

CONSUMER PRODUCT SAFETY COMMISSION STAFF RECOMMENDATIONS FOR IDENTIFYING AND CONTROLLING LEAD PAINT ON PUBLIC PLAYGROUND EQUIPMENT

EXECUTIVE SUMMARY

Testing by the U.S. Consumer Product Safety Commission (CPSC) and some state and local jurisdictions has shown that many school, park, and community playgrounds across the United States have metal and wooden playground equipment that presents a potential lead paint poisoning hazard primarily for children six years old and younger.

CPSC testing revealed that some equipment was painted with lead paint, and over time, the paint has deteriorated into chips and dust containing lead. The lead paint chips and lead dust may be ingested by children six years old and younger who put their hands on the equipment while playing, and then put their hands in their mouths. Older children and adults are less likely to be at risk because they generally do not exhibit this same behavior.

Ingestion of lead paint is a major source of lead poisoning for children six years old and younger. Deteriorating lead paint in homes is the leading cause of lead poisoning in children. The health effects of lead ingestion are cumulative. In children, behavioral problems, learning disabilities, hearing problems, and growth retardation have been associated with sustained blood lead levels as low as 10 micrograms per deciliter (ug/dl).

The CPSC has tested the paint for lead on public playground equipment from 26 playgrounds in 13 cities across the United States. We found that equipment from 16 playgrounds in 11 cities had equipment with lead levels that exceed the amount used by the federal government (0.5 percent by weight) to determine lead hazards most in need of control measures.

The 0.5 percent level was set by the U.S. Congress in 1992 when it enacted the Residential Lead-Based Paint Hazard Reduction Act. This act was designed to focus attention and resources on hazards with the highest levels of lead. Nationally, efforts to reduce lead hazards are aimed at controlling lead-based paint hazards at, or above, the 0.5 percent level in Title X of the Act.

CPSC's own regulations ban the sale of paint containing in excess of 0.06 percent or more lead intended for consumer use. However, in providing advice on controlling lead hazards from playground equipment, CPSC is using the 0.5 percent lead level since it is generally used by the Environmental Protection Agency (EPA) and the Department of Housing and Urban Development (HUD) in making decisions on controlling the most significant lead paint hazards.

In addition to CPSC's own findings, paint on playground equipment from 223 playgrounds in 19 additional cities was tested for lead by state and local authorities or television stations doing news stories on lead hazards. Of those playgrounds, 125 of them in 11 cities were reported to have lead paint ranging from 0.09 percent to 29 percent lead by weight.

HEALTH RISKS

The CPSC, the Centers for Disease Control and Prevention, the EPA, HUD and other federal agencies, state that sustained blood lead levels above 10 micrograms/deciliter (ug/dl) are a health concern. To prevent young children from exceeding the 10 ug/dl blood lead level of concern, CPSC staff suggests that chronic ingestion (represented as 15-30 days) of lead from paint and other consumer products not exceed 15 ug of lead/day.

Based on the playground equipment tested, CPSC determined that if a child ingested as little as one tenth of a square inch of paint (about the amount that would fit on the tip of a pencil's eraser) daily for about 15-30 days, his or her blood lead levels would be at or above the amount the Federal government considers a health concern. This figure is based on the median level of lead found on the playground equipment tested (1.47 percent) and assumes that the child's body would absorb 30 percent of the lead in the paint he or she ingested.

CPSC STAFF RECOMMENDATIONS

To reduce the risk of childhood lead poisoning, the CPSC staff recommends the following strategy for identifying and controlling the lead paint hazards associated with older painted metal and wood playground equipment.

The appropriate control measures for this hazard must be determined on a case-by-case basis, considering such factors as: the condition of the paint; the percent of lead present; the playground equipment's age, location, use, condition, and overall safety; the availability of financial resources for this and other lead paint hazards; the relative costs of control measures; and the regulatory requirements of individual states, cities, and localities.

A. Lead Hazard Assessment

A lead hazard assessment for playground equipment may include a visual inspection, examination of records, paint testing, characterization of the hazard, identification of potential control measures, and a plan for setting priorities for the implementation of control measures.

1) Conduct a visual inspection of the playground and the equipment.

Look for areas of paint that are cracking or peeling. Special attention should be paid to equipment that was installed prior to 1978 when the CPSC's ban on lead paint went into effect.

2) Evaluate the results of the visual inspection.

A. If the paint is intact and in overall good condition, authorities can either continue to monitor the condition of the paint, or have it tested to determine if it contains lead. Lead paint that is intact and in good condition is not believed to be a hazard until it begins to deteriorate.

