected and analyzed for lead concentration in all living areas where one or more children, age 6 and under, are likely to come into contact with dust.

(6) For multi-family dwellings and child-occupied facilities, the samples required in paragraph (d)(4) of this section shall be taken. In addition, interior window sill and floor dust samples (either composite or single-surface samples) shall be collected and analyzed for lead concentration in the following locations:

(i) Common areas adjacent to the sampled residential dwelling or child-occupied facility; and

(ii) Other common areas in the building where the risk assessor determines that one or more children, age 6 and under, are likely to come into contact with dust.

(7) For child-occupied facilities, interior window sill and floor dust samples (either composite or single-surface samples) shall be collected and analyzed for lead concentration in the following locations:

(i) Exterior play areas where bare soil is present; and

(ii) The rest of the yard (i.e., non-play areas) where bare soil is present.

(8) Soil samples shall be collected and analyzed for lead concentrations in the following locations:

(i) Exterior play areas where bare soil is present; and

(ii) Dripline/foundation areas where bare soil is present.

(9) Any paint, dust, or soil sampling or testing shall be conducted using documented methodologies that incorporate adequate quality control procedures.

(10) Any collected paint chip, dust, or soil samples shall be analyzed according to paragraph (f) of this section to determine if they contain detectable levels of lead that can be quantified numerically.

(11) The certified risk assessor shall prepare a risk assessment report which...
shall include the following information:

(i) Date of assessment.
(ii) Address of each building.
(iii) Date of construction of buildings.
(iv) Apartment number (if applicable).
(v) Name, address, and telephone number of each owner of each building.
(vi) Name, signature, and certification of the certified risk assessor conducting the assessment.
(vii) Name, address, and telephone number of the certified firm employing each certified risk assessor if applicable.
(viii) Name, address, and telephone number of each recognized laboratory conducting analysis of collected samples.
(ix) Results of the visual inspection.
(x) Testing method and sampling procedure for paint analysis employed.
(xi) Specific locations of each painted component tested for the presence of lead.
(xii) All data collected from on-site testing, including quality control data and, if used, the serial number of any XRF device.
(xiii) All results of laboratory analysis on collected paint, soil, and dust samples.
(xiv) Any other sampling results.
(xv) Any background information collected pursuant to paragraph (d)(3) of this section.
(xvi) To the extent that they are used as part of the lead-based paint hazard determination, the results of any previous inspections or analyses for the presence of lead-based paint, or other assessments of lead-based paint-related hazards.
(xvii) A description of the location, type, and severity of identified lead-based paint hazards and any other potential lead hazards.
(xviii) A description of interim controls and/or abatement options for each identified lead-based paint hazard and a suggested prioritization for addressing each hazard. If the use of an encapsulant or enclosure is recommended, the report shall recommend a maintenance and monitoring schedule for the encapsulant or enclosure.

(e) Abatement. (1) An abatement shall be conducted only by an individual certified by EPA, and if conducted, shall be conducted according to the procedures in this paragraph.
(2) A certified supervisor is required for each abatement project and shall be onsite during all work site preparation and during the post-abatement cleanup of work areas. At all other times when abatement activities are being conducted, the certified supervisor shall be onsite or available by telephone, pager or answering service, and able to be present at the work site in no more than 2 hours.
(3) The certified supervisor and the certified firm employing that supervisor shall ensure that all abatement activities are conducted according to the requirements of this section and all other Federal, State and local requirements.
(4) A certified firm must notify EPA of lead-based paint abatement activities as follows:
(i) Except as provided in paragraph (e)(4)(ii) of this section, EPA must be notified prior to conducting lead-based paint abatement activities. The original notification must be received by EPA at least 5 business days before the start date of any lead-based paint abatement activities.
(ii) Notification for lead-based paint abatement activities required in response to an elevated blood lead level (EBL) determination, or Federal, State, Tribal, or local emergency abatement order should be received by EPA as early as possible before, but must be received no later than the start date of the lead-based paint abatement activities. Should the start date and/or location provided to EPA change, an updated notification must be received by EPA on or before the start date provided to EPA. Documentation showing evidence of an EBL determination or a copy of the Federal/State/Tribal/local emergency abatement order must be included in the written notification to take advantage of this abbreviated notification period.
(iii) Except as provided in paragraph (e)(4)(ii) of this section, updated notification must be provided to EPA for lead-based paint abatement activities that will begin on a date other than...
the start date specified in the original notification, as follows:

(A) For lead-based paint abatement activities beginning prior to the start date provided to EPA an updated notification must be received by EPA at least 5 business days before the new start date included in the notification.

