



# **INFORM**

## **NE Assistance & Pollution Prevention Roundtable Web Conference on Green Cleaning February 13, 2007**

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Cleaning for Health



# INFORM

- 34-year-old, national, nonprofit environmental research and outreach organization
- Key research areas:
  - Sustainable Production
    - Cleaning for Health
    - Greenhouse Gas Reduction
    - Solid Waste Prevention
  - Sustainable Consumption

*INFORM works with government agencies, schools, and businesses to facilitate business practices that are environmentally preferable.*

# Cleaning for Health

- 1990 – INFORM began investigating the environmental and human health effects of chemicals in commerce
- 2000 – INFORM was asked by a cleaning service to research cleaning products because of a growing body of information about the health hazards to its employees
- 2002 – INFORM published *Cleaning for Health: Products and Practices for a Safer Indoor Environment*
- 2004 – INFORM launched New England outreach program
- 2004-2007 - Visited over 100 facilities including 59 schools in 5 states

## Who is Cleaning “Green”?

- Federal agencies
- State and municipal governments
- Businesses
- Commercial cleaning services
- Colleges and universities
- Hospitals and healthcare facilities
- Public and private schools
  - New York State requires green cleaning
  - Other states are considering legislation
- Restaurants and hotels
  - Green hotel and restaurant associations

# Cleaning for Health

Cleaning that protects public health,  
without affecting the health of staff,  
building occupants and the  
environment

Health first!



# What Is Cleaning for Health?

A program that includes:

- Environmentally preferable chemicals
  - Safer, less-toxic, with third-party verification for environmentally preferable qualities
- State-of-the-art cleaning methods (commonly called “best practices”)
- Advanced technology cleaning equipment use that reduces the use of chemicals
  - Microfiber
  - High-filtration vacuums and vacuum attachments

# Environmentally Preferable Cleaning Chemicals

- Less-toxic chemicals are readily available through most manufacturers and distributors
- Third-party certification of institutional cleaning products is important to ensure quality
- Product lists are available at organization websites
- Common third-party programs are:

Design for the Environment – EPA

Green Seal (GS) – US

Environmental Choice (EC) – Canada



# Standards - Green Seal

## Cleaning Products Shall:

- Not contain:
  - Carcinogens
  - Reproductive toxins
  - Skin and eye irritants
  - Skin sensitizers
- Not be combustible
- Not contribute to photochemical smog, tropospheric ozone production, or poor IAQ
- Not be toxic to aquatic life
- Be readily biodegradable



# Standards - Green Seal

- Can the packaging be recycled?
- Is the product a concentrate?
- Does the product contain more than 0.5% by weight of total phosphorus?
- Are fragrances identified on the material safety data sheet?
- Is training offered on the proper use of the product?
- Does the product contain alkylphenol ethoxylates, dibutyl phthalates, or heavy metals?

# Controversy

- 2002-2006 – Emerging research raises questions about some ingredients allowed in third-party certified products:
  - Asthmagens
    - Identification required for some purchasers
  - Glycol ethers
  - Hormone disruptors
  - VOC levels – 1% for all products
- Green Seal just announced it will revise GS-37
- Cost of Green Seal certification

# Controversy

- Proponents of US Department of Interior standards
  - Bio-based
  - No petrochemical-derived fragrances
  - No petrochemical-derived dyes
  - Non-corrosive
- Are bio-based products environmentally preferable?
  - Lack of research to support this position
    - May be from genetically engineered feedstock
    - May use petrochemicals in the refining process
    - Pesticides may be used during plant growth
    - Require more energy during the refining process

# Controversy

- Safety of certified products for children
- Children are at greater risk than adults when exposed to toxins because:
  - They are exposed at higher levels
    - Eat more food, breathe more air, drink more water
    - Play closer to the ground, hand-to-mouth activity
  - They metabolize and eliminate toxins more slowly than adults
  - Their rapidly developing systems are more sensitive

# Greenwashing

- Manufacturers may claim their products:
  - Are nontoxic to humans
  - Will not harm the environment
  - Pose no threat to health
- Products need third-party certification to show they meet standardized “green” criteria
- Material safety data sheets do not give all the information and are hard to understand

# Best Practices

- Adopt a protocol for the use and handling of hazardous products
- Institute a culture of looking for less-toxic products
- Use high-performance equipment
- Identify areas that need disinfecting as opposed to areas that just need cleaning
- Manage flooring maintenance with less-toxic products
- Manage the maintenance of carpeting to reduce health impacts

# Minimize the Use of Disinfectants

- Separate cleaning from disinfecting!
- Determine high-risk areas
  - Areas where moisture collects
  - Bathroom fixtures
  - Bathroom doorknobs
  - Drinking fountains
  - Shower rooms



# Advanced Technology Equipment

- Reduce particulates in the air and the use of more-toxic cleaning products by:
  - Installing dirt-grabbing walk-off mats inside and outside entrances (recommended 15' long)
  - Using microfiber cloths and mops that pick up dirt while using a reduced amount of chemicals
  - Employing high-filtration vacuums, or microfiber mops instead of conventional dust mops
  - Installing high-filtration vacuum attachments on other floor-care equipment





# Eight Key Steps to Successful Implementation

- Adopt a policy
- Establish an Environmental Health and Safety Committee
- Educate staff
- Evaluate your current cleaning products, methods, and equipment
- Begin with a pilot project
- Select products that work for your facility
- Monitor success
- Reward staff for participating

# Case Study

- Vermont Supervisory Union
  - 6 schools
  - Superintendent driven project
  - Presented health information to principals, nurses, and custodians
  - Visited each school to evaluate current products



# Case Study

- Obstacles
  - Slow response from vendor to carry a full line of products
  - Vendor slow to accept trade-in of conventional products for EP versions
  - No services for microfiber rentals
    - No space for washer/dryers
  - No space for dilution stations

# Results

- Phase-in process
  - Working with the vendor
  - Chemicals first, then microfiber
  - Identifying services for microfiber rental
  - Educating building staff
    - Teachers
- Improved health
  - Principal with allergies notes that she “can breathe now” even when cleaning is taking place

## Case Study - College

- Administration wanted to implement a Cleaning for Health program
- Reputed to be an environmental leader
- There was some resistance from the custodial staff



# INFORM's Program

- Met with the Facilities Manager
  - Performed a Cleaning Products Evaluation
    - Identified hazardous ingredients in current products
- Met with the Team Leaders
  - Presented information on health impacts
  - Listened to their concerns
  - Answered their questions
- Organized a seminar for the 100+ custodians
  - Included a panel composed of:
    - **an EP cleaning products vendor**
    - **public school custodian using EP products**
    - **public school facilities manager using EP products**

# The Process

- Custodians are assisting in the process to identify EP products that fit the cleaning tasks required
- Phase-in process
  - Use up existing stock while trying new products
  - Implement all-purpose, bathroom, glass carpet and neutral cleaner first
  - Then move to floor care products

## The Process

- Replace cotton cloths and dustmops with microfiber mops and cloths
- Replace equipment with high-filtration versions as needed
- Reward the custodians
- Educate the building occupants





# Resources

- INFORM's Resources – [www.informinc.org](http://www.informinc.org)
- Approved Products – Green Seal and Env. Choice  
<http://www.newdream.org/procure/products/approved.php>
- Carpet and Rug Institute – [www.carpet-rug.com](http://www.carpet-rug.com)
- Cleaning & Maintenance Management Magazine –  
[www.cmmonline.com](http://www.cmmonline.com)
- EPA Green Cleaning -  
<http://www.epa.gov/epp/pubs/products/cleaner.htm>
- EPA IAQ resources – <http://www.epa.gov/iaq>
- EPA EPP Guidelines -  
<http://www.epa.gov/epp/pubs/clean/cleaning.htm>
- Green Seal – [www.greenseal.org](http://www.greenseal.org)
- International Sanitary Supply Association – [www.issa.com](http://www.issa.com)
- Janitorial Products Pollution Prevention Project –  
[www.wrppn.org/Janitorial/jp4.cfm](http://www.wrppn.org/Janitorial/jp4.cfm)



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