B. If the paint is deteriorating, paint samples should be collected from several locations on the equipment, giving priority to equipment painted or repainted before 1978.

Note: Laboratory analysis is the most accurate and reliable way to determine the presence and amount of lead in a paint sample. Studies conducted by the CPSC, EPA, and HUD indicate that lead test kits do not accurately and reliably discriminate between paint with lead and paint without lead.

3) Evaluate the results of the laboratory tests.

The appropriate control measures must be determined on a case-by-case basis, considering the factors mentioned above under "CPSC RECOMMENDATIONS."

If paint is chipping, peeling or otherwise deteriorating and lead levels are equal to or exceed 0.5 percent by weight, priority should be given to controlling this hazard.

If lead levels are between 0.06 percent and 0.5 percent, owners/managers of playgrounds may consider control measures.

B. Controlling the Lead Hazard

Priority should be given to controlling deteriorating lead paint on public playground equipment containing lead in amounts equal to or exceeding 0.5 percent by weight. Because playground equipment is used by children, permanent control measures are recommended. Permanent measures include replacement of the equipment painted with lead paint, or removal of the lead paint from the equipment. Continued monitoring (visual inspection) may be an appropriate control measure for intact paint even if that paint contains lead.

Interim control measures may be appropriate if the playground is slated for repair or the equipment is expected to be replaced within a few years. Interim measures include covering the paint with nonleaded paint or an encapsulant.

CPSC has made information available on several cities which have already dealt with lead paint on playgrounds in an appendix attached to the full report.

NOTE: If you would like a copy of the full report, please visit the CPSC Web Site on the Internet at <http://www.cpsc.gov>, click What's Happening and look at the first bullet; or write to CPSC, Washington, DC 20207.

Consumer Product Safety Commission

CPSC Staff Recommendations for Identifying and Controlling Lead Paint on Public Playground Equipment

October 1996

I. Introduction

The purpose of this document is to: 1) report U.S. Consumer Product Safety Commission (CPSC) staff findings that indicate a potential lead paint poisoning hazard for young children (6 years and younger) from some public playground equipment, and 2) provide recommendations to owners/managers of public playgrounds for identifying and controlling the hazard to reduce the risk of childhood lead poisoning from playground equipment.

II. Background

Ingestion of lead from deteriorating paint is a major source of lead poisoning for children 6 years old and under. The effects of lead ingestion are cumulative. In children, behavioral problems, learning disabilities, hearing problems, and growth retardation have been associated with sustained blood lead levels as low as 10 micrograms per deciliter (ug/dl).

In 1978, the CPSC banned the sale of paint containing in excess of 0.06% lead intended for consumer use. It also banned toys and other articles intended for use by children, such as playground equipment, that uses paint with a lead content in excess of 0.06% because they present a risk of lead poisoning in young children (16 CFR Part 1303).

Nationwide efforts to address lead paint hazards in homes and elsewhere have used 0.5% lead by weight as the level of lead in paint that should be targeted for lead hazard control measures. This level, cited in the 1992 Residential Lead-Based Paint Hazard Reduction Act (Pub.L. 102-550, Title X, October 28, 1992), has helped focus attention and resources on controlling the most significant lead paint hazards.

Testing by the CPSC staff and some state and local jurisdictions has shown that many school, park, and community playgrounds across the United States have painted metal or wood playground equipment that present an additional potential lead paint poisoning hazard for young children. The equipment was painted with lead paint, and over time, the paint has deteriorated into chips and dust containing lead, due to exposure to sunlight, heat, moisture, and normal wear and tear. The lead paint chips and lead dust can be ingested by young children who put their hands on the equipment while playing and then put their hands in their mouths.

The CPSC staff conducted an investigation of older equipment in 26 playgrounds in 13 cities in 11 states across the United States ([Appendix 1](#)). In the 5 cities where playground equipment age was reported, the equipment is 14 or more years old; 4 of the 5 cities reporting age had equipment that is 25-45 years old. CPSC found that 20 playgrounds in 11 of the cities investigated had equipment with lead levels over the CPSC 0.06% level. Sixteen of these playgrounds had equipment with lead levels in excess of 0.5%, the level that is identified in Title X as a priority for hazard reduction activities. The paint on the playground equipment that exceeded 0.5% lead ranged from 0.62% to 8.76% by weight, with a median lead level of 1.47%.

