



PROTECTING CHILDREN'S HEALTH

OCTOBER 2018



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One of the most important things we can do to protect our children's future is make sure they grow up in a healthy environment. Children are uniquely vulnerable to the potential health effects of environmental hazards found in their everyday environment. For example:

- Children crawl and play close to the ground making them more likely to be exposed to dirt and dust.
- Children explore their environment through mouthing making them more likely to be exposed to dirt and dust on their hands, toys, and other household objects.
- Children's respiratory systems are still developing and they spend more time outdoors where they can be exposed to air pollution.
- In relation to their weight children, also eat and drink more than adults, putting them at greater when exposed to contaminated water or food.
- They are more likely than adults to have asthma, which puts them at greater risk from air pollutants that exacerbate asthma.

EXECUTIVE ORDER ON THE PROTECTION OF CHILDREN FROM ENVIRONMENTAL HEALTH RISKS AND SAFETY RISKS

On April 21, 1997, the president signed the Executive Order on the Protection of Children from Environmental Health Risks and Safety Risks. This Executive Order requires all federal agencies to assign a high priority to addressing health and safety risks to children, coordinate research priorities on children's health, and ensure that their standards take into account special risks to children. The Executive Order created a President's Task Force on Environmental Health Risks and Safety Risks to Children (Task Force) to implement the Executive Order.

The Task Force is co-chaired by the U.S. Environmental Protection Agency (EPA) and the Department of Health and Human Services (HHS) and its current priorities to improve children's environmental health are focused on **lead exposures, healthy settings, asthma disparities, and chemical exposures.**

EPA'S COMMITMENT TO CHILDREN'S HEALTH

EPA is committed to protecting children where they live, learn, and play. To that end, EPA has many initiatives currently underway in partnership with federal agencies, states, tribes, local governments, schools, community groups, medical providers, and other stakeholders. The agency understands that to be protective of children's health, as highlighted by the President's Task Force, it is essential that childhood lead exposures be reduced, children's environments be safe from environmental hazards, the risk from asthma triggers be actively reduced and harmful chemical exposures be minimized.

Through its regional programs, EPA provides grant funding to a wide range of initiatives from educating childcare professionals about providing healthy settings for children, researching effects of pregnancy exposure to environmental chemicals, deploying mobile asthma clinics, managing lead-based paint accreditation and certification programs, removing asbestos and lead-based paint, funding enforcement of lead-based paint regulations, and removing lead service lines.

The following are a few highlights of EPA's initiatives. Additional information on EPA's efforts to protect children's health is found at: <https://www.epa.gov/children>.

REDUCE LEAD EXPOSURES

The Center for Disease Control has stated that no safe blood lead level in children has been identified. EPA is committed to reducing lead exposures from multiple sources including: paint, water, soil contamination, and ambient air. Key agency initiatives underway include:

FEDERAL LEAD STRATEGY

EPA, along with the partner agencies of the President's Task Force, is developing the forthcoming Federal Strategy to Reduce Childhood Lead Exposures and Associated Health Impacts. The Federal Strategy is designed to improve the effectiveness and efficiency of the federal government in reducing children's lead exposures and lead-related health risks.

PROVIDING FOR REDUCING LEAD IN DRINKING WATER

- EPA received more than \$9.1 billion in collective loan requests for 2018 Water Infrastructure Finance and Innovation Act Program funding. More information is available at: <https://www.epa.gov/wifia>.
- EPA received \$30 million for grant funding under the Water Infrastructure Improvements for the Nation Act (WIIN Act), which addresses, supports and improves America's drinking water:
 - \$10 million dollars for a new grant program for lead reduction projects including lead service line replacement at water systems and homes.
 - \$20 million dollars for states and tribes to test drinking water for lead contamination in schools and child care programs that request it.
 - More information is available at: <https://www.epa.gov/safewater/grants>.

