

# Cleaning for Healthy Schools

***What  
Everyone  
Wants  
to  
Know***



Natl Collaborative Work Group on  
Green Cleaning  
[cleaningforhealthyschools.org](http://cleaningforhealthyschools.org)

# **Overview: *schools aren't just little offices***

- 55 million people in 130,000 facilities daily
- Vulnerable population in heavily used, densely occupied spaces
- Half of schools have indoor environmental quality problems
- Children required to attend, regardless of conditions



# **Overview: *children aren't just little adults***

- They have greater exposures:
  - Eat more food, breathe more air, drink more water
  - Play closer to the ground, hand-to-mouth activity
- They cannot detoxify or process toxins as adults do
- Their rapidly developing systems are more sensitive
- Exposures and injuries can affect learning potential and lifetime health



# Cleaning for Healthy Schools

**CfHS:** *Cleaning that protects public health, without harming the health of staff, building occupants, and the environment.*

Health first!



# CfHS Principles

- Prevent dirt
- Use less-toxic, third-party certified green cleaning products, paper products, and hand soaps
- Cleaning with an all-purpose product removes most germs
- Disinfect only in target areas
- Update and maintain equipment
- ***Breathe easier – clean doesn't have an odor!***



# CfHS Program



- **Step One** – Prevent dirt; use up to date cleaning equipment and methods
- **Step Two** – Choose certified green (environmentally preferable) cleaning and other products
  - Safer, less-hazardous; certified by independent third-party (such as UL-EcoLogo or Green Seal)
  - Recycled-content, chlorine-free paper products
- **Step Three** – Replace worn-out equipment with state-of-the-art versions



# Best Practices



## Step One - Tips

Information on cleaning practices

- Adopt GS-42, Green Seal Standard for Cleaning Services: [http://www.greenseal.org/Portals/0/Documents/Standards/GS-42/GS-42\\_Ed2-1\\_Commercial\\_and\\_Institutional\\_Cleaning\\_Services.pdf](http://www.greenseal.org/Portals/0/Documents/Standards/GS-42/GS-42_Ed2-1_Commercial_and_Institutional_Cleaning_Services.pdf)
- Good vendors can be allies
  - Ask them to help your school to find certified green products
  - Ask for free product samples and Safety Data Sheets
  - Ask for free onsite demonstrations/trainings

# Best Practices

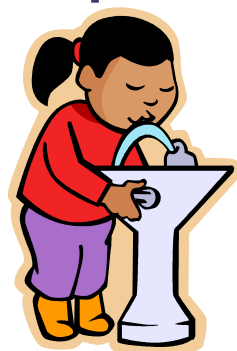
- Keep the dirt out
  - Use walk-off mats at all entries
  - Ban pets, plants, and food in classrooms
  - Keep walkways clean
  - Keep recycling & dumpster areas clean
- Do heavy cleaning from the top down, not bottom up
- Replace old carpets and PVC (vinyl tiles) with environmentally preferable alternatives: choose durable easy to maintain flooring
- Clean up spills right away; keep buildings dry
- Vacuum instead of dry mopping





# Best Practices

- Separate routine general cleaning from spot disinfecting
- Use disinfectants when required, or selectively in high risk areas
- Follow label directions: clean, then apply disinfectant, then let dry
- Determine high-risk areas to clean daily
- Check health department guidance during flu season



# Safer Cleaning Chemicals

## **Step Two:** Use safer cleaning products

- Third-party certified green products are widely available at comparable costs
- Using safer products can help indoor environmental quality by reducing sources of air pollution and hazardous chemical residues
- Low-odor products recommended by US EPA's *IAQ Tools for Schools* program
- Increasingly popular and necessary
  - Required promoted by state laws in eleven states and the District of Columbia, starting with New York State in 2005

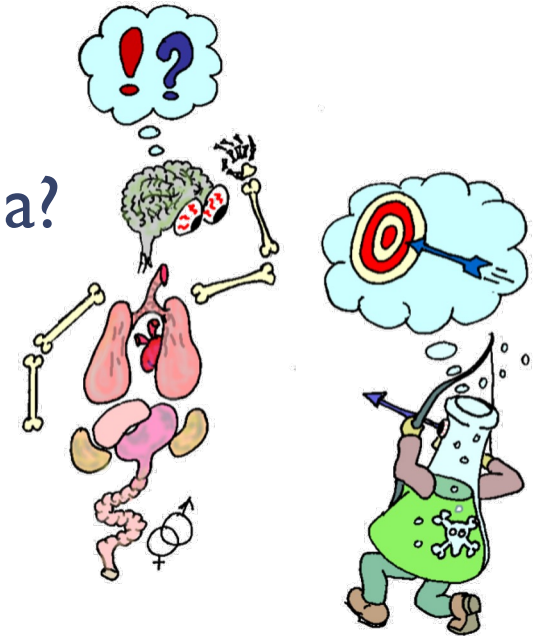
# Choosing a Product

- Less-toxic, effective cleaning products are widely available through most manufacturers and distributors
- Avoid “green washing”, aka, false or misleading environmental marketing claims
- Independent third-party certification of commercial/institutional cleaning product attributes is critical: an assurance that the product meets comprehensive standards and works
- Common third-party programs are:
  - Green Seal™ (GS) – US
  - UL-EcoLogo™



# Independent, Third-party Certifications: *Criteria, Evaluations*

- Health effects (examples)
  - Does it cause cancer or asthma?
  - Is it a reproductive toxin?
  - Does it harm specific organs (eyes, skin, liver)?
- Environment
  - Is it recyclable?
  - Is it an aquatic toxin?
- Effectiveness: does it work?



# “Greenwashing”

- Vendors and manufacturers can advertise that their products are “green”
  - *Labels not well regulated; Safety Data Sheets prepared by manufacturers do not list all ingredients, only those with certain worker health hazards or certain handling needs*
- Federal Trade Commission regulates environmental marketing claims: *all claims must be documented*
- Schools can rely on third-party certifiers to screen and document products that meet publically available “green” and “healthy” criteria

# Selecting Safer Products

What to look for on Safety Data Sheets (SDS)

- VOC content of 1% or lower
  - No aerosols
- pH of between 5 – 9.7 is neutral
- Products not labeled corrosive, causing eye or mucous membrane damage, that burn the skin, or are sensitizers
- No ingredients listed as carcinogens, mutagens, teratogens



# Safer Alternatives

## Environmentally preferable product ingredients

### Use these:

Alcohol ethoxylates  
and/or polyglucosides

Hydrogen peroxide

Corn-based esters

Vegetable-derived surfactants

Fruit-derived solvents  
and acids

### Instead of these:

Nonylphenol ethoxylates or  
alkylphenol ethoxylates

Harsh acids/alkalis

Petroleum distillates

Petroleum-derived  
surfactants

Petroleum solvents or  
harsh acids

# **Disinfection?**

## **The Germ Control Hierarchy!**

1. **All-purpose cleaners** can remove most germs, good for most situations

2. **Sanitizing** is often sufficient for higher risk areas

Sanitizers – “A product designed to kill most vegetative bacteria and some fungi and inactivate some viruses” \*(99.9%)

3. **Disinfecting** should be used only where required by regulation or in the highest risk areas

Disinfectants – “A product designed to eliminate nearly all recognized pathogenic microorganisms on inanimate objects” \*(99.99%)

4. Choose **environmentally preferable disinfectants**

# Disinfectants & Sanitizers

Higher

Risk Continuum

Lower

## Chlorine / Sodium Hypochlorite

- Very effective antimicrobial
- Corrosive to eyes and skin
- Damages floor finishes, carpets, clothing, etc.
- Respiratory irritant
- Environmental concerns from production, contaminants, byproducts
- Mixing can create poisonous gas

## Phenols

- Effective against TB – HBV assumed
- Corrosive to eyes and skin
- Damage floor finishes and other surfaces
- Strong pungent odor – respiratory irritant
- Environmental concerns. Possible estrogen mimic.

## 'Quats'

- Typically not proven effective against spores
- Less toxic than Phenols – eye, skin and surface corrosivity
- Toxic to aquatic life

## Peroxide

- EPA Sanitizer
- Superior health & environmental profile compared to phenols and quats

# Antibacterial Soaps, Wipes, and Washes

- CDC: washing hands with soap and water is effective\*
- Scientists concerned that using antibacterial products can create “super bugs” resistant to antibiotics\*\*
- Antibacterials can harm algae and fish, may break down into harmful environmental contaminants
- Products with *triclosan* should be avoided – absorbed through the skin and bio-accumulate: they are also linked with liver damage as well as antibiotic-resistant bacteria\*\*

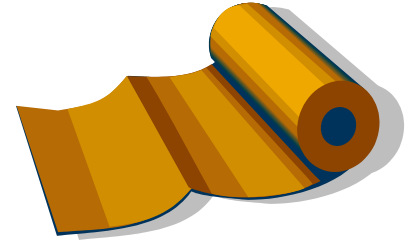
\* CDC, <http://www.cdc.gov/handwashing/when-how-handwashing.html>

\*\* [http://wwwnc.cdc.gov/eid/article/7/7/01-7705\\_article](http://wwwnc.cdc.gov/eid/article/7/7/01-7705_article)

\*\*\* [http://www.epa.gov/oppsrrd1/REDs/factsheets/triclosan\\_fs.htm](http://www.epa.gov/oppsrrd1/REDs/factsheets/triclosan_fs.htm)

# Cleaning for Health: More Green Products

- Hand soaps
- Paper products
  - Chlorine free, post-consumer waste recycled content for facial tissue, toilet paper and dispenser roll or multifold towels
  - tissue and towels on large rolls
- Interior paints and finishes
  - Low VOC paints
  - Water-based adhesives





# Equipment

## Step Three

- Reduce particulates in the air and the volume of cleaning products needed
  - Install dirt-grabbing, walk-off mats at all major entrances: recommended width of entry and 15' – 20'; vacuum daily
    - Up to 80% of soil in buildings is tracked by feet
  - Use microfiber cloths and mops to pick up dust/dirt; may also reduce germs
  - Use HEPA-filtered vacuums for carpets





# Equipment

- High-filtration vacuum cleaners
  - Carpet and Rug Institute – [www.carpet-rug.org](http://www.carpet-rug.org)
- Autoscrubbers with stripping pads
  - Eliminate the need for toxic chemical strippers
- Vacuum attachments for buffers/burnishers



# VIP: custodial closet

*Very Important Place:*

*A+ closet*

*D- closet*



Cost saving tips:

- Prevent dirt
- Keep closets near messes
- Product portion control
- Reduce products/space needed



# Elements for Success

- **Evaluate** cleaning needs, products, practices
- **Educate** building occupants and the broader community
- **Work** with existing Environment/Health & Safety Committee/Sustainability Committee (or create new)
- **Develop** a pilot project to test 1-2 products
- **Train** staff with new products/methods
- **Phase in** more certified “green” cleaning products, such as those certified by UL-EcoLogo or Green Seal
- **Track** success (school nurse visits, attendance)
- **Reward** staff for participating
- **Adopt** a local district policy

# Where Will You Start?



# Evaluate Needs, Products, Practices

- Use existing or set up a workgroup
- Review needs products, practices and equipment
- Review SDSs
- Review current purchasing practices
- Invite reliable vendor



# Choose and Use “Green” Products

- Review the Cleaning Products and Practices Evaluation (inventory of chemical products/equipment)
- Identify most hazardous/high volume products to replace initially
- Pilot using safer products that are third-party certified
- Train
- Develop a vendor contract
- Phase in more green products and advanced equipment
- Track success. **Celebrate!**





# Educate Building Occupants, Custodial Staff and the Community

- Find opportunities to educate school staff and the community
  - Cleaning for Healthy Schools
  - Safer pest control (IPM)
  - IAQ Management Plan –Tools for Schools (IAQ TfS)
  - Reduce asthma triggers
  - Eliminate outdated chemicals
- Train/involve custodial staff
- Communicate new methods & set up feedback system to resolve problems



# Implementation Challenges



- Cleaning products from home
- Inappropriate demand for 'disinfection'; aerosol disinfectants; room deodorizers; poor ventilation
- Daily food spills: halls, classrooms
- Classrooms not ready to be cleaned; storage problems; desk/chair arrangements; clutter
- Outdated beliefs: *cost, effectiveness*

What are your school's challenges?

# Conclusion

- CfH protects custodial workers, other staff and children
- You can take steps now
  - Evaluate your current program
    - Cleaning needs, chemical and equipment inventory
  - Ask vendors for help in replacing toxic products with safer substitutes
  - Use the CfH Program Tip Sheets and Checklists to identify next steps
  - Phase in your program

# Resources

## Third-party certified products:

Green Seal – [www.greenseal.org](http://www.greenseal.org)

UL-EcoLogo– [www.ecologo.org](http://www.ecologo.org)

## More information:

US EPA school resources – [www.epa.gov/schools](http://www.epa.gov/schools), for an array of voluntary best practices- IAQ, IPM, Energy, PCBs, Renovation...

New York State Office of General Services  
Green Cleaning and Green Procurement programs:  
<https://greencleaning.ny.gov/entry.asp>

Industry: ISSA, International Sanitary Supply Association  
[http://www.issa.com/?id=grres\\_green\\_cleaning1&lg=](http://www.issa.com/?id=grres_green_cleaning1&lg=)

# **Cleaning for Healthy Schools: resources**

## **Free Poster, Tip Sheets, Checklists**

*CfHS Color Poster for your workplace, school, or classroom*

*Building Evaluation: Green Cleaning Checklist*

*School Inventory Checklist*

*Three Things You Can Do*

*Tips for Parents*

*Tips for School Staff*

*Tips for Success - Vendors*

*Simple Steps*

*Suggested Research*



Celebrate, Educate

# National Healthy Schools Day

Annually in April

*National Healthy Schools Day*



[www.NationalHealthySchoolsDay.org](http://www.NationalHealthySchoolsDay.org)