

**BY ORDER OF THE COMMANDER,
436TH AIRLIFT WING**



**DOVER AIR FORCE BASE
INSTRUCTION 48-108**

19 FEBRUARY 2004

Aerospace Medicine

**MANAGEMENT OF LEAD-BASED PAINT AND
OTHER MATERIAL WHICH CONTAIN LEAD**

COMPLIANCE WITH THIS PUBLICATION IS MANDATORY

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(Maj Scott P. Nickerson)
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This instruction implements Air Force Policy Directive 48-1, *Aerospace Medical Program*. It establishes the procedures and assigns responsibilities for implementing the lead requirements in Air Force Instruction 48-119, *Medical Service Environmental Quality Program*. It applies to all base organizations, including tenant units.

SUMMARY OF REVISIONS

This document is substantially revised and must be completely reviewed.

1. Information: There is a great deal of information on lead-based paint and other lead hazards in the references listed above. The intent of this instruction is not to repeat information that can be found in other places, but to describe how lead-based paint is managed at Dover Air Force Base. For more information on lead-based paint, the following base agencies may be contacted:

- 1.1. 436th Aerospace Medicine Squadron (ADOS), Public Health Flight (SGGM), for health hazards and education programs. This includes instructions to occupants of military family housing, facility managers, and inspectors on potential lead-based paint hazards and lead-toxicity symptoms.
- 1.2. 436 ADOS Bioenvironmental Engineering Flight (SGGB), for sampling information, worker protection requirements, hazard assessment, and hazard controls.
- 1.3. 436th Civil Engineer Squadron (CES), Environmental Flight (CEV), for waste disposal and environmental regulations.
- 1.4. 436 CES Housing Flight (CEH), for housing maintenance.

2. Responsibilities:

2.1. The 436 CES Housing Flight (CEH) will:

- 2.1.1. Ensure all housing residents receive the lead information described in this instruction.
- 2.1.2. Maintain a copy of lead disclosure forms for at least 3 years.
- 2.1.3. Determine the condition of paint during housing inspections and identify areas where maintenance is needed.
- 2.1.4. Ensure housing maintenance repairs lead-based paint hazards to the extent required by their contract.
- 2.1.5. Provide a member to the Lead Toxicity Investigation Team.

2.2. The 436 CES, Operations Flight (CEO) will:

- 2.2.1. Ensure Air Force military or civilian employees during maintenance and repair activities do not disturb lead-based paint.
- 2.2.2. Assist SGGB in making recommendations to control or eliminate lead-based paint hazards.
- 2.2.3. Identify to SGGB areas, which will be painted, either by contract or in-house personnel so lead based paint survey can be conducted.
- 2.2.4. Ensure in-house renovation or construction projects identify areas where lead-based paint is known to exist or specify that testing will be requested as part of the work order.
- 2.2.5. Instruct building managers and inspectors to report deteriorated paint to SGGB and ensure reported circumstances are properly acted upon. Also, instruct facility managers not to disturb paint by self-help or other activities.
- 2.2.6. Coordinate with SGGB for Lead Awareness training to be included in annual Facility Managers training course.

2.3. The 436 CES Engineering Flight (CEC) will:

- 2.3.1. Ensure renovation or construction projects identify areas where lead-based paint is known to exist or specify that testing will be done as part of the contract.
- 2.3.2. Ensure lead removal abatement actions are included in the planning process, based on recommendations from SGGB and CEO, and ensure these actions are conducted according to the recommended priority.
- 2.3.3. Ensure adequate precautions are taken during all renovation, construction and demolition activities, which disturb lead-based paint.
- 2.3.4. Contract small projects, which disturb lead-based paint through SABER or other contracting means, as necessary.

2.4. The 436 CES Environmental Flight (CEV) will:

- 2.4.1. Assist SGGB in prioritizing lead removal abatement actions.
- 2.4.2. Follow-up on recommendations to manage or abate lead-based paint, making sure that the recommendations have been implemented.
- 2.4.3. Provide guidance on disposal of lead-based paint and lead-contaminated materials.