- EPA revised its 3Ts for Reducing Lead in Drinking Water in Schools and Child Care Facilities, which includes guidance on:

- **Training school and child care officials** to raise awareness of 3Ts program and summarize the potential causes and health effects of lead in drinking water.
- **Testing drinking water** in schools and child care to identify potential lead problems.
- **Taking action** to reduce lead in drinking water and communicate to parents, staff, and the larger school community.
- More information is available at: <https://www.epa.gov/safewater/3Ts>.



- EPA is working to revise regulations for the use of lead-free infrastructure to codify the new and more stringent definition of lead-free and to clarify how manufacturers can meet these new lead-free standards.
 - EPA issued a proposed rule in 2017. EPA is working to address comments and finalize the rule in 2019.
- EPA is also working on revisions to update the Lead and Copper Rule.
 - EPA is evaluating input recently received from state, local and tribal partners as well as the best available peer reviewed science to ensure the rule reflects the best ways to improve public health protection.
 - EPA anticipates releasing the proposal in 2019.

REDUCING EXPOSURES ASSOCIATED WITH LEAD IN PAINT

- Strengthening the standards for lead in dust is an important component of EPA's strategy to curtail childhood lead exposure.
- Title IV of the Toxic Substances Control Act (TSCA) requires EPA to establish hazard standards for lead-contaminated dust. Lead dust can be a major source of lead exposure in children. Lead dust can be generated when lead-based paint deteriorates or is disturbed (e.g., during renovation or repainting work).
- In June 2018 EPA proposed to change the dust-lead hazard standards from 40 $\mu\text{g}/\text{ft}^2$ and 250 $\mu\text{g}/\text{ft}^2$ to 10 $\mu\text{g}/\text{ft}^2$ and 100 $\mu\text{g}/\text{ft}^2$ on floors and window sills, respectively. These standards apply to most pre-1978 housing and child-occupied facilities, such as day care centers and kindergarten facilities. EPA also continues to work toward ensuring that individuals and firms conducting lead-based paint abatement, risk assessment or inspection are properly trained and certified.
- More information is available at: <https://www.epa.gov/lead>.



- EPA chairs the Global Alliance to Eliminate Lead Paint, a voluntary partnership of governments, industry, and NGO's to eliminate lead paint around the world. EPA is working closely with the United Nations Environment Programme and the World Health Organization, as well as the International Paint and Printing Ink Council, the International POPs Elimination Network, the American Bar Association, and other stakeholders to help countries develop laws to address lead paint. This fall, EPA is partnering on an international project which aims to establish lead paint laws in 40 countries.
- The sixth annual International Lead Poisoning Prevention Week of Action takes place from October 21-27, 2018. The Week of Action provides an opportunity for organizations and institutions around the world to focus attention on lead. http://www.who.int/ipcs/lead_campaign/en/

REDUCING EXPOSURES TO LEAD IN SOIL

- Lead can be a relatively common soil contaminant because of past and current human activity or uses (i.e., mining, lead smelter). Children who live near or play on lead-contaminated soil can be exposed through incidental ingestion of small amounts of soil or soil-derived indoor dust. Contaminated soil can also be tracked into the home. Young children often have higher rates of soil and dust ingestion because of their unique behaviors such as crawling and hand/object-to-mouth contact.
- EPA actions to reduce childhood exposure from lead in soil include: managing lead contamination at Superfund, Resource Conservation and Recovery Act Corrective Action, and other sites through removal, remedial and corrective actions; updating the Superfund Lead-Contaminated Residential Sites Handbook; and offering technical assistance to brownfield communities to identify best management practices, and potential funding opportunities.
- More information is available at: <https://www.epa.gov/superfund/lead-superfund-sites>.

REDUCING EXPOSURES TO LEAD IN THE AMBIENT AIR

- EPA actions to reduce childhood exposure from lead in ambient air include: working with state and tribal air agencies to implement the National Ambient Air Quality Standard (NAAQS) for lead; evaluating the impacts of lead emissions from aircraft using leaded aviation fuel under the Clean Air Act; and conducting a research and development program to identify unleaded aviation fuels through the Piston Aviation Fuel Initiative (a partnership with the Federal Aviation Administration).
- More information is available at: <https://www.epa.gov/lead-air-pollution>.

