Cleaning for Health in Long Term Care Homes

Informed Green Solutions Inc. is an equal opportunity provider and employer.
Green Cleaning, Sanitizing and Disinfecting

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

A Green Cleaning Program Includes:

- Safer Cleaning Products
- State-of-the-Art Equipment
- Best Practices
- Staff Training
A single custodial worker uses, on average, 194 lbs. of chemicals annually, approximately 25% of which are hazardous substances.

Custodial workers experience one of the highest rates of occupational asthma. 6 out of 100 custodians are injured each year. 20% are serious burns to the eyes or skin. 12% are a result of breathing chemical vapors.

Janitorial Products Pollution Prevention Project, How to Select and Use Safe Janitorial Chemicals
Many cleaning, sanitizing or disinfection products sold are not safe, even though they are available to facilities.

Many cleaning and disinfecting chemicals can cause health problems in workers.

Manufacturers are not required to list all the ingredients on the label.

Only the chemicals that kill bacteria, viruses, or mold (disinfectants) have to be labeled.

Hazards of Cleaners, Sanitizers and Disinfectants
Ingredients in common cleaning products have been linked to:

- Causing new cases of asthma and triggering asthma episodes
- Harming the brain, nervous system, reproductive organs, kidneys and liver
- Irritating eyes and causing headaches
- Creating breathing problems and illnesses
- Disrupting/acting like hormones
- Cancer
Many cleaning, sanitizing, and disinfecting products can irritate the lungs, and trigger or even cause asthma.

Asthma is a chronic inflammatory disorder of the airways in the lungs that results in:

- Wheezing
- Coughing
- Chest tightness
- Trouble breathing
Ingredients To Avoid: Asthmagens or Asthma Triggers

Benzalkonium Chloride

Bisphenol A (BPA)

Bleach

Ethanolamines
• monoethanolamine [MEA]
• diethanolamine [DEA]
• triethanolamine [TEA])

Fragrance Ingredients

Parabens and Phthalates

Quaternary ammonium compounds: alkyl dimethyl benzyl ammonium chloride (ADBAC), benzalkonium chloride, and didecyl dimethyl benzyl ammonium.

Volatile Organic Compounds – found in aerosol products etc.
Endocrine Disruptors are chemicals that interrupt or imitate natural hormonal messages.

- Since hormones work at very small doses, endocrine disrupting chemicals can also affect health in very small amounts.

- Endocrine disruptors may cause:
  - reduced fertility in women and men
  - early puberty in girls
  - increases in cancers of the breast, ovaries, and prostate.

Very small doses of EDC’s can harm people in different ways, essentially tricking the body into responding to chemicals as hormones during key stages of development.
Fragrances are found in most cleaning, sanitizing and disinfecting products, and contain chemicals called volatile organic compounds (VOCs) as well as endocrine disrupters and asthmagens.

VOC’s impact both indoor and outdoor air quality, as well as the water supply.

VOCs are not filtered out by water treatment, which results in contamination of our lakes, rivers and bays.

In fact, nearly all shellfish and fish in the United States now have measurable levels of fragrances in their tissues!
Fragranced products contain additional chemicals that can cause health problems. These problems include:

- Lung irritation, including asthma
- Skin irritation
- Eye irritation

Just because a cleaning product smells good does not mean it is healthy for us or does its job.
The Environmental Working Group tested 21 common products used in California schools. They found:

- 457 chemicals were emitted into the air
- 6 known asthmagens
- 11 known, probable or possible cancer-causing agents and
- Others – endocrine disruptors/health effects are unknown

Many of these are the same products used in healthcare facilities.
Some manufacturers changed to safer formulations after this report or developed a safer line of products through the EPA’s Safer Choice Program or Design for the Environment Disinfectants Program (3rd party certifiers.)
Routes of Entry

- Inhalation...
- Absorption...
- Ingestion...

This slide is from *Identifying and Controlling Chemical Hazards*, AFSCME. Graphics courtesy of Jesse Ybarra, Local 449.
Acute health effects are felt or noticed almost immediately. Often within minutes or hours.

Chronic health effects may not be felt for months or even years, such as in cases involving asbestos fibers.