(B) For lead-based paint abatement activities beginning after the start date provided to EPA an updated notification must be received by EPA on or before the start date provided to EPA.

(iv) Except as provided in paragraph (e)(4)(ii) of this section, updated notification must be provided to EPA for any change in location of lead-based paint abatement activities at least 5 business days prior to the start date provided to EPA.

(v) Updated notification must be provided to EPA when lead-based paint abatement activities are canceled, or when there are other significant changes including, but not limited to, when the square footage or acreage to be abated changes by more than 20%. This updated notification must be received by EPA on or before the start date provided to EPA, or if work has already begun, within 24 hours of the change.

(vi) The following must be included in each notification:

(A) Notification type (original, updated, cancellation).

(B) Date when lead-based paint abatement activities will start.

(C) Date when lead-based paint abatement activities will end (approximation using best professional judgment).

(D) Firm’s name, EPA certification number, address, telephone number.

(E) Type of building (e.g., single family dwelling, multi-family dwelling, child-occupied facilities) on/in which abatement work will be performed.

(F) Property name (if applicable).

(G) Property address including apartment or unit number(s) (if applicable) for abatement work.

(H) Documentation showing evidence of an EBL determination or a copy of the Federal/State/Tribal/local emergency abatement order, if using the abbreviated time period as described in paragraph (e)(4)(i) of this section.

(I) Name and EPA certification number of the project supervisor.

(J) Approximate square footage/acreage to be abated.

(K) Brief description of abatement activities to be performed.

(L) Name, title, and signature of the representative of the certified firm who prepared the notification.

(vii) Notification must be accomplished using any of the following methods: Written notification, or electronically using the Agency’s Central Data Exchange (CDX). Written notification can be accomplished using either the sample form titled “Notification of Lead-Based Paint Abatement Activities” or similar form containing the information required in paragraph (e)(4)(vi) of this section. All written notifications must be delivered by U.S. Postal Service, fax, commercial delivery service, or hand delivery (persons submitting notification by U.S. Postal Service are reminded that they should allow 3 additional business days for delivery in order to ensure that EPA receives the notification by the required date). Instructions and sample forms can be obtained from the NLIC at 1–800–424–LEAD(5323), or on the Internet at http://www.epa.gov/lead.

(viii) Lead-based paint abatement activities shall not begin on a date, or at a location other than that specified in either an original or updated notification, in the event of changes to the original notification.

(ix) No firm or individual shall engage in lead-based paint abatement activities, as defined in §745.223, prior to notifying EPA of such activities according to the requirements of this paragraph.

(5) A written occupant protection plan shall be developed for all abatement projects and shall be prepared according to the following procedures:

(i) The occupant protection plan shall be unique to each residential dwelling or child-occupied facility and be developed prior to the abatement. The occupant protection plan shall describe the measures and management procedures that will be taken during the abatement to protect the building occupants from exposure to any lead-based paint hazards.
(ii) A certified supervisor or project designer shall prepare the occupant protection plan.

(6) The work practices listed below shall be restricted during an abatement as follows:

(i) Open-flame burning or torching of lead-based paint is prohibited;

(ii) Machine sanding or grinding or abrasive blasting or sandblasting of lead-based paint is prohibited unless used with High Efficiency Particulate Air (HEPA) exhaust control which removes particles of 0.3 microns or larger from the air at 99.97 percent or greater efficiency;

(iii) Dry scraping of lead-based paint is permitted only in conjunction with heat guns or around electrical outlets or when treating defective paint spots totaling no more than 2 square feet in any one room, hallway or stairwell or totaling no more than 20 square feet on exterior surfaces; and

(iv) Operating a heat gun on lead-based paint is permitted only at temperatures below 1100 degrees Fahrenheit.

(7) If conducted, soil abatement shall be conducted in one of the following ways:

(i) If the soil is removed:

(A) The soil shall be replaced by soil with a lead concentration as close to local background as practicable, but no greater than 400 ppm.