- 2.4.4. Coordinate waste disposal and other environmental issues with appropriate regulatory agencies.
- 2.4.5. Provide a member to the Lead Toxicity Investigation Team.
- 2.5. The 436 ADOS Commander will:
 - 2.5.1. Chair the Lead Toxicity Investigation team.
 - 2.5.2. Ensure situations where elevated blood lead levels occur are investigated completely.
- 2.6. The 436 ADOS Bioenvironmental Engineering Flight (SGGB) will:
 - 2.6.1. Identify and evaluate lead-based paint exposures, through use of surveys, air monitoring, and environmental sampling.
 - 2.6.2. Make recommendations to control or eliminate lead-based paint hazards.
 - 2.6.3. Maintain a database of lead-based paint sampling results and make the database available to CEH, CEO, CEV and CEC.
 - 2.6.4. Provide information on the location of lead-based paint as described in this instruction.
 - 2.6.5. Approve only lead-free paints for use on Dover AFB.
 - 2.6.6. Perform lead-based paint surveys in base housing prior to approval of a home as day care center.
 - 2.6.7. Perform duties as described in AFI 48-119, *Medical Service Environmental Quality Program*.
 - 2.6.8. Identify to CEC and CEO areas, which must be programmed for lead abatement actions. When appropriate, prioritize the actions.
 - 2.6.9. Provide a member to the Lead Toxicity Investigation Team.
 - 2.6.10. Ensure the in-place management system for lead-based paint is in place and working correctly.
 - 2.6.11. Obtain and provide CEH with EPA pamphlet titled "Protect Your Family from Lead in Your Home" for distribution to new housing occupants
 - 2.6.12. Provide CEH with Disclosure Forms for distribution to new housing occupants.
 - 2.6.13. Provide Lead Awareness Training to Facility Managers during annual Facility Managers training course.
- 2.7. The 436 ADOS Public Health Flight (SGGM) will:
 - 2.7.1. Investigate possible lead exposure incidents, notify Brooks AFB, TX if incident occurred on the base or if the occurrence was off base the state's Public Health Department must be notified.
 - 2.7.2. Provide educational and training materials and programs for lead exposure.
 - 2.7.3. Maintain a database of biological monitoring for lead.
 - 2.7.4. Perform duties as described in AFI 48-119, *Medical Service Environmental Quality Program*.

- 2.7.5. Notify SGGB of the housing units of people who are applying for base home day care status.
- 2.7.6. Approve home day care facilities on base only after a lead-based paint survey has been performed.
- 2.7.7. Provide a member to the Lead Toxicity Investigation Team.
- 2.8. The 436 AW Public Affairs Officer will:
 - 2.8.1. Assist in the dissemination of information pertaining to lead, to include publishing appropriate articles in the Airlifter and putting information on Dover AFB TV.
 - 2.8.2. Provide a member to the Lead Toxicity Investigation Team.
- 2.9. The 436 AW Staff Judge Advocate will:
 - 2.9.1. Identify federal, state, and local regulations pertaining to lead which apply to Dover AFB.
 - 2.9.2. Interpret regulations and inform appropriate base agencies of regulatory requirements.
 - 2.9.3. Provide a member to the Lead Toxicity Investigation Team.
- 2.10. All building managers will:
 - 2.10.1. Inspect the condition of suspected lead-based paint periodically
 - 2.10.2. Contact SGGB for sampling of the deteriorating paint which is suspected to be lead-based.
 - 2.10.3. Ensure measures (such as washing with a phosphate detergent solution) are taken to prevent lead contamination when suspected or known lead-based paint is deteriorating.
 - 2.10.4. Ensure recommended control measures are followed.

3. Determination of Location of Lead-Based Paint:

- 3.1. All painted surfaces of buildings constructed before 1980 shall be assumed to contain lead-based paint unless the paint has been tested and determined to be lead-free.
- 3.2. Only "lead-free" paint shall be used on base facilities.
- 3.3. Base housing.
 - 3.3.1. Not all of the houses on base have been surveyed for lead-based paint. At this point, a complete survey of each house on base is not planned. However, a percentage of the houses are being surveyed to determine the areas in base housing most likely to contain lead-based paint.
 - 3.3.2. Housing maintenance shall assume paint contains lead unless a survey has been done to show lead is not present. CEH shall contact SGGB to schedule a lead-based paint survey when necessary.
 - 3.3.3. If a lead-based paint survey is not available for a given unit, the base housing resident may request a survey from SGGB to determine if deteriorating paint contains lead.
- 3.4. Facilities other than base housing.
 - 3.4.1. Building managers are responsible for requesting a lead-based paint survey if they notice deteriorated paint or are aware that paint will be disturbed.

3.4.2. SGGB will perform testing for lead-based paint. Testing for renovation and construction projects may be done by SGGB or contract, depending on time and personnel constraints.

