August 10, 2009

Lisa Jackson, Administrator
Environmental Protection Agency
Ariel Rios Building
1200 Pennsylvania Avenue, NW
Washington, DC 20460

RE: Citizen Petition to EPA Regarding the Paint and Dust Lead Standards

Dear Administrator Jackson:

The US Environmental Protection Agency (EPA) reports that about 250,000 children aged 1-5 years have a blood lead level of 10 micrograms of lead per deciliter of blood (μg/dL) or greater based on a US Centers for Disease Control and Prevention (CDC) survey conducted from 2001-2004.[1] This is great progress from the 4.7 million children with lead levels above 10 μg/dL in 1978, but the recent trend line has flattened and the nation is already unlikely to achieve the Healthy People 2010 goal of eliminating lead poisoning as a public health issue. In addition, the research has demonstrated that blood lead levels in children above 5 μg/dL and possibly lower result in deleterious effects. No safe level of exposure to lead has ever been established. Lead poisoning of young children results in cognitive impairment that can never be regained and is associated with behavioral disorders. Federal agencies should examine their programs and standards to be sure they are doing all that they can within their authority to address this preventable environmental tragedy.

Already, EPA's Clean Air Scientific Advisory Committee's (CASAC), has determined that "outdated residual surface contamination standards (i.e., dust lead cleanup levels of 40 μg/ft2 for floors and 250 μg/ft2 for window sills) are being used that are insufficiently protective of children's health, as indicated by recent epidemiological studies." (Lanphear et al., 2005; Lanphear et al., 2002, Lanphear et al., 1998, Lanphear et al., 1996, and Malcoe et al., 2002).[2]

Pursuant to Section 21 of the Toxic Substances Control Act, the National Center for Healthy Housing (NCHH), Alliance for Healthy Homes, Sierra Club and the undersigned petition EPA to use its authority under Section 6 of the Toxics Substances Control Act (TSCA) to more adequately protect these children from the dangers of lead-based paint and leaded dust by lowering the levels in the current standards. Specifically:

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[1] http://yosemite.epa.gov/ochp/ochpweb.nsf/content/fastfacts.htm
[2] http://www.epa.gov/sab/pdf/casac-07-006.pdf

1. Lower dust lead hazard standards at 40 CFR 745.65(b), 40 CFR 745.227(e)(8)(viii), and 40 CFR 745.227(h)(3)(i) from 40 micrograms of lead per square foot of surface area (μg/ft^2) to 10 μg/ft^2 or less for floors and from 250 μg/ft^2 to 100 μg /ft^2 or less for window sills.
2. Modify the definition of lead-based paint in 40 CFR 745.103 and 745.223 for previously applied paint or other surface coatings in housing, child-occupied facilities, public building and commercial buildings to reduce the lead levels from 0.5 percent by weight (5,000 parts per million (ppm)) to 0.06 percent by weight (600 ppm) with a corresponding reduction in the 1.0 milligram per square centimeter standard.

If EPA determines that Section 6 is the not the most appropriate basis for the revising the standards, the petitioners request pursuant to 5 U.S.C. § 553(e) that EPA revise the standards as described above using its authority under other provisions of the Toxic Substances Control Act.

Justification for Request #1

On January 5, 2001, EPA established a hazardous level of lead in dust in three sections of 40 CFR Part 745.[3]

- At 40 CFR 745.65(b) which states that "A dust-lead hazard is surface dust in a residential dwelling or child-occupied facility that contains a mass-per-area concentration of lead equal to or exceeding 40 μg/ft^2 on floors or 250 μg/ft^2 on interior window sills based on wipe samples."
- At 40 CFR 745.227(e)(8)(viii) which states that "The clearance levels for lead in dust are 40 μg/ft^2 for floors, 250 μg/ft^2 for interior window sills, and 400 μg/ft^2 for window troughs."
- At 40 CFR 745.227(h)(3)(i), which states that "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/ft^2 for floors and 250 μg/ft^2 for interior window sills, respectively."

