Fact Sheet

May 2011 - update

California Environmental Protection Agency
Air Resources Board

School Advisory from California Classrooms Study

The environmental conditions in classrooms can have a major impact on students' and teachers' health and productivity. In 2004, the Air Resources Board (ARB) and the Department of Health Services (DHS, now the Department of Public Health [DPH]) completed a study of the environmental health conditions in California's portable and traditional classrooms, and found a number of widespread problems that needed to be addressed. The majority of the problems identified in the study could be remedied quickly at little or no cost, while others would require planning and budgeting by schools.

Below are some key suggestions and links to help schools and school districts assure a healthful and productive learning environment for their students.

How do we know if we have a problem? Where do we start?

- **First, assess your school's indoor environmental conditions**. There are some easy-to-use checklists available free of charge that can help you conduct your own assessment.
  - U.S. Environmental Protection Agency's (EPA) *Indoor Air Quality (IAQ) Tools for Schools (TFS) Action Kit* — www.epa.gov/iaq/schools/.
  - Los Angeles Unified School District's "Safe School Inspection Guidebook" — www.lausd-oehs.org/docs/SafetyInspections/Guidebook%2004-01-09.pdf which was revised in 2009. After LAUSD's first round of self-inspections, LAUSD officials determined that many basic health and safety problems could be remedied by custodians or other school personnel, generally at little or no additional cost.

- **Be sure your school complies with current state workplace regulations**, especially those related to mechanical ventilation (www.dir.ca.gov/title8/5142.html) and sanitation and moisture intrusion (www.dir.ca.gov/title8/3362.html; see especially item "g" on mold). For assistance with interpreting and meeting workplace regulations, contact Cal/OSHA's consultation service at www.dir.ca.gov/dosh/consultation.html. Employers may also call 1-800-963-9424.

- **Prepare a plan for addressing problems** found in your self-assessment, using EPA's TFS planning process or other similar approaches to develop the plan. Set a schedule for tackling the most critical problems, and put someone in charge to see they are addressed.

Are there specific ways to establish and maintain healthy classrooms?

Yes, some key actions can go far to assure a healthful environment. It is important to address each of the following activities:

- **Operations and Maintenance**
  - Provide sufficient ventilation to the classroom, per Cal/OSHA regulations located at www.dir.ca.gov/title8/5142.html, and the State Energy Code Title 24 regulations at www.energy.ca.gov/title24/index.html (visit the appropriate standard, 1998, 2001, 2005 or 2008, depending on the age of the classroom). Assure that ventilation systems are not too noisy (under 45 decibels): ask for help from the manufacturer if needed.

- Provide or obtain training for district and school facility managers on building design, maintenance and operations. Start by visiting the EPA's website at www.epa.gov/iaq/schools/clean_maintenance.html. Proper cleaning and vacuuming techniques for custodial staff are discussed at www.epa.gov/iaq/schools/pdfs/kit/checklists/bldgmaintchklstbkgd.pdf. Teachers can learn to avoid pollutant sources in the classroom by using the TFS kit.
- Reduce the use of pesticides and noxious cleaning products. Implement an Integrated Pest Management Program; see www.cdpr.ca.gov/cfdocs/apps/schoolipm/main.cfm.
- Reduce classroom formaldehyde levels: see "Remedies for Reducing Formaldehyde in Schools" at www.arb.ca.gov/research/indoor/pcs/formald_remedies.pdf.

➢ **Purchasing**

- Order materials and products that emit little or no formaldehyde and other potentially harmful chemicals. Specify products that meet California's Section 01350 emissions requirements: see www.chps.net/dev/Drupal/node/445.
- Furnishings such as desks or bookcases that use pressed wood products (such as particleboard or plywood) must meet ARB's emission limits for formaldehyde (see www.arb.ca.gov/toxics/compwood/compwood.htm).
- Do not allow the use of room deodorizers (especially plug-ins), candles, hair spray, or other unnecessary products in classrooms that can emit harmful chemicals. If portable air cleaning devices are used they should be certified by ARB as meeting the State ozone emission limit (www.arb.ca.gov/research/indoor/aircleaners/certified.htm).

What about new schools and renovation projects?

➢ **Design and Construction**

- When planning and constructing new schools or renovating classrooms, see the Collaborative for High Performance Schools' *Best Practices Manual* sections on school siting, materials selection, and ventilation (www.chps.net/dev/Drupal/node/288). Make all new construction and modernization projects CHPS certified.
- Specify no- or low-formaldehyde building materials and furnishings that meet ARB's compressed wood emission limits (www.arb.ca.gov/toxics/compwood/compwood.htm) and the Section 01350 emissions limits for gaseous chemicals, at www.chps.net/dev/Drupal/node/445.
- Specify low noise, energy efficient ventilation systems and lighting systems (under 45 decibels combined). Teachers cannot teach with noisy mechanical systems in their rooms: the added incremental cost of low noise systems is well worth the investment.

Where can I find more information?

- For more information on the California Portable Classrooms Study and recommendations, visit the study web site at: www.arb.ca.gov/research/indoor/pcs/pcs.htm.
- For a listing of private sector indoor air quality consultants, visit the California Department of Public Health's Indoor Air Quality website at www.cal-iaq.org and click on "Get Help."
- For information on sustainable schools, visit www.sustainableschools.dgs.ca.gov/SustainableSchools.
- For more information, contact the ARB's Public Information Office at (916) 322-2990.