In addition to the 26 playgrounds inspected by CPSC staff, playground equipment with high lead levels have also been reported from several states and cities ([Appendix 1](#)). The CPSC staff received reports from the jurisdictions of testing in 223 playgrounds in 19 cities in 9 states and the District of Columbia. In 11 cities, 125 playgrounds had lead paint on their playground equipment that was over the CPSC 0.06% level. The content of the lead in the paint on the equipment reportedly ranged from 0.09% to 29%. These reports corroborate the CPSC findings. The information received from the cities by the staff did not identify the extent to which the paint exceeded the 0.5% level.

III. Health Risk Assessment

The CPSC, the Centers for Disease Control and Prevention (CDC), the Environmental Protection Agency (EPA), the Department of Housing and Urban Development (HUD), and other Federal agencies, state that blood lead levels above 10 ug/dl are a health concern and recommend community-wide preventive measures (CDC, 1991 and CPSC, 1992a,b). Sustained blood lead levels of 10 ug/dl or greater have been associated with a variety of adverse health effects including deficits in neurobehavioral function and intellectual performance, developmental delays, decreased stature, and diminished hearing acuity. To prevent young children from exceeding the 10 ug/dl blood lead level of concern, CPSC staff suggests that chronic ingestion (about 15-30 days considered surrogate for chronic ingestion) of lead from paint and other consumer products not exceed 15 ug lead/day (CPSC, 1990). The limit of 15 ug lead/day is based on human chronic exposure models relating ingested lead to blood lead levels (CPSC, 1989, 1990, 1992a,b).

Included in the 15 ug/day limit is consideration of several parameters such as amount of lead ingested, lead absorption, weight of lead paint, and other "background" sources of lead.

CPSC staff has determined that daily ingestion over about 15-30 days of as little as one-tenth of a square inch of paint (about the size of the head of a pencil eraser) could result in blood lead levels at or above the 10 ug/dl amount the Federal government considers a health concern, especially for young children ([Appendix 2](#)). This determination is based upon the median level of lead found on playground equipment that exceeds the 0.5% lead level (1.47%) and assumes an absorption of 30%.

IV. Recommendations

Deteriorating lead paint in homes poses the most significant lead poisoning health risk to young children and requires immediate attention. Playground equipment with deteriorating lead paint is an additional and avoidable source of lead to which children may be exposed. Since the health effects of lead are cumulative, exposure to lead from playground equipment can contribute to the overall risk to children.

The CPSC staff's investigation of older playground equipment reveals a wide range of lead levels and paint conditions. Just knowing that a playground has paint containing lead may not indicate if there is a hazard. The CPSC staff does not consider playground equipment with lead paint that is intact and in good condition to be a hazard. Over time, paint will deteriorate from exposure to sunlight, heat, moisture, and normal wear and tear. If that paint contains lead, it does present a hazard once it deteriorates, and requires attention.

To be consistent with the intent of Title X to focus attention and resources on areas with the highest levels of lead, responsible authorities should give priority attention to playground equipment with lead levels at 0.5% lead and above. CPSC staff believes that a reduced priority, but nevertheless important for authorities to consider, is the risk that exists to children from lead paint at levels between 0.06% and 0.5%.

To reduce the risk of childhood lead poisoning, the CPSC staff recommends the following strategy for identifying and controlling the lead paint hazard associated with older public playground equipment (also see [Appendix 3](#)). The strategy complements the framework described in the 1995 "Guidelines for the Evaluation and Control of Lead-Based Paint Hazards in Housing" that was developed by HUD and other Federal agencies to support the requirements of Title X. The Guidelines are available for a fee by calling HUD at 1-800-245-2691.

Local jurisdictions will have to decide how to respond to the potential hazard of lead paint on playground equipment. The appropriate control measures must be determined on a case-by-case basis, considering such factors as condition of the paint; percent of lead present; the playground equipment's age, location, use, and overall safety; the financial resources available to address this and other lead paint hazards; the relative costs of control measures; and the regulatory requirements of individual states, cities, and localities. Continued monitoring (visual inspection) may be an appropriate control measure for intact paint even if it contains lead.

Some states and localities require the services of licensed or certified professionals to identify and address lead paint hazards and correct lead problems. Individual state/local health departments, lead poison prevention programs, housing authorities, the EPA National Network of Lead Training Centers (413-545-5201), or the National Lead Information Center (1-800-424 LEAD) can provide help in locating qualified professionals in each area.

A. When and How to Check and Test Playground Equipment for Lead Hazards - Lead Hazard Assessment

A lead hazard assessment for playground equipment may include a visual inspection, examination of records, paint testing, characterization of the hazard, identification of potential

control measures, and a plan for establishing the priority for the implementation of control measures.

1) Conduct a visual inspection of the playground and the equipment. The visual inspection should:

- Examine the condition of the entire painted surface. Any painted surface that has not been repainted after 1977 should be assumed to contain lead, since the ban on lead paint did not come into effect until 1978. Even if the surface has been repainted after 1977, the paint should be considered suspect unless records have been maintained showing that nonleaded paint was used. Also, the original paint may contain lead, and this paint may become available for ingestion when the repainted surface deteriorates.
- Identify areas of visible paint chips and dust accumulation. Lead chips and dust are generated as lead paint deteriorates over time due to weathering, aging, and moisture; or is disturbed in the course of renovation or repair. Check for the presence of paint chips underneath the playground equipment.
- Evaluate the need for significant structural repairs or changes to the equipment that are likely to affect the integrity and condition of the painted surface.

2) Evaluate the results of the visual inspection.

- If the paint is intact and in overall good condition, there is no visible paint dust or paint chips, and significant repairs or equipment changes are not needed, one of two alternatives can be taken: monitoring (periodic visual inspection) or laboratory testing to determine if the paint contains lead.

Lead paint is not considered to be a hazard until it deteriorates. Accordingly, CPSC staff recommends that such equipment be monitored (visually inspected) on a regular basis to ensure that the paint has not deteriorated. This inspection can be coordinated with regular safety inspections. For information on playground safety, consult the CPSC "Handbook for Public Playground Equipment Safety." The handbook is available from CPSC (1-800-638-2772 or info@cpsc.gov). If at any time, the painted surface begins to deteriorate, paint samples should be collected and analyzed for lead.

Instead of regular monitoring (visual inspection), owners/managers may wish to immediately collect and test paint samples for lead. However, as long as the paint is intact, the CPSC staff does not believe that testing is necessary.

If laboratory testing is conducted on intact paint and the presence of lead is confirmed, continued monitoring (visual inspection) can be implemented as a control measure to ensure that the paint does not deteriorate.

- If the paint is in a deteriorating condition (as noted by its peeling, cracking, chipping, or chalking), paint samples should be collected from several locations on the playground equipment (sampling each type and color of paint) for laboratory testing. Red, orange, yellow, green, and brown paint are the colors most likely to contain lead.

Priority should be given to collecting and analyzing deteriorating paint from playground equipment that you know has been painted or repainted before 1978. Check with the laboratory that will be analyzing the paint samples to determine whether trained professionals are needed to collect samples.

Paint samples should be analyzed by an accredited laboratory according to standard methods for total lead analysis (for example, ASTM, EPA, or Association of Official Analytical Chemists standards). The amount of lead in the paint is one important factor in deciding whether control measures are needed.

- If the visual inspection indicates the need for significant structural repairs or changes to the equipment that are likely to affect the integrity and condition of the painted surface (i.e., will result in peeling, cracking, chipping, chalking), the paint should be tested to determine if it contains lead - before any repair work begins.

Note: Laboratory analysis is the most accurate and reliable way to determine the presence and amount of lead in a paint sample. Studies conducted by the CPSC, EPA, and HUD indicate that lead test kits do not accurately and reliably discriminate between paint with lead and paint without lead. And, lead test kits are not designed to tell you the amount of lead present. If portable X-ray fluorescence (XRF) analyzers are used to screen for lead, follow-up analysis with a laboratory is also needed. XRF measurements have a large margin of error compared to laboratory analysis. They are not reliable when used to test curved surfaces, such as might be found on playground equipment.

3) Evaluate the results of the laboratory tests.

- If the laboratory analysis indicates that the paint contains lead levels that are equal to or exceed 0.5% by weight, and the paint is deteriorated, the extent of the hazard should be characterized and control measures undertaken. Owners/managers may consider control measures for lead paint between 0.06% and 0.5%. However, priority should be given to implementing control measures for deteriorating paint at, or above, 0.5%.
- EPA is currently developing an addendum to their July 14, 1994 (60 *Federal Register*: 47248) guidance on lead-based paint, lead-contaminated dust, and lead-contaminated soil. The addendum will address the issue of soil and playgrounds.
- Playground equipment should be inspected and regularly maintained to ensure that it meets safety guidelines and provides a safe environment for children, regardless of whether it contains lead paint.

4) Characterize the Hazard.

- Playground owners/managers may consider hiring trained professionals to conduct risk assessments to characterize the extent of the hazard, recommend control measures, and establish priority for the implementation of control measures. State/local health departments, lead poison prevention programs, housing authorities, the EPA National Network of Lead Training Center (413-545-5201), or the National Lead Information Center (1-800-424 LEAD) can provide help in locating qualified professionals in each area.

The surface area of paint containing 15 ug of lead that a child would need to ingest over about 15-30 days to exceed a blood lead level of 10 ug/dl was estimated by CPSC staff ([Appendix 2](#)). The surface area was estimated using a range of lead concentrations that have been found, or might be found in playground paint samples, and the easily extracted lead percentages (bioavailability surrogate representing the amount of lead absorbed by the body) found in samples tested by CPSC's Health Sciences Laboratory.

B. How to Control the Lead Hazard from Public Playground Equipment - Lead Hazard Controls

Just knowing that a playground has paint containing lead may not indicate if there is a hazard. The CPSC staff does not consider playground equipment with lead paint that is intact and in good condition to be a hazard. Therefore, continued monitoring (visual inspection) is essential, and may be an appropriate control measure for intact paint containing lead.

Over time, paint will deteriorate due to exposure to changing weather conditions and normal wear and tear. If that paint contains lead, it does present a hazard once it deteriorates, and requires attention.

Priority should be given to controlling deteriorating leaded paint on public playground equipment containing lead in amounts equal to or exceeding 0.5% by weight. Because playground equipment is intended for use by children, consideration of measures that permanently eliminate the potential hazard posed by lead paint are recommended. In general, interim control measures for playground equipment may be considered appropriate if the playground is slated for repair or the equipment is expected to be replaced within a few years.

While interim control measures often have a lower initial cost than permanent control measures, they require regular monitoring and re-evaluation to ensure that the lead paint is still intact. In some cases, permanent control measures may be more cost-effective over the long-term than interim control measures when the cost of monitoring is considered.

The CPSC staff contacted city officials in a few cities that have already implemented control measures for playgrounds with leaded paint. ([Appendix 4](#)) provides information on the activities and expenditures to date by four cities as an illustration of the range of strategies being used to reduce the lead hazard.

Interim Control Measures

- 1. Stabilize and cover the lead paint surface with nonleaded paint or an encapsulant.**

Because outdoor metal and wood playground equipment is continually subject to deterioration due to exposure to sunlight, heat, moisture, and wear and tear through normal play activities, covering the lead paint surface with nonleaded paint or encapsulants will only temporarily reduce human exposure to lead. Covering the lead paint surface requires ongoing and regular monitoring because lead paint is still present and may become hazardous in the future. Sanding, scraping, and using power tools to prepare the surface to be repainted or encapsulated can increase the hazard by spreading lead paint chips and dust. Precautionary measures outlined in the 1995 HUD Guidelines and the 1996 EPA Section 402 Rule, "Lead Requirements for Lead-Based Paint Activities," should be followed to ensure that lead control measures are conducted safely.

Encapsulants are coatings that provide a barrier between the lead paint and the environment. They vary in their effectiveness and how long they are expected to last. The degree of adherence depends on the encapsulant used and the substrate to which it will be applied. While some encapsulants may last for many years, they were developed for use in interior spaces. Their effectiveness and longevity in outdoor environments where they are subject to deterioration from changing weathering conditions is uncertain. Therefore, encapsulants for playground equipment should be considered only as an interim measure.

In addition, according to the 1995 HUD Guidelines, encapsulants are generally not effective on metal surfaces that are prone to rust or corrosion unless a proper corrosion-control primer is used before the application of the encapsulant.

Playground equipment that has been covered with an encapsulant or nonleaded paint requires regular monitoring (visual inspection) throughout the life of the equipment. Such monitoring would allow detection if the surface does not remain in good condition throughout changing weather conditions and wear due to normal play activities.

Permanent Control Measures

- 1. Replace the playground equipment.** Replacing playground equipment or component parts that contain lead paint is the most definitive way to eliminate the risk of lead poisoning from exposure to lead paint on playground equipment. Contracting with a professional will reduce the likelihood of environmental contamination during replacement, especially if the paint is in poor condition and likely to be disturbed. Because of varying regulations regarding hazardous waste storage, transport, and disposal, state/local health departments or environmental agencies should be contacted to find out what laws are applicable.