EPA determined these standards by establishing a range of candidate health-based standards and conducting an economic impact analysis of the range. On the most protective side, EPA stated that it "adopts as the basis determining the lowest candidate standards for the final dust and soil lead hazards the same policy basis used in the proposal for choosing dust and soil lead contamination levels--a 1 to 5% probability of a child's developing a blood lead level of 10 μg/dL."[4]

"At the other end of the range considered by EPA was an exceedence probability of 10%. With this distribution of risk, a child would have approximately a 2% chance of having a blood-lead concentration exceeding 15 μg/dL and a less than 1% chance of having a blood-lead concentration exceeding 20 μg/dL, the level at which CDC recommends medical intervention. In the proposal's discussion of the contamination standard, the

[3] 66 *Fed. Reg* 1205 *(*January 5, 2001)
[4] Id at page 1215.

Agency rejected this probability as presenting exceedingly high risks. For determination of a hazard level, they would also be excessively high. EPA believes it is inconsistent with the statute to establish a hazard standard at which significant numbers of children would need medical treatment."[5]

EPA concluded that "floor dust levels at 40 μg/ft^2 correspond to 5% and less probability of blood lead levels exceeding 10 μg/dL."[6] Through its regulatory impact analysis of lead dust standards based on this range of 5% to 10% probability, EPA determined that 40 μg/ft^2 on the floor was achievable and "when considered in terms of its cost-benefit analysis, EPA found that indeed positive net benefits resulted for the 40 μg/ft^2 hazard standard."[7]

NCHH examined studies that have become available since the current dust lead standards were promulgated in 2001 and has found solid evidence supporting a need to reduce dust lead levels classified as hazardous in order to protect children from elevated blood lead levels. Among the studies examined include the:

- National Health and Nutrition Examination Survey ("NHANES");
- US Housing and Urban Development (HUD) Risk Assessment Study ("HUD Risk Assessment Study"); and
- HOME Study.

NCHH and partners analyzed data from NHANES from 1999-2004.[8] During these years, dust lead samples were collected from the homes of certain NHANES participants. They found that after controlling for other factors:

- 4.6% of children with an average age of 33 months living in pre-1978 homes would have a blood lead level of 10 μg/dL or greater when their floor dust lead loading was 12 μg/ft^2.
- At a floor dust lead loading of 12 μg/ft^2, there is 95% confidence that no more than 7.9% of children would have a blood lead level of 10 μg/dL or greater.
- 5.1% of children would have a blood lead level of 10 μg /dL or greater when their window sill dust lead loading was 100 μg/ft^2.[9]

Using EPA's criteria of protecting 95% of children from an elevated blood lead level (currently defined as 10 μg/dL or greater), dust standards of 10 μg/ft^2 for floors and 100 μg/ft^2 for window sills should be adopted.

NCHH's results of the NHANES study are similar to findings observed from a pooled analysis of twelve epidemiologic studies conducted in 1998.[10] The Pooled Analysis

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[5] Id.
[6] Id at 1217.
[7] Id at page 1221.
[8] Dixon SL, Gaitens JM, Jacobs DE et al. (2009) Exposure of U.S. children to residential dust lead, 1999-2004: II: The contribution of lead-contaminated dust to children's blood lead levels. *Environmental Health Perspectives* 117(3):468-474.
[9] Wilson, Jonathan. (2008) Should the EPA Lead Dust Standards be Lowered? (accessed 5-8-2009: www.healthyhomestraining.org/Research/Translational_Research_11-17_PbDust_Standard_r2.1.pdf)

determined that the actual risk is 18% (not 1% to 5% as predicted by EPA in 2001) at a floor dust level of 40 μg/ft^2. The Pooled Study found that after controlling for other factors and setting the exterior lead exposure to the national median (72 ppm), 7.4% of children with an average age of 16 months would have a blood lead level of 10 μg/dL or greater when their floor dust lead loading was 10 μg/ft^2. EPA reviewed the Pooled Study as part of the issuance of the final rule establishing the current levels of 40 μg/ft^2 on the floor and 250 μg/ft^2 on the window sill, but it was discounted because it was said to lack soil or paint lead data. The Pooled Study did in fact include paint and exterior dust/soil lead levels and included those variables in the modeling used to predict the outcome presented above. Specifically, EPA should examine the raw data analysis, not just the final journal article in understanding how the Pooled Study included paint, soil, water and other variables

NCHH also believes that the HUD Risk Assessment Study offers further support for lowering the levels in the standards. In 2003, NCHH completed the *Study of HUD's Risk Assessment Methodology in Three U.S. Communities* for HUD.[11] The study explored factors that predicted whether a child has a blood level above or below 10 μg/dL in two communities: Milwaukee, WI and New York, NY. Environmental factors were significantly related to the blood lead levels in Milwaukee. NCHH's further analysis of the Milwaukee data found that setting standards of 10 μg/ft^2 on floors and 400 ppm in play area soil would optimize the performance (positive and negative predictive values) of the risk assessment. These analyses considered a spectrum of environmental lead sources including dust, soil, paint and water. The need for a lower floor dust lead level is further supported by work conducted in Milwaukee to evaluate the city's lead ordinance. The study found that children living in homes with floor dust lead levels under 20 μg/ft^2 had proportionally fewer elevated blood lead levels than children living in homes where the floor dust lead loading exceeded 20 μg/ft^2.

NCHH has found that the lower dust standards are achievable. The Six-Year Follow-up Study to the HUD Lead Hazard Control Grant Evaluation demonstrated that average floor dust lead loadings were 14 μg/ft^2 at clearance and those levels continued to fall to 5 μg/ft^2 six years after clearance with only routine maintenance. Average window sill dust lead loadings were 239 μg/ft^2 before remediation, 45 μg/ft^2 at clearance, then increased slightly before declining from 105 μg/ft^2 to 73 μg/ft^2 six years after clearance. The grantees were required to achieve clearance dust lead levels at 100 μg/ft^2 on floors and 500 μg/ft^2 on window sills, levels that were well below the clearance requirements in place at that time.

In the past year, the Cincinnati Children's Hospital Medical Center (CCHMC) completed data collection for its HOME Study, which examined the efficiency of lead primary prevention in homes of expectant mothers. Although CCHMC's data analysis is on-

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[10] Lanphear BP, Matte TD, Rogers J et al., (1998) The contribution of lead-contaminated house dust and residential soil to children's blood lead levels. *Environmental Research.* 79(1):51-68.

[11] National Center for Healthy Housing (rev. 2006) *Study of HUDs Risk Assessment Methodology in Three U.S. Communities: Final Report,* Columbia, MD (accessed 5-13-2009: www.nchh.org/LinkClick.aspx?fileticket=HZUenslvU/0=&tabid=217)

going, early results demonstrate that contractors using standard lead hazard control treatments cleared 99% of 143 units to below 5 μg/ft^2 on floors and all units cleared below 50 μg/ft^2 on window sills.[12] Nine-six percent of floors remained below 10 μg/ft^2 on floors one year later and 91% were below 100 μg/ft^2 on window sills a year later.

The lab technology exists to analyze samples at the levels stated in this petition, although some current lab practices may need to be modified to achieve EPA's quality control requirements under the National Lead Lab Accreditation Program (NLLAP).

The economic consequences of a rule based on the standards recommended in this petition will be less than EPA originally estimated when it adopted the current standards. In the January 5, 2001 Final rule, EPA estimated that 22 million homes would have lead dust hazards based on a standard of 10 μg/ft^2.[13] NCHH's review of the Six-Year Follow-Up Study and the HOME Study demonstrated that current lead hazard control practices are adequate to reduce dust lead below the levels recommended in the petition. In addition, NHANES data suggest that less than 15% of pre-1978 homes – 9.8 million homes – would be classified as having a dust lead hazard. This total is far less than EPA's original estimate.

Based on this analysis, Petitioners believe that EPA must lower its dust lead hazard standards at 40 CFR 745.65(b) from 40 micrograms of lead per square foot of surface area (μg/ft^2) to 10 μg/ft^2 or less for floors and from 250 μg/ft^2 to 100 μg /ft^2 or less for window sills. It must also lower its clearance levels for lead in dust at 40 CFR 745.227(e)(8)(viii) and 40 CFR 745.227(h)(3)(i) from 40 μg/ft^2 to 10 μg/ft^2 or less for floors and from 250 μg/ft^2 to 100 μg /ft^2 or less for window sills. Petitioners believe that there is more than a reasonable basis to conclude that this change is necessary to prevent an unreasonable risk of injury to children's health.

While the Petitioners make this request based on the methodology EPA used to adopt the existing dust lead standards, Petitioners also believe that the methodology should be improved. EPA should use a risk-based approach that recognizes that there is no safe level of exposure to lead and that the research shows a strong association between blood lead levels in children of 5 μg/dL to 10 μg/dL and learning disabilities and possibly lower. This approach would establish lead dust standards based on the risk to children and the feasibility of achieving these standards.

If EPA determines that it is not appropriate to use its authority under Section 6 of TSCA to make this change, EPA should use its authority under Sections 402 and 403 of TSCA to take this action to protect children from lead poisoning.

Justification for Request #2

In Section 401 of TSCA, Congress defined Lead-Based Paint to mean "paint or other surface coatings that contain lead in excess of 1.0 milligrams per centimeter squared or

[12] Wilson, Jonathan. (2008) Should the EPA Lead Dust Standards be Lowered? (accessed 5-8-2009: www.healthyhomestraining.org/Research/Translational_Research_11-17_PbDust_Standard_r2.1.pdf)
[13] 66 *Fed. Reg.* 1221 (January 5, 2001).

0.5 percent by weight or (A) in the case of paint or other surface coatings on target housing, such lower level as may be established by the Secretary of Housing and Urban Development, as defined in section 302(c) of the Lead-Based Paint Poisoning Prevention Act, or (B) in the case of any other paint or surface coatings, such other level as may be established by the Administrator."[14]

EPA adopted these numbers in the statutory definition without modification at 40 CFR 745.103 and 745.223 stating that "*Lead-based paint* means paint or other surface coatings that contain lead equal to or in excess of 1.0 milligrams per square centimeter or more than 0.5 percent by weight." HUD used the same definition in its Lead-Safe Housing Rule.[15]

The petitioners believe that the standards are insufficient to protect children from lead poisoning. Since 1992 when the paint lead levels were established in statute, Petitioners know of no formal review of the standards or consideration of alternative levels by EPA or HUD. During this time, capacity to check paint for lead through X-ray fluorescence technology and the nation's knowledge of the hazards to children of deteriorated leaded paint/leaded dust have dramatically improved.

Under the current standards, paint that contains less than 5,000 ppm of lead would not be considered lead-based paint. As a result, when a lead inspector or lead risk assessor documents levels of 4,500 ppm of lead in the paint, the buyer or tenant would be told that lead-based paint is not present. The buyer or tenant would be unaware of the potential dangers of disturbing the paint. The buyer may contract with a renovator and authorize the use of work practices such as open-flame burning or torching of this paint or use of a machine that removes or disturbs this paint through high speed operation such as sanding, grinding, power planing, needle gun, abrasive blasting, or sandblasting on this paint. These work practices produce tremendous levels of dust; where paint contains lead, the dispersed dust's lead levels would be far in excess of the lead dust hazard standard of 40 $\mu g/ft^2$ let alone a reduced standard of 10 $\mu g/ft^2$. While these work practices are prohibited under EPA's Lead Renovation, Repair and Painting Rule if the paint were lead-based paint, they could be used without restriction in cases where a certified lead inspector or risk assessor determined that the paint has 4,500 ppm of lead.

Therefore, the petitioners believe that EPA should exercise its under Section 6 of TSCA and modify the definition of lead-based paint in 40 CFR 745.103 and 745.223 for previously applied paint or other surface coatings in housing, child-occupied facilities, public building and commercial buildings must be reduced from 5,000 ppm to 600 ppm with a corresponding reduction in the 1.0 milligrams per square centimeter standard. Petitioners believe 600 ppm is appropriate since it was the standard for lead in newly manufactured paint used from 1978 to 2008.

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[14] 15 U.S.C. 2681(9)

[15] 24 CFR 35.110. "*Lead-based paint* means paint or other surface coatings that contain lead equal to or exceeding 1.0 milligram per square centimeter or 0.5 percent by weight or 5,000 parts per million (ppm) by weight.

The economic consequences of this change in the definition of lead-based paint would primarily impact those buildings that already have been tested for the presence of lead-based paint by a certified lead risk assessor or lead inspector and found to have levels of lead in the paint between 600 ppm and 5,000 ppm (and the equivalent in mg/cm^2). Specifically:

1. Under the Section 1018 lead disclosure rule, the properties owners are already required to provide the report to buyers and tenants. They would need to put a cover note to the report. If the report showed lead in the paint between 600 ppm and 5,000 ppm, the owners who took advantage of the exemption from disclosure to tenants would need to make the required disclosure and attach the report to the disclosure.
2. Under the HUD Lead-Safe Housing Rule, assuming HUD revises its definition of lead-based paint to 600 ppm and the equivalent in mg/cm^2, the recipient of the federal subsidy who used the report to avoid the need to use HUD lead-safe work practices and achieve clearance levels, would be required to use the HUD lead-safe work practices and achieve clearance levels. NCHH is unaware of any information on the number of properties that might be impacted. NCHH does understand that HUD funded a lead inspection program for Section 8 properties.
3. Under the EPA RRP Rule, the impact would be similar to the impact under the HUD Lead-Safe Housing Rule. NCHH believes that the majority of properties impacted by the RRP rule will rely on the presumption of lead-based paint in properties that do not have a lead inspection report. For these properties, EPA estimates that the RRP work practice requirements will add only $35 to each regulated event.

If EPA determines that it is not appropriate to use its authority under Section 6 of TSCA to make this change, EPA should use its authority under Sections 401 of TSCA and coordinate the change with HUD to protect children from lead poisoning.

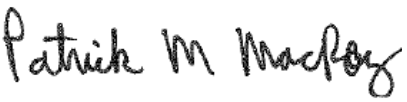
Note

The petitioners recognize that the standards must be updated in the context of other scientific advice and rulemaking to achieve full compliance with 403(b) in public and commercial buildings. While EPA decisions pursuant to the petition could involve consultation with the SAB to determine the benefit and feasibility of decreasing environmental exposures below the aforementioned standards, as well as coordination with other rulemaking, and petitioners support these approaches, petitioners believe that the evidence and demand for updating the standards are sufficiently compelling for EPA to expedite rulemaking without delay inspired by either concern.

Summary

EPA should begin rulemaking to lower the Federal dust lead and paint lead levels from the current standards and expand the scope of those standards as required by statute. The data demonstrate that dust lead levels must be reduced to protect the nation's children; current work practices can achieve these reductions; and the reductions are sustainable. EPA, in concert with HUD, must lower the paint lead levels in the current standards to prevent the generation of dust lead hazards from paint that is currently considered "non-hazardous." The current standards do not provide the protections that all children deserve and Federal law requires.

Respectively submitted,



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