



CLEANING CHEMICALS & SAFETY

CLEANING CHEMICALS AND YOUR HEALTH

Chemical Concerns

- Many cleaning chemicals could cause some serious health risks, especially when used on a daily basis.

Key concerns with cleaning chemicals include:

- fumes that may be released by the chemicals
- improperly diluting the chemicals with water
- skin/eye irritation

Chemical-related problems can occur when chemicals aren't stored properly or are mixed with chemicals that can produce very unhealthy, if not deadly, fumes.

Store chemicals in gallon containers off the floor so that they are easy to reach, with similar chemicals stored in the same area.



POTENTIAL HEALTH PROBLEMS CAUSED BY CLEANING CHEMICALS

Many factors influence whether a cleaning chemical will cause health problems. Some important factors to consider include the following:

- chemical ingredients of the cleaning product
- how the cleaning product is being used or stored
- ventilation in the area where the cleaning product is used
- whether there are splashes and spills
- whether the cleaning product comes in contact with the skin
- whether mists, vapors, and/or gases are released



HEALTH PROBLEM FACTORS

Chemicals in some cleaning products can be irritating to the skin or can cause rashes. Cleaning products that contain corrosive chemicals can cause severe burns if splashed on the skin or in the eyes. Mists, vapors and/or gases from cleaning chemicals can irritate the eyes, nose, throat and lungs.

- Symptoms may include the following:

- burning eyes
- sore throat
- coughing
- red, itchy eyes
- skin rashes
- skin and eye burns
- wheezing
- headaches or dizziness
- nosebleeds
- asthma

If you have health problems that you think are caused by using cleaning chemicals, make sure you tell your supervisor and ask to see a doctor.

HEALTH PROBLEM FACTORS (CONTINUED)

Employees need to also recognize that bleach is very serious. If it's mixed with ammonia, it can produce mustard gas. Other serious health risks are present when bleach is mixed with the following common cleaning chemicals:

- glass or window cleaner
- chlorinated scouring powder
- drain cleaner
- hydrogen peroxide
- chlorinated disinfectants
- Vinegar



Mixing cleaning products that contain bleach and ammonia can cause severe lung damage or death.

SAFE WORK PRACTICES

Safe work practices when using cleaning chemicals include the following:

- Chemicals must be diluted and employees should know how to correctly dilute the cleaners they are using.
- Thoroughly review and train workers on the use, storage and emergency spill procedures for cleaning chemicals.
- Review the proper protective equipment needed, such as gloves and goggles, and provide the proper protective equipment to the workers using the cleaning product.
- Ensure all containers of cleaning products and chemicals are labeled to identify their contents and hazards.
- Operate ventilation systems as needed during cleaning tasks to allow sufficient air flow and prevent buildup of hazardous vapors.
- Provide workers with a place to wash up after using cleaning chemicals.



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CLEANING CHEMICAL DEFINITIONS

The Environmental Protection Agency (EPA) defines cleaners, sanitizers and disinfectants as follows:

- Cleaners remove dirt through wiping, scrubbing or mopping.
- Sanitizers contain chemicals that reduce, but do not necessarily eliminate, microorganisms such as bacteria, viruses and molds from surfaces. Public health codes may require cleaning with the use of sanitizers in certain areas, like toilets and food preparation areas.
- Disinfectants contain chemicals that destroy or inactivate microorganisms that cause infections. Disinfectants are critical for infection control in hospitals and other healthcare settings.
- Cleaners, sanitizers and disinfectants serve different purposes, and it is important to choose the least hazardous cleaning chemical that will accomplish the task at hand. Before purchasing cleaning products, determine whether or not sanitizing or disinfecting is necessary. If sanitizing or disinfecting is not required, then choose a cleaner. In general, disinfectants and sanitizers are more hazardous than cleaners.
- If sanitizing or disinfecting is necessary, be sure the product purchased is effective for the microorganisms being targeted.



ENVIRONMENTALLY-FRIENDLY CLEANERS

National Green Public Procurement Guidelines



Cleaning products and services

National target	2012	2013	2014
	80%	90%	100%

Date	Version No.	Change
Jun 2012	1.1	Minor revision of criteria text
Oct 2011	1.0	First national guidelines for Cleaning products and services

Definition:

These product group criteria are applicable to:

- All purpose cleaners, sanitary cleaners and window cleaners
- Detergents for domestic (or similar) dishwashers
- Hand dishwashