

INDOOR POLLUTION PREVENTION

A Factsheet from Austin Energy's Green Building Program

Pollutants such as soils, particles, gases and bio-contaminants can enter a building in many ways. These pollutants impact indoor environmental quality, and the health and productivity of building occupants and those maintaining the building. One goal of a "Green Building" is to make indoor environments healthy and safe by minimizing the impact of pollutants.

Clean for health first, appearance second

Even buildings that appear clean may be very unhealthy. In order to ensure health and cleanliness:

- Clean and maintain the building as a whole, not as separate pieces
- Provide frequent and thorough maintenance; keep concise plans and records
- Minimize exposure to harmful contaminants by choosing the most benign, yet effective, products and by providing personal protective equipment
- Dispose of cleaning waste in an environmentally safe manner

Know what is going on in and around the building

Proper cleaning and maintenance can only happen if the property has been accurately assessed. In order to get the whole picture, inspect the building from bottom to top, paying special attention to:

- Building Exterior and Neighbors
- Basements and Crawl Spaces
- Garages, Loading Docks and Shop Areas
- Entrances and Lobbies
- Stairs and Elevators
- Offices, Work Spaces, Classrooms, Libraries and Living Areas
- Food Preparation and Eating Areas
- Washrooms, Restrooms, Shower and Bath Areas
- Mail, Copy, and Computer Rooms
- Custodial Closets and Storage Areas
- Mechanical, Attics and Upper Areas

In addition, pay close attention to Pest Control Management. Identify situations, sources, or conditions that contribute to indoor pollution including:

- Locations where soil, oils, greases, and fumes from cleaning products, trash, or vehicles are introduced
- Accumulations of dust and debris, evidence of insects and pests, and presence of standing water and moisture damage or seepage
- Areas where routinely scheduled maintenance is taking place
- Introduction of bio-contaminants from food preparation, restrooms, and trash collection
- Locations where cleaning products are stored or mixed

Selecting Chemical Cleaning Products

The three key considerations for chemical cleaning product selection are human safety, environmental impact, and packaging. Safety information can be found on either the product label or the material safety data sheet (MSDS) for each chemical product. A MSDS is required to be available to anyone who may be using the product and training must be provided on new products annually. Since exposure to chemicals can occur at many points during a product's use, storage, and disposal, selection of the most benign products that will effectively accomplish the task should be high priority.

HEALTH

- ❑ Human Safety Considerations
 - Select products with a moderate pH (close to pH 7) and that contain no OSHA defined hazardous ingredients
 - Choose products containing no known or suspected carcinogens
 - Select products that will not cause skin or eye irritation
 - Select non-toxic products; when necessary, place products with an LD50 above 5 grams per kilogram where risk of accidental poisoning is reduced
 - To reduce risk of fire, poisoning, and other violent reactions, choose products containing non-reactive chemicals
 - Though fragrances and dyes aid in differentiation between products, select products with a minimum amount to do the task as they have little cleaning value
 - Avoid products that require respiratory protection, but always use the personal protective equipment and methods specified on the MSDS, as well as follow directions for safe handling and application
- ❑ Environmental Considerations
 - Choose products containing ingredients that are readily biodegradable and are not toxic to aquatic environments
 - Avoid products containing Ozone Depleting Compounds (ODCs), including chlorofluorocarbons (CFCs), as they are considered a major cause of global warming
 - Use solvent-free or water-based products as an alternative to those containing Volatile Organic Compounds (VOCs), which cause smog and major health problems
 - Choose floor finishes and other maintenance products that contain no heavy metals
 - Avoid products that require disposal as a hazardous waste
 - Consider durability and energy efficiency when choosing housekeeping equipment and materials
 - Select products that can be used with cold water
- ❑ Packaging Considerations
 - Purchasing concentrated products reduces waste packaging materials; check if supplier will take back packaging for reuse or recycling
 - Incorporating chemical portion control equipment reduces waste and misuse of chemicals and improves safety of maintenance personnel
 - Choose products which have packaging that can be recycled by a local recycler

Resources

City of Austin Sustainable Building Guidelines Volume III of III, *Guidelines for Green Building: Housekeeping and Maintenance*, by Stephen P. Ashkin. February 1998. Three volume set available from the Green Building Program for \$120.00. Call 512/505-3700 to purchase.

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RMC has a Green Housekeeping division that can design comprehensive cleaning programs, which include the involvement of the building users, the evaluation of cleaning practices and equipment, and training for all personnel.

This list does not constitute an endorsement or recommendation by the City of Austin, Austin Energy or the Green Building Program. Please check references thoroughly before employing the services of any contractor.