The latency period is the time between, when a person comes in contact with a substance, and the time that the effects are noticed.
Cleaning for Health - The Program

- Safer products
- State-of-the Art Equipment
- Best Practices
- Trained staff
The Green Cleaning Program

• Step One - Choose “green” (environmentally preferable) cleaning and other products
• Step Two – Replace worn-out equipment with state-of-the-art versions
• Step Three – Best Practices – practice state-of-the-art cleaning methods
• Step Four – Train staff on all of the above
Benefits of the Program

• Prevents occupational exposures for custodians/housekeepers
• Protects the health of building occupants
• Protects the physical building
• Protects the environment
• Improves indoor environmental quality
Third-party certifiers. Look for the logos:

- Design for the Environment Disinfectants Program (EPA)
- Green Seal
- Safer Choice (EPA)
- UL ECOLOGO®
Look for the Following:

- Products that are third-party certified.
- The signal word **Warning rather than Danger** on the label.
- Non-aerosol.
- Fragrance-free and dye-free.
- All ingredients listed on the label or a website.
- No overwhelming chemical odor.
- Safer Choice, Green Seal or UL ECOLOGO® certified
Selecting Safer Sanitizers and Disinfectants

Look for “at a glance” rating information:

• OSHA signal word - Warning rather than Danger.

• Hazard Rating Systems - The following are also found on some SDSs and product labels – look for a Zero Rating on either:
  
  • Hazardous Materials Identification System (HMIS), or
  
  • National Fire Protection Association (NFPA) rating scales.

Thanks to Lynn Rose for use of this slide.
Look for the Following:

1. EPA registration number (verifies that the product is registered by them to kill the germs claimed on the label).
2. Approval for food contact surfaces.
3. 0 rating on the Hazardous Materials Identification System (HMIS) health rating scale found on the SDS.
4. The signal word **Caution** or **Warning** rather than **Danger** on the label.
5. Short contact time (the time the sanitizer must be left wet on the surface and in contact with the germs to kill them).
• Look for the Following:
  1. EPA registration number.
  2. 0 rating on the Hazardous Materials Identification System (HMIS) health rating scale.
  3. The signal word **Caution** or **Warning** rather than **Danger** on the product label.
  4. Hospital-grade classification (this is a requirement of child care licensing agencies in most states).
  5. Short contact time or the time the disinfectant must be left visibly wet on the surface.
Why should we clean first and then disinfect?

- Disinfectants don’t necessarily clean surfaces. Germs can hide under dirt and grime and are not affected by them.

- The products used to disinfect are more toxic and usually more expensive than products used to just clean.
State-of-the-Art Equipment

Vendors now have much more efficient equipment to complement a green cleaning program:

- Steam (vapor) cleaners that clean as well as disinfect
- Walk-off mats
- Auto scrubbers
- Carpet extractors
- Dilution Stations
- HEPA filter backpack vacuums
- Microfiber cloths
- 2 chamber mop buckets
- Ergonomically designed mops and mop buckets
Microfiber

GREAT alternative to normal cotton rags or paper towels!

- Removes organic matter (dirt, oils, grease) as well as germs (up to 99%) from surfaces.
- Washable 500-1,000 times.
- Reduces landfill waste.
- Works well with green cleaning products/needs less cleaning detergent to be effective.
• Controls Cross-Contamination: by color coding & changing mop pads after each room

• Prevents Aerosolization of Dust: The fibers have a static electric charge that attracts dust and holds it when dry dusting (Dust can transmit microbes)
Dry steam vapor technology:

• Very effective for cleaning and rapid sanitizing/disinfecting.

• Approved for most surfaces, including food contact surfaces.

Appliances that create a disinfectant using vinegar and salt with an electric charge.

• Approved by EPA’s List N for Sars-COV-2 virus use.

New Devices
• Always clean first and then disinfect.
• Soil and organic matter can reduce effectiveness of a disinfectant by:
  • Providing shelter for the microbes to hide.
  • Absorbing ingredients. Disinfectants need to be in contact with microbes to kill them.
  • Changing the chemical nature of the disinfectant.

Overusing antimicrobial products may also lead to the spread of "super bugs." Superbugs are germs that are resistant to disinfectants and/or antibiotics.
• Spray into the cloth when possible to avoid breathing in airborne vapors.

• Fold microfiber cloths to access eight sides.

• Change microfiber mop heads after each room.

• Allow the disinfectant to remain on the surface for the contact or dwell time stipulated on the label.
  • The disinfectant won’t be effective at killing the germs otherwise.
Training programs
- Best practices
- Blood-borne pathogens
- Hazcom/chemical right-to-know
- Certified products
- Equipment operation
- Infection control
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