INCREASING THE IDENTIFICATION OF AND ENFORCEMENT OF SOURCES NOT IN COMPLIANCE

- EPA provides grant funding to states and tribes to conduct audits of lead-based paint abatement certification programs and lead-based paint abatement activities to ensure compliance.
- EPA works to increase the public's awareness of the risks associated with childhood lead exposures by continuing to identify high-risk neighborhoods and increase work-site inspections and associated compliance assistance, as well as increase enforcement actions.
- More information is available at: <https://www.epa.gov/lead/complying-lead-laws-and-regulations>.

PROMOTE HEALTHY ENVIRONMENTS

EPA is committed to ensuring that children's environments are safe from environmental hazards. Key initiatives underway include:

ADDRESSING ASBESTOS EXPOSURES IN SCHOOLS

- EPA's \$4.8 million TSCA Compliance Categorical Grants build environmental partnerships with states and tribes to strengthen their ability to address environmental and public health threats from toxic substances like asbestos, lead-based paint and PCBs.
- During the past eighteen months, EPA worked with the Inspector General's (IG) office on an audit of the prioritization of the TSCA Asbestos Hazard Emergency Response Act compliance monitoring program also known as the Asbestos-Containing Materials in Schools Rule. The IG's audit identified areas where EPA will utilize continual improvement to reevaluate its outreach and compliance assistance materials. EPA is committed to using all the tools in its toolbox to steadfastly maintain an asbestos compliance monitoring program with our partners.
- More information is available at: <https://www.epa.gov/asbestos/asbestos-and-school-buildings>.



ADDRESSING POLYCHLORINATED BIPHENYLS IN SCHOOLS

- Polychlorinated biphenyls (PCBs) are a class of synthetic organic chemicals that were widely used in building construction, including schools built between about 1950 and the late 1970s. The manufacture and use of PCBs were banned by TSCA and phased out by 1979, except for certain limited uses. PCBs are toxic and continue to be closely regulated.
- EPA developed guidance and outreach materials to assess and reduce exposure to PCBs in schools to support schools and regions in ongoing regulatory implementation and compliance.
- Each of EPA's 10 regions has a designated PCB Coordinator to oversee the proper management of PCB issues within each region. They coordinate with interested stakeholders to ensure that their region's needs are addressed and that EPA's PCB regulations are followed.
- More information is available at: <https://www.epa.gov/pcbs/polychlorinated-biphenyls-pcbs-building-materials>
- <https://www.epa.gov/schools-healthy-buildings/renovations-and-polychlorinated-biphenyls-pcbs-school-environment>
- <https://www.epa.gov/pcbs/epa-regional-polychlorinated-biphenyl-pcb-programs>

INDOOR AIR QUALITY PROGRAMS

EPA, through its national and regional indoor air programs (IAQ), provides training and technical assistance through a coordinated set of guidance, tools and assets to equip states, tribes and school districts with the resources to reduce the risks from radon, asthma triggers, mold, improper ventilation, pest (Integrated Pest Management), PCBs, lead, indoor particulate matter, and other indoor environmental health issues and in emergency response and recovery situations, such as floods, hurricanes, and wildfires.