3.4.3. Contact SGGB to arrange for testing of paint to determine lead content. The survey will normally be performed within 10 working days for routine surveys. Emergency surveys will be done as soon as possible after the request has been received. During the survey, the building manager must be available to provide access to identify the locations to be tested. In addition, the building manager is responsible for providing ladders and other equipment to survey areas, which are difficult to reach.

4. Notification of Location of Lead-Based Paint:

4.1. Base housing.

4.1.1. SGGB provides the base housing office with:

4.1.1.1. The Dover AFB disclosure form. This form will be filled out by SGGB if sampling results are available for the unit. The form shall be placed in the housing unit file.

4.1.1.2. A database identifying locations in base housing where lead-based paint has been found.

4.1.1.3. Survey reports for a specific house. Reports shall be placed in the appropriate housing unit file.

4.1.2. The base housing office is responsible for providing new base housing residents with the materials listed below before they accept the house. EPA regulations (40 CFR 745) require this information to be provided.

4.1.2.1. EPA pamphlet titled "Protect Your Family from Lead in Your Home."

4.1.2.2. Information sheet on lead-based paint at Dover AFB.

4.1.2.3. Dover AFB disclosure of information sheet for lead-based paint for the specific housing unit. If SGGB has not provided a completed disclosure form, the housing office must complete one saying that no reports are available. A copy of the completed disclosure form, with the resident's signature, shall be maintained by the housing office for at least 3 years.

4.2. Facilities other than base housing.

4.2.1. SGGB will provide a consolidated list of the summary of lead-based paint testing on base to CEC, CEO, and CEV periodically.

4.2.2. CEO and CEC shall notify SGGB of completion of all lead-based paint removal projects so the lead-based paint inventory may be updated.

5. Management of Lead-Based Paint In Housing:

5.1. SGGB provides housing with a listing of all areas where lead has been detected. This listing will include all lead detected, including lead levels less than the EPA definition of lead-based paint. If a housing unit has not been surveyed, it should be treated as though it contains lead-based paint.

5.2. Housing inspectors will look for deteriorating paint during housing inspections. They shall notify housing maintenance of deteriorating paint which must be repaired. CEH shall establish a tracking mechanism to ensure that the paint has been repaired.

5.3. Base housing residents are responsible for performing in-place management techniques to prevent paint from deteriorating. Residents should notify housing maintenance of deteriorating paint.

5.3.1. Housing resident responsibilities.

5.3.1.1. Monitor the condition of paint and report deteriorating paint to housing maintenance.

5.3.2. Housing maintenance responsibilities.

5.3.2.1. Perform in-place management activities such as top-coating with latex paint or wall coverings, repairing deterioration with latex paint, and cleaning up debris with high efficiency particulate air (HEPA) filter vacuums.

5.3.2.2. Perform abatement activities when in-place management is not practical or adequate to control the hazard is recommended by CEH or SGGB, or when abatement is deemed to be a better solution than in-place management. Abatement may include encapsulation with dry-wall or siding, replacement of building components, or removal. Only small abatement projects (such as removing a door) shall be done when the house is occupied. Large projects shall be done when the house is vacant.

5.3.2.2.1. Take all lead contaminated cleaning materials and residue to CEV for proper disposal.

5.3.3. CEH shall notify SGGB of completion of all lead-based paint removal projects so the lead-based paint inventory may be updated.

6. Management of Lead-Based Paint In Facilities Other Than Housing:

6.1. Visual inspection of paint.

6.1.1. Known lead-based paint. Building managers shall inspect all painted surfaces known to contain lead at least every 6 months. Signs of deteriorating paint (chalking, chipping, peeling, etc.) shall be reported to SGGB as soon as possible after discovery.

6.1.2. Suspected lead paint. Any deteriorating paint should be considered suspected lead paint, unless it is known that the facility was constructed after 1980 or it has been tested and shown to be lead-free. The building manager shall contact 436 ADOS/SGGB to arrange for lead testing and an evaluation of the situation. SGGB will notify CEV if the deteriorating paint is found to contain lead.

6.2. Disturbance of existing paint.

6.2.1. Disturbance of existing known or suspected lead-based paint is prohibited unless approval is obtained from SGGB. Minor surface preparation of walls covered with lead-based paint (such as spackling small nail holes) is permitted and does not require approval. However, sanding, scraping, or other disturbances of the paint, which may generate lead dust, shall not be performed by Air Force military or civilian employees unless SGGB approval is obtained.

6.2.2. In most situations where lead-based paint will be disturbed, the work will be contracted out or done during contracted renovation and construction projects.

6.3. Actions to take when lead-based paint is deteriorating.

6.3.1. Jointly, CEV, CEO, and SGGB will determine the most appropriate way to fix deteriorating paint. This may include in-place management or abatement.