(B) The soil that is removed shall not be used as top soil at another residential property or child-occupied facility.

(ii) If soil is not removed, the soil shall be permanently covered, as defined in §745.223.

(8) The following post-abatement clearance procedures shall be performed only by a certified inspector or risk assessor:

(i) Following an abatement, a visual inspection shall be performed to determine if deteriorated painted surfaces and/or visible amounts of dust, debris or residue are still present. If deteriorated painted surfaces or visible amounts of dust, debris or residue are present, these conditions must be eliminated prior to the continuation of the clearance procedures.

(ii) Following the visual inspection and any post-abatement cleanup required by paragraph (e)(8)(i) of this section, clearance sampling for lead in dust shall be conducted. Clearance sampling may be conducted by employing single-surface sampling or composite sampling techniques.

(iii) Dust samples for clearance purposes shall be taken using documented methodologies that incorporate adequate quality control procedures.

(iv) Dust samples for clearance purposes shall be taken a minimum of 1 hour after completion of final post-abatement cleanup activities.

(v) The following post-abatement clearance activities shall be conducted as appropriate based upon the extent or manner of abatement activities conducted in or to the residential dwelling or child-occupied facility:

(A) After conducting an abatement with containment between abated and unabated areas, one dust sample shall be taken from one interior window sill and from one window trough (if present) and one dust sample shall be taken from the floors of each of no less than four rooms, hallways or stairwells within the containment area. In addition, one dust sample shall be taken from the floor outside the containment area. If there are less than four rooms, hallways or stairwells within the containment area, then all rooms, hallways or stairwells shall be sampled.

(B) After conducting an abatement with no containment, two dust samples shall be taken from each of no less than four rooms, hallways or stairwells in the residential dwelling or child-occupied facility. One dust sample shall be taken from one interior window sill and window trough (if present) and one dust sample shall be taken from the floor of each room, hallway or stairwell selected. If there are less than four rooms, hallways or stairwells within the residential dwelling or child-occupied facility then all rooms, hallways or stairwells shall be sampled.

(C) Following an exterior paint abatement, a visible inspection shall be conducted. All horizontal surfaces in the outdoor living area closest to the abated surface shall be found to be cleaned of visible dust and debris. In addition, a visual inspection shall be conducted to determine the presence of paint chips on the dripline or next to
(vi) The rooms, hallways or stairwells selected for sampling shall be selected according to documented methodologies. 

(vii) The certified inspector or risk assessor shall compare the residual lead level (as determined by the laboratory analysis) from each single surface dust sample with clearance levels in paragraph (e)(8)(viii) of this section for lead in dust on floors, interior window sills, and window troughs or from each composite dust sample with the applicable clearance levels for lead in dust on floors, interior window sills, and window troughs divided by half the number of subsamples in the composite sample. If the residual lead level in a single surface dust sample equals or exceeds the applicable clearance level or if the residual lead level in a composite dust sample equals or exceeds the applicable clearance level divided by half the number of subsamples in the composite sample, the components represented by the failed sample shall be reclaned and retested.

(viii) The clearance levels for lead in dust are 40 μg/ft² for floors, 250 μg/ft² for interior window sills, and 400 μg/ft² for window troughs.

(i) In a multi-family dwelling with similarly constructed and maintained residential dwellings, random sampling for the purposes of clearance may be conducted provided:

(i) The certified individuals who abate or clean the residential dwellings do not know which residential dwelling will be selected for the random sample.

(ii) A sufficient number of residential dwellings are selected for dust sampling to provide a 95 percent level of confidence that no more than 5 percent or 50 of the residential dwellings (whichever is smaller) in the randomly sampled population exceed the appropriate clearance levels.

(iii) The randomly selected residential dwellings shall be sampled and evaluated for clearance according to the procedures found in paragraph (e)(8) of this section.

(h) Determinations.

(10) An abatement report shall be prepared by a certified supervisor or project designer. The abatement report shall include the following information:

(i) Start and completion dates of abatement.

(ii) The name and address of each certified firm conducting the abatement and the name of each supervisor assigned to the abatement project.

(iii) The occupant protection plan prepared pursuant to paragraph (e)(5) of this section.

(iv) The name, address, and signature of each certified risk assessor or inspector conducting clearance sampling and the date of clearance testing.