- Specific guidance includes:
 - Indoor Air Quality Tools for Schools Action Kit
 - Indoor Air Quality Design for Schools
 - Energy Savings Plus Health Guidance for Schools
 - IAQ Tools for Schools Preventative Maintenance Tools and Resources
 - IAQ Tools for Schools Connector Network
- For more information visit: <https://www.epa.gov/indoor-air-quality-iaq>.
- The Indoor Air Quality Tools for Schools Action Kit is a comprehensive collection of information necessary to develop, assess, improve and implement an effective IAQ management plan at little or no cost using straightforward activities and in-house staff. The Action Kit includes information on best practices, industry guidelines, sample policies and a sample IAQ management plan. <https://www.epa.gov/iaq-schools/indoor-air-quality-tools-schools-action-kit>.
- Air Quality Flag Program: More than 120 million people in the United States live in communities with unhealthy levels of air pollution. Among those most affected are children and teens, older adults, people with heart or lung problems and people who are active outdoors. The Flag Program uses brightly colored flags based on the EPA's Air Quality Index—the AQI. Schools display the flags to inform students and staff about daily air quality conditions and use the Flag Program as part of their science curriculum. More information is available at: <https://www.airnow.gov/air-quality-flag-program>.
- EPA offers the School IAQ Assessment Mobile App to help schools maintain a healthy indoor environment by identifying, correcting and preventing IAQ problems. The IAQ School Assessment Mobile App provides schools access to EPA's comprehensive school IAQ management guidance and detailed walkthrough assessment checklists that address critical building-related environmental health issues. More information is available at: <https://www.epa.gov/iaq-schools/school-iaq-assessment-mobile-app>.
- EPA provides extensive technical assistance through web-based trainings to school districts to equip them with the tools they need to create and maintain effective indoor air quality management programs. The IAQ Master Class Professional Training series provides foundational knowledge on technical topics including mold and moisture control, ventilation, cleaning and maintenance, asthma triggers and preventive maintenance practices. More information is available at: <https://www.epa.gov/iaq-schools/ondemand-training-webinars>. Additionally, the IAQ Knowledge-to-Action Professional Training Webinar Series demonstrates how the knowledge gained in the IAQ Master Class Professional Training Webinar Series can be translated into actionable steps to continue improving IAQ within your school district.



Teacher's Classroom Checklist

Name: _____
School: _____
Room or Area: _____ Date Completed: _____
Signature: _____

Instructions

1. Read the IAQ Background and the Background information for this checklist.
2. Keep the Background information and make a copy of the checklist for future reference.

1. GENERAL CLEANLINESS

	Yes	No	N/A
a. General rooms are dusted and vacuumed regularly.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b. General rooms are free of clutter.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c. General trash is removed daily.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d. General trash is stored in classroom overnight.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e. General trash is stored in tightly sealed containers.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
f. General rooms are free of pests and vermin.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
g. Used unsealed, school-approved cleaners and air fresheners, if any, in rooms.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

2. ANIMALS IN THE CLASSROOM

a. Minimized exposure to animals in rooms.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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BY THE NUMBERS:

In 2018, EPA educated more than 2,000 school district representatives on indoor air quality best practices.

REDUCING RADON RISK

Radon is a major public health risk. It's the second leading cause of lung cancer and the leading environmental cause of cancer mortality in the U.S. State and tribal radon programs are critical to the Agency's national goal of minimizing and preventing radon-related lung cancer. States and tribes receive grant funds from EPA that help finance their radon risk reduction programs. Those receiving State Indoor Radon Grant funds must align their projects and activities with the Agency's goals which include building new schools with radon-reducing features, where appropriate, and testing and fixing existing schools when necessary. In Fiscal Year 2018, the State Indoor Radon Grant total allocation was \$7,867,000. More information is available at: <https://www.epa.gov/radon>.

EPA has also developed and made available key guidance on testing, mitigating, and building new schools to be radon-resistant. We provide comprehensive guidance documents and produce technical webinars and conference sessions on practical radon management. To find information about radon in schools, including the publication, "Managing Radon in Schools" a document that offers a practical framework and concrete steps for managing radon from start to finish, visit <https://www.epa.gov/radon/radon-schools>.

Every School
Should Take
This
Simple Test.



INTEGRATED PEST MANAGEMENT PROGRAMS



EPA's vision is that all of our nation's students attend schools with verifiable and ongoing Integrated Pest Management Programs (IPM). Our mission is to build partnerships and collaborations to promote and support school IPM, demonstrate its value, and provide information on the tools available to schools interested in establishing new or improving existing IPM programs. More information is available at: <https://www.epa.gov/managing-pests-schools/epas-approach-integrated-pest-management-schools>.

BY THE NUMBERS:

EPA has awarded an estimated \$6 million dollars in active grants to improve education related to the safe use of pesticides to protect communities and children.