2. **Remove lead paint.** To remove lead paint permanently, a lead paint removal professional who is trained, certified, or licensed to remove lead hazards should be used. Removing lead paint improperly can increase the hazard by spreading lead chips and dust around the play area. Individual state/local health departments or environmental agencies can help you locate qualified contractors. Surfaces should be repainted with paint containing no more than 0.06% lead, according to CPSC regulations.

References

- CDC, 1991. Preventing Lead Poisoning in Young Children. A Statement by the Centers for Disease Control - October 1991.
- CPSC, 1989. Review of Low Level Lead Toxicology. Memo from BC Lee to SC Eberle.
- CPSC, 1990. Revision of the CPSC 0.06% Lead in Paint Standard. Memo from BC Lee to SC Eberle. Tab C in Briefing Package OS #4367.
- CPSC, 1992a. Notice of Regulatory Investigation Requesting Information Concerning Limits for Lead in Paint. Briefing Package OS # 4367.
- CPSC, 1992b. *57 Federal Register*: 18418. Regulatory Investigation: Lead in Paint.
- EPA, 1996. *61 Federal Register*: 45778. Lead, Requirements for Lead-Based Paint Activities in Target Housing and Child-Occupied Facilities, Final Rule.
- HUD, 1995. Guidelines for the Evaluation and Control of Lead-Based Paint Hazards in Housing. June 1995.

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Consumer Product Safety Commission

Questions and Answers: Lead Paint on Public Playground Equipment

Prepared by CPSC Staff
October 1, 1996

Question: Why is the CPSC concerned about lead paint on playground equipment?

Response: While deteriorating lead paint in homes poses the most significant lead risk to young children, testing by the U.S. Consumer Product Safety Commission (CPSC), and some state and local jurisdictions has shown that many school, park, and community playgrounds across the United States have metal or wood playground equipment that present an additional lead poisoning hazard primarily to children six years and under. Some equipment was painted with lead paint, and over time, the paint has deteriorated into chips and dust containing lead, due to exposure to sunlight, heat, moisture, and normal wear and tear. The lead paint chips and lead dust can be ingested by young children who put their hands on the equipment while playing and then put their hands in their mouths. Since adverse health effects from lead exposure are cumulative, the exposure to lead from playground equipment contributes to the overall lead risk.

Question: What testing was conducted to support the CPSC's conclusions that some playgrounds are a lead hazard?

Response: The CPSC has conducted an investigation of older equipment in 26 playgrounds in 13 cities in 11 states across the United States. CPSC staff found 20 playgrounds in 11 cities had equipment with lead levels over the CPSC 0.06 percent allowable level. Sixteen of these playgrounds had equipment with lead levels in excess of 0.5 percent; the level that is identified in Title X of the 1992 Residential Lead-Based Paint Hazard Reduction Act as a priority for hazard reduction activities. The paint on the playground equipment that exceeded 0.5 percent lead ranged from 0.62 percent to 8.76 percent (w/w), with a median lead level of 1.47 percent. In addition to the 26 playgrounds tested by CPSC, playground equipment with high lead levels have also been reported from several states and cities. The CPSC staff received reports of testing in 223 playgrounds in 19 cities in 9 states and the District of Columbia. In 11 cities, 125 playgrounds had lead paint on their playground equipment that was over the 0.06 percent CPSC level. The content of the lead in the paint on the equipment reportedly ranged from 0.09 percent to 29 percent. These reports corroborate the CPSC findings. The information received from the cities did not identify the extent to which the paint exceeded the 0.5 percent level.

Question: How much lead paint from playground equipment would a child have to ingest to get lead poisoning?

Response: The amount of lead paint from playground equipment a child would have to ingest to get lead poisoning depends in part on the amount of lead in the paint on equipment at that particular site and how much of the lead can be absorbed into the body. For playground equipment with 1.47 percent lead in the paint, CPSC staff has determined that daily ingestion over about 15-30 days of as little as one tenth (0.1) of a square inch of this paint (the size of the head of a pencil eraser) could result in blood lead levels at or above the 10 microgram per deciliter (ug/dl) amount the Federal government considers a health concern for young children. Such sustained blood lead levels have been linked with behavior and learning problems, damage to the brain and nervous system, slowed growth, and hearing problems. Since adverse health effects from lead exposure are cumulative, ingestion of even very small amounts of lead from playground equipment would be additive with a young child's lead exposure from other sources.

Question: How does the hazard from deteriorating lead paint on playground equipment compare to the hazard posed by lead in paint in homes?

Response: Deteriorating lead paint in homes poses a significant health risk to young children and requires immediate attention. Deteriorating lead paint on playground equipment is an additional source of lead to which children may be exposed. Since the health effects of lead are cumulative, exposure to lead on playground equipment adds to the risk to children. Exposure of children to lead should be minimized.

Question: How does the hazard from lead paint on playground equipment compare to the hazard posed by lead in miniblinds?

Response: Adverse health effects from lead result from cumulative exposure to lead. The exposure of young children to lead sources should be reduced whenever possible. Households with children six years and under should remove and dispose of all lead-containing vinyl miniblinds that are accessible to these young children. In addition, the exposure of young children to deteriorating lead paint on playground equipment should also be minimized.

Question: How many children have gotten lead poisoning from playground equipment?

Response: The Commission does not have any reports of children with lead poisoning from playground equipment. However, because of the high levels of lead found on some playground equipment tested and because the health effects from lead are cumulative, exposure to lead from playground equipment should be avoided.

Question: My child plays on playground equipment with deteriorating paint and is still putting his/her hands in his/her mouth. Should I take my child to the doctor or hospital?

Response: No, it is not necessary to be alarmed if children six years and younger played on a playground with deteriorating paint even a few times and then put their hands in their mouth. If your child does this on a regular basis, you might want to call the local authorities or whomever maintains the playground and ask if that playground has been painted with lead paint. You should also consult your child's physician. You and the physician can determine what, if anything, needs to be done. Additionally, we recommend that if the paint is deteriorating, you know it contains lead, and if young children play on the playground equipment, they do not put their hands in their mouths and eat paint chips and they wash their hands immediately after playing on the playground.

Question: The playground my child plays in not only has deteriorating paint on the equipment but I can see paint chips in the soil around the equipment. Is that a concern? What should be done about it?

Response: Children should not eat paint chips from any source. EPA is currently developing an addendum to their July 14, 1994 (60 Federal Register 47248) guidance on lead-based paint, lead-contaminated dust, and lead-contaminated soil. The addendum will address the issue of soil and playgrounds.

Question: My child has an elevated blood lead level and plays in a playground with paint that is deteriorating, i.e. peeling, cracking, chipping, or chalking. Do I need to report this case to you?

Response: If your child has an elevated blood lead level, playgrounds are just one of the many potential sources of lead exposure. You should work with your state or local health department, local poison prevention program or personal physician to determine the source(s) of lead exposure for your child and follow their recommendation to reduce that exposure. If it is determined that the playground was a source of the lead exposure, CPSC staff are very interested in knowing about this. You can file a report by calling the CPSC Hotline at 1-800-638-CPSC or 1-800-638-8270 for the hearing impaired. You can also report to us using the form on CPSC's internet web site. Once at CPSC's site (<http://www.cpsc.gov>), go to "Report unsafe products", and then "Report an injury, death, or unsafe product to us", to report your information directly to us. Also, you can report to us by e-mail at info@cpsc.gov.

Question: Since there are so many playgrounds across the country that contain equipment with lead paint and can pose a hazard to young children, what is the CPSC doing about it?

Response: The CPSC has provided information to help local jurisdictions determine if they have a problem and the extent of the problem. CPSC also has developed recommendations on how to address the problem. Finally, the Commission is getting the word out to parents that they must be vigilant and notify public playground owners if painted equipment is deteriorating so they can determine if the paint contains lead. They must also be sure to wash their children's hands if they play on equipment with deteriorating paint.

Question: If there is a standard for the amount of lead allowed in paint, how did excessive levels of lead get onto the playground equipment?

Response: There is a standard for the amount of lead allowed in paint. In 1978 CPSC banned the sale of paint for consumer use containing in excess of 0.06 percent lead. CPSC also banned other products intended for use by children, including public playground equipment, bearing paint containing lead in excess of 0.06 percent by weight because they pose a risk of lead poisoning in young children. However, lead containing paint is still available for commercial and certain other uses and may have been applied to older playground equipment. In some cases, the equipment is very old and has been repainted many times. Even if the playground has been repainted with paint that does not contain lead, the older layers of paint may contain lead. The paint may deteriorate and flake off, as all the repainted surfaces deteriorate, exposing children to the lead paint.

Question: The CPSC standard for lead in paint is 0.06 percent, but you don't recommend control measures unless the lead level is equal to or greater than 0.5 percent. Why?