6.3.2. The building manager will be responsible for basic in-place management of the paint until a more permanent corrective action can be taken. This includes the following:

6.3.2.1. Washing areas, which show evidence of minor deterioration. A detergent high in phosphates (such as dry dishwasher detergent) should be mixed with water, and rubber gloves should be worn when cleaning.

6.3.2.1.1. Place all rags, gloves and any paint residue in plastic bag and give to CEV for proper disposal.

6.3.2.2. Placing a latex top coating or wall coverings over the paint if it can be done without disturbing the paint. CEV, CEO, and SGGB approval is required before this work can be done.

6.3.3. After an appropriate control for deteriorating paint has been established, CEC shall identify the corrective action for funding, and track the progress until the problem is corrected. For situations where in-place management has been chosen, SGGB shall follow-up periodically to ensure that in-place management procedures are effective in preventing deterioration.

6.4. In-place management.

6.4.1. Building managers are responsible for the in-place management procedures described in paragraph 8.3.2., above.

6.4.2. The following in-place management activities are normally performed by contractors:

6.4.2.1. Top coating with latex paint or wall coverings when the existing lead-based paint is likely to be disturbed.

6.4.2.2. Repairing deterioration with latex paint.

6.4.2.3. Performing cleanup activities such as high efficiency particulate air (HEPA) filter vacuuming.

6.4.2.4. Disposing of contaminated carpeting.

6.4.2.5. Decontaminating upholstered furniture to the maximum extent possible.

6.5. Abatement.

6.5.1. Normally, abatement will not be done by DAFB personnel (military or civilian) unless it can be done while keeping the paint intact, reference paragraph 8.3.2. (An example of keeping the paint intact is removing an entire door by taking it off of the hinges). All removal of lead-paint shall be performed by a contractor unless approval is received from SGGB and CEV.

6.5.2. Abatement projects shall be prioritized based on potential for exposure as well as other pertinent factors, such as scheduled building renovation. CEC shall prioritize the projects, based on exposure information and prioritization recommendations provided by SGGB.

6.6. Review of plans and projects.

6.6.1. All work orders must identify if paint will be disturbed to accomplish the job. If so, SGGB will determine if lead-based paint is present. If it is present, and the possibility exists that the paint could be disturbed, the job shall not be done self-help.

6.6.2. The existence of known or suspected lead-based paint shall be included in all renovation contract specifications. When possible, the building should be tested for lead-based paint early in the planning stage. This testing may be done by SGGB or a contractor.

7. Management of Lead-Based Paint and Other Lead-Containing Materials on Aircraft, Equipment, Vehicles and the Firing Range:

7.1. In the past, aircraft, equipment and vehicles used at Dover AFB may have been coated with lead-based paint or primer. In addition, they could contain components, which are made of lead, or could have been soldered or welded with lead.

7.2. Processes and operations, which involve potential exposure to lead, are evaluated individually by SGGB. SGGB will recommend procedures to control the hazard on a case-by-case basis. Most of these processes and operations have already been evaluated by SGGB and appropriate controls have been implemented. If a supervisor identifies a process or operation, which he or she believes, may result in exposure to lead, the supervisor is responsible for notifying SGGB that an evaluation is needed.

7.3. Use of lead-based paint and primers is prohibited. Use of lead solder or welding rods shall be prohibited unless required by technical order or no suitable substitute is available. Lead solder or welding rods shall not be used unless prior approval is obtained from SGGB.

8. Lead Toxicity Investigation:

8.1. Lead Toxicity Investigation Team. A lead toxicity investigation team has been established to investigate situations where lead may cause (or already has caused) an elevated blood lead level. The team will also consider other issues concerning lead, as appropriate.

8.1.1. The following organizations are represented on the team:

8.1.1.1. 436 ADOS/CC.

8.1.1.2. 436 ADOS/SGP Chief of Aerospace Medicine.

8.1.1.3. 436 ADOS/SGGB.

8.1.1.4. 436 ADOS/SGGM.

8.1.1.5. 436 MDSS/SGSAL.

8.1.1.6. 436 MDOS/SGOBP.

8.1.1.7. 436 CES/CEV.

8.1.1.8. 436 CES/CEH.

8.1.1.9. 436 AW/PA.

8.1.1.10. 436 AW/JA.

8.1.2. Significant issues will be elevated to the Environmental Protection Committee or Occupational Safety and Health Council, as appropriate.

8.2. Investigation procedures are outlined in 436 Medical Group Instruction 48-104, Blood Lead Program.

9. Occupational Exposure to Lead-Based Paint. OSHA has established worker protection requirements for controlling exposure to lead. The specific situation dictates requirements, which may include training, housekeeping, biological monitoring, respiratory protection, engineering controls, administrative controls, and personal protective equipment. SGGB should be consulted for requirements for the given situation. Supervisors are responsible for ensuring that the requirements are met.

9.1. Known or suspected lead-based paint may not be disturbed unless approval is obtained from SGGB. Worker protection requirements will be identified by SGGB as a part of the approval process.

9.2. Worker protection requirements for work involving lead-based paint on buildings are given in 29 CFR 1926.62.

9.3. Worker protection requirements for work involving lead-based paint or other lead-containing materials on aircraft, equipment, and vehicles are given in 29 CFR 1910.1025.

10. Environmental Concerns:

10.1. Contaminated soil.

10.1.1. Paint chips that fall from the exterior of buildings can contaminate soil if the paint contains lead. The best way to prevent this is to maintain the paint in a manner to prevent deterioration. When the paint is disturbed, drop cloths or plastic sheets should be placed on the ground to catch paint chips. The soil may be contaminated from past paint deterioration. The best way to control the hazard from lead already in the soil is to eliminate bare spots and cover them with grass.

10.1.2. The EPA has established recommendations for maximum lead soil contamination levels. Those levels are summarized below.

10.1.2.1. No action is needed if the lead concentration is:

10.1.2.1.1. Less than 400 ppm in areas expected to be used by children (yards, playgrounds, parks, etc).

10.1.2.1.2. Less than 2000 ppm in areas where contact by children is less likely or infrequent.

10.1.2.2. Interim control measures (planting, moving play equipment, controlling further contamination) should be implemented; condition of area should be monitored; and public notices of contamination should be made when the lead concentration is:

10.1.2.2.1. 400 to 5000 ppm in areas expected to be used by children.

10.1.2.2.2. 2000 to 5000 ppm in areas where contact by children is less likely or infrequent.

10.1.2.3. Soil abatement and public notice are recommended when lead levels exceed 5000 ppm.

10.2. Waste disposal. Disposal of lead-containing material shall be coordinated with 436 CES/CEV.

JOHN I. PRAY, JR, Colonel, USAF
Commander

Attachment 1

GLOSSARY OF REFERENCES AND SUPPORTING INFORMATION

References

AFI 48-119, *Medical Service Environmental Quality Program*.

29 CFR 1910.1025, *Lead*.

29 CFR 1926.62, *Lead*.

40 CFR 745, Lead Requirements for Disclosure of Known Lead-Based Paint and/or Lead-Based Paint Hazards In Housing.

AFOSH Standard 48-8, *Controlling Exposures to Hazardous Materials*.

Armstrong Laboratory Technical Report AL/OE-TR-1993-0175, *Lead Exposure Hazard Management Guide*.

HQ USAF/CC letter, "Air Force Policy and Guidance on Lead-Based Paint in Facilities," 24 May 1993.

Terms

Deteriorating Paint—Any paint which is peeling, chipping, chalking, blistering, loose, or showing other signs of deterioration.

Lead-Based Paint—Three regulatory agencies are involved with lead-based paint exposure. Unfortunately, they define the presence of lead differently.

Environmental Protection Agency (EPA)—Any paint containing lead at levels equal to or greater than 1.0 milligram of lead per square centimeter of painted surface to be lead-based paint or at least 0.5 percent lead by weight. This definition applies to lead exposure in base housing and other non-occupational exposure. **NOTE:** Due to the operating characteristics of the equipment used to detect lead-based paint at Dover AFB, paint containing greater than 0.5 milligrams of lead per square centimeter of painted surface will be considered lead based paint if an x-ray fluorescence spectrum analyzer was used to determine lead content.

Occupational Safety and Health Administration (OSHA)—There is no minimum lead concentration; lead detected at any level may trigger worker protection requirements. This applies to worker exposure to lead-based paint.

Consumer Product Safety Commission—This agency defines a paint (consumer product) to be "lead-free" if it contains less than 0.06 percent lead by weight.

Suspected lead-based paint—A painted surface on a building constructed before 1980, which has not been tested for lead.

In-place management—Measures that reduce the lead-based paint hazard to acceptable levels.

Abatement—Long-term or permanent measures that eliminate the possibility of hazardous exposure by replacement of building components, encapsulation with drywall or siding, and removal. It may be applied throughout a facility or in selected areas.