REDUCE ASTHMA TRIGGERS

More than six million children in the United States—an average of one out of every 12 school-aged children—have asthma. Asthma is also a leading cause of school absenteeism.

Since asthma affects so many children, asthma management should be a priority for every school. Controlling asthma as part of a comprehensive indoor air quality (IAQ) management program can lead to reduced absenteeism and increased student performance for students and staff. Follow the tips below to reduce asthma triggers and create a healthy indoor environment in your school.

Asthma triggers that affect children in schools include:

- Animal allergens
- Cockroach and pest allergens
- Mold and moisture
- Dust mites
- Outdoor air pollutants, like ozone and particle pollution or school bus diesel exhaust

EPA's coordinated approach on asthma promotes scientific understanding of environmental asthma triggers and ways to manage asthma in community settings through research, education and outreach. With federal, state and local partners, we are building the nation's capacity to control asthma and manage exposure to indoor and outdoor pollutants linked to asthma.

Advance public awareness and action and enable community programs to deliver sustainable in-home environmental interventions improving asthma control and saving thousands of dollars in avoided health care costs per child per year. With EPA's federal partners at CDC and HUD, we are working to advance nationally policy to support reimbursement of these in-home interventions by health plans and Medicaid. More information is available at <https://www.epa.gov/asthma>.

BY THE NUMBERS:

More than 1100 community-based programs participate in EPA's Asthma Community Network to share best practices and successful approaches to address asthma.
www.AsthmaCommunityNetwork.org

**“WHEN I HAVE AN
ASTHMA ATTACK
I FEEL LIKE A FISH
WITH NO WATER.”**

-JESSE, AGE 5



SCHOOL BUS REBATE PROGRAM

School buses travel over four billion miles each year, providing the safest transportation to and from school for more than 25 million American children every day. However, diesel exhaust from these buses has a negative impact on human health, especially for children who have a faster breathing rate than adults and whose lungs are not yet fully developed. EPA designed this rebate program to encourage school bus fleet turnover so more children

BY THE NUMBERS:

In 2017, EPA awarded \$8.78 million toward replacement or retrofit of 453 school buses. Cleaner buses will transport students at 143 school districts because of this grant funding.

can ride buses with the cleanest emissions standards or buses that have been retrofitted to reduce emissions.

The 2018 School Bus Rebate Program will provide approximately \$9.0 million to public and private fleet owners for the replacement or retrofit of older school buses.

More information is available at: <https://www.epa.gov/cleandiesel/clean-school-bus>.



PEDIATRIC ENVIRONMENTAL HEALTH SPECIALTY UNITS

EPA and ATSDR support this national network of academically-based experts who provide medical information and advice on environmental conditions that impact children's health. PEHSUs are active in all 10 EPA Regions and work with health care professionals, parents, schools and community groups to raise awareness about environmental health, provide guidance on reducing exposures in everyday settings and provide practical advice to help children and families cope and recover during and after floods, wildfires, chemical spills and other crises. More information is available at: https://www.pehsu.net/About_PEHSU.html



ADDRESS CHEMICAL EXPOSURES

Chemicals are used in schools for a range of activities including building maintenance and classroom learning. High schools usually have larger inventories and more hazardous chemicals than middle and elementary schools, but hazardous chemicals can be found in all schools, especially in science classes and labs (e.g., mercury), shop classes, and store rooms.

Thoughtful chemical purchasing, use and management is critical for reducing chemical exposures and costly accidents, which ultimately affect student learning and attendance. EPA offers comprehensive technical resources for safe chemical management in K-12 schools. <https://www.epa.gov/schools-chemicals/toolkit-safe-chemical-management-k-12-schools>



EPA's emergency response team is available 24/7 to provide technical assistance to the local authorities as well as lead investigations and response actions when necessary in schools in the event of chemical emergencies such as mercury spills and school science lab incidents. More information is available at: <https://www.epa.gov/ert>.

CHILDREN'S HEALTH RESEARCH

CHILDREN'S ENVIRONMENTAL HEALTH AND DISEASE PREVENTION RESEARCH CENTERS (CHILDREN'S CENTERS)

EPA and the National Institute of Environmental Health Sciences have partnered to investigate new frontiers in the field of children's environmental health research by supporting Children's Environmental Health and Disease Prevention Research Centers.

- There are currently 5 active Centers of Excellence for Children's Environmental Health Research. All 5 centers are actively engaged in the outreach and research translation for improving the health and well-being of children in various communities.
- Impacts of this research are summarized in the Children's Environmental Health and Disease Prevention Research Centers Impact Report: Advances in protecting children's health where they live, learn, and play.

In-house research at EPA also addresses children's environmental health. Highlights of the Children's Centers and EPA research portfolio include:

- **Asthma:** Understanding and interventions for children and their families to better manage this chronic disease. The Children's Centers research is now moving toward exploring the links between asthma and other emerging factors, including obesity and immune function. In-house EPA research includes the impacts of hurricanes on asthma health and mold contamination.

- **Birth Outcomes:** The Children's Centers have identified links between environmental pollutants and preterm birth and lower birthweight and engaged with communities to address concerns about how the environment may be impacting pregnancy and how to prevent exposures. In-house EPA research is identifying alternative testing strategies that are faster, cheaper to evaluate impacts of chemicals on the developing child.



- **General Neurodevelopment:** Researchers have engaged with parents, childcare providers, and decision makers to help them identify ways to reduce exposures that can affect cognitive and behavioral outcomes and improve children's neurodevelopment. Children's Centers findings have helped develop public health policy and interventions aimed at protecting pregnant women and their babies from toxic environmental exposures. In-house EPA research is developing rapid, economical methods to screen chemical compounds for their potential to interfere with neural development. In addition, important research related to environmental risk factors for childhood leukemia, autism and spectrum disorder, obesity, and other important health concerns is on-going. More details can be found at: <https://www.epa.gov/research-grants/niehsepa-childrens-environmental-health-and-disease-prevention-research-centers>.

SCHOOL SITING GUIDELINES

EPA's voluntary school siting guidelines can help local school districts, local education agencies (LEAs), and community members evaluate environmental factors to make the best possible school siting decisions. The guidelines should be used prior to: deciding whether to renovate the existing school, or build a new school on the current site or on a new site; acquiring land for school facilities; using legacy property already owned by the LEA; leasing space; and/renovating or reusing existing properties and structures already owned by the LEA. More information is available at: <https://www.epa.gov/schools/basic-information-about-school-siting-guidelines>.

BY THE NUMBERS:

EPA and NIEHS have together invested more than \$300 million in 24 Children's Centers to expand our knowledge on the environmental exposures and health outcomes.

CHILDREN'S HEALTH PROTECTION ADVISORY COMMITTEE

The Children's Health Protection Advisory Committee (CHPAC) is a body of external researchers, academicians, health care providers, environmentalists, state and tribal government employees, and members of the public who advise EPA on regulations, research, and communications related to children's health. The CHPAC acts in the public interest and supports EPA in performing its duties and responsibilities under Executive Order 13045 of April 21, 1997 (62 Fed Reg 19885; April 23, 1997). The legal authority for CHPAC is the Federal Advisory Committee Act (FACA), 5 USC App 2. Members of the CHPAC serve voluntarily and the CHPAC meets about two or three times per year to provide specific recommendations to the EPA administrator. More information is available at: <https://www.epa.gov/children>.

PARTNERSHIPS

Protection of children through exposure reduction and being responsive in addressing past exposures is most effective if accomplished through collaboration. EPA will continue to forge partnerships with other federal agencies, as well as with other public and private partners to extend the reach and effectiveness of efforts and to enhance the public's awareness, understanding, and ability to effect change to address these issues. Leveraging each partner's unique expertise, resources (human, facilities, funding mechanisms), perspectives, and diverse stakeholder networks greatly improves the ability to create effective and productive collaborations to address children's environmental health issues.