Response: Nationwide efforts to address lead paint hazards in homes and elsewhere have used 0.5 percent lead by weight as the level of lead in paint that should be targeted for lead hazard control measures. This level, which comes from the Residential Lead-Based Paint Hazard Reduction Act (Title X), has helped focus attention and resources on controlling the most significant lead paint hazards. In providing advice on controlling lead hazards from playground equipment, it makes sense to use the same lead level as is used in making such decisions for other sources of lead paint. Authorities should give priority attention to playground equipment with lead levels at 0.5 percent lead and above. CPSC staff believes that a reduced priority, but nevertheless important for authorities to consider, is the risk that exists to children from lead paint at levels between 0.06 percent and 0.5 percent. Local jurisdictions will have to decide how to respond to the potential hazard of lead paint on playground equipment. The appropriate control measures must be determined on a case-by-case basis, considering such factors as the condition of the paint; the percent of lead present; the playground equipment's age, location, use, and overall safety; the financial resources available to address this and other lead paint hazards; the relative costs of control measures; and the regulatory requirements of individual states, cities, and localities.

Question: What should my local jurisdiction or whoever is responsible for my playground be doing?

Response: What needs to be done to the playground depends on a variety of things—the condition of the paint, the age and location of the playground, if the paint does or does not contain lead, the amount of lead, where the paint is located, the age of the child for which the playground is intended, and the potential for exposure. Deteriorating paint on playground equipment should be tested for lead. A decision to implement control measures for playground equipment with lead-containing paint will depend on an assessment of a number of relevant factors, including the availability of financial resources, the percent of lead present, the condition of the paint, the playground equipment's age, location, use, and overall safety, and the relative costs of the control measures. The CPSC has provided information to help with the assessment of the hazard and determination of what should be done.

Question: What is the cost of remediation for a playground with lead containing paint?

Response: The cost for remediation will depend upon the remediation measure chosen and the number of affected pieces of equipment in the playground. Visual inspection of playgrounds may have no additional cost if it is integrated into a regular safety inspection. The following information is from four jurisdictions that have each taken a different approach to remediation. This information should not be assumed to represent the full range of costs for particular remediation measures. In two jurisdictions it cost \$235 and \$312 per playground to test to determine if lead paint was present. One jurisdiction encapsulated practically every affected piece of equipment at an approximate cost of \$275 per affected piece. In one jurisdiction, it cost \$14,000 for the removal of equipment from one playground. One jurisdiction is replacing in excess of 100 pieces of equipment with similar pieces of equipment at a cost of \$106,000. In another jurisdiction, where there was an artist designed playground, they wanted to leave the playground as it was. The estimate for stripping and repainting this playground ranged between \$9,000 and \$12,000. One of the jurisdictions is in the process of replacing older pieces of equipment for safety reasons, and will address the lead hazard by accelerating the replacement process.

Question: If a jurisdiction decides to remove and dispose of a piece or multiple pieces of playground equipment, are there rules for the manner in which disposal is to occur?

Response: Because of varying regulations regarding hazardous waste storage and transport and disposal, state/local health departments or environmental agencies should be contacted to find out what laws are applicable in a given area.

Question: Does playground equipment being manufactured or sold today contain hazardous levels of lead?

Response: CPSC has inspected the largest public playground manufacturers to assure that public playground equipment being manufactured today does not violate the Commission's lead paint banning regulation. That regulation bans lead paint that exceeds 0.06 per cent lead by weight.

We have found what appears to be a few isolated violations of the lead paint regulation in current production playground equipment.

The CPSC is working with the firms involved to recall any violative playground equipment. The much more significant concern is the problem of lead paint on repainted playground equipment and equipment manufactured before 1978.

Question: Why isn't the CPSC recalling playground equipment that has high levels of lead?

Response: The vast majority of the playground equipment with high levels of lead was either manufactured before 1978 when the Commission's ban on lead paint that exceeded 0.06 percent went into effect, or is equipment that has been repainted on site. Equipment manufactured before 1978 while not subject to the banning regulation, may nonetheless present a health hazard if it has high levels of lead. We are providing guidance on steps to be taken for this equipment and for repainted equipment.

If the CPSC identifies playground equipment that violates the Commission's regulations when manufactured, we will seek appropriate corrective action.

Question: How much of the lead found on playground equipment is from repainted equipment and how much of it is from original equipment?

Response: We do not know the origin of the lead found on playground equipment. Equipment manufactured after February 1978 should not have paint with lead in excess of 0.06 percent.

Question: Do I need to be concerned about my home playground equipment containing lead?

Response: To date, CPSC has received no reports of lead on backyard playsets. We have done some initial testing and will continue to monitor backyard playsets but, at this time, we do not believe them to be a potential lead poisoning hazard.

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