(v) The results of clearance testing and all soil analyses (if applicable) and the name of each recognized laboratory that conducted the analyses.

(vi) A detailed written description of the abatement, including abatement methods used, locations of rooms and/or components where abatement occurred, reason for selecting particular abatement methods for each component, and any suggested monitoring of encapsulants or enclosures.

(f) Collection and laboratory analysis of samples. Any paint chip, dust, or soil samples collected pursuant to the work practice standards contained in this section shall be:

(1) Collected by persons certified by EPA as an inspector or risk assessor; and

(2) Analyzed by a laboratory recognized by EPA pursuant to section 405(b) of TSCA as being capable of performing analyses for lead compounds in paint chip, dust, and soil samples.

(g) Composite dust sampling. Composite dust sampling may only be conducted in the situations specified in paragraphs (c) through (e) of this section. If such sampling is conducted, the following conditions shall apply:

(1) Composite dust samples shall consist of at least two subsamples;

(2) Every component that is being tested shall be included in the sampling; and

(3) Composite dust samples shall not consist of subsamples from more than one type of component.
(i) On any surface that is tested and found to contain lead equal to or in excess of 1.0 milligrams per square centimeter or equal to or in excess of 0.5% by weight; and

(ii) On any surface like a surface tested in the same room equivalent that has a similar painting history and that is found to be lead-based paint.

(2) A paint-lead hazard is present:

(i) On any friction surface that is subject to abrasion and where the lead dust levels on the nearest horizontal surface underneath the friction surface (e.g., the window sill or floor) are equal to or greater than the dust hazard levels identified in §745.227(b);

(ii) On any chewable lead-based paint surface on which there is evidence of teeth marks;

(iii) Where there is any damaged or otherwise deteriorated lead-based paint on an impact surface that is cause by impact from a related building component (such as a door knob that knocks into a wall or a door that knocks against its door frame; and

(iv) If there is any other deteriorated lead-based paint in any residential building or child-occupied facility or on the exterior of any residential building or child-occupied facility.

(3) A dust-lead hazard is present in a residential dwelling or child occupied facility:

(i) In a residential dwelling on floors and interior window sills when the weighted arithmetic mean lead loading for all single surface or composite samples of floors and interior window sills are equal to or greater than 40 μg/ft² for floors and 250 μg/ft² for interior window sills, respectively;

(ii) On floors or interior window sills in an unsampled residential dwelling in a multi-family dwelling, if a dust-lead hazard is present on floors or interior window sills, respectively, in at least one sampled residential unit on the property; and

(iii) On floors or interior window sills in an unsampled common area in a multi-family dwelling, if a dust-lead hazard is present on floors or interior window sills, respectively, in at least one sampled common area in the same common area group on the property.

(4) A soil-lead hazard is present:

(i) In a play area when the soil-lead concentration from a composite play area sample of bare soil is equal to or greater than 400 parts per million; or

(ii) In the rest of the yard when the arithmetic mean lead concentration from a composite sample (or arithmetic mean of composite samples) of bare soil from the rest of the yard (i.e., non-play areas) for each residential building on a property is equal to or greater than 1,200 parts per million.

(i) Recordkeeping. All reports or plans required in this section shall be maintained by the certified firm or individual who prepared the report for no fewer than 3 years. The certified firm or individual also shall provide copies of these reports to the building owner who contracted for its services.


§ 745.228 Accreditation of training programs: public and commercial buildings, bridges and superstructures. [Reserved]

§ 745.229 Certification of individuals and firms engaged in lead-based paint activities: public and commercial buildings, bridges and superstructures. [Reserved]

§ 745.230 Work practice standards for conducting lead-based paint activities: public and commercial buildings, bridges and superstructures. [Reserved]

§ 745.233 Lead-based paint activities requirements.

Lead-based paint activities, as defined in this part, shall only be conducted according to the procedures and work practice standards contained in §745.227 of this subpart. No individual or firm may offer to perform or perform any lead-based paint activity as defined in this part, unless certified to perform that activity according to the procedures in §745.226.

§ 745.235 Enforcement.

(a) Failure or refusal to comply with any requirement of §§745.225, 745.226, 745.227, or 745.233 is a prohibited act under sections 15 and 409 of TSCA (15 U.S.C. 2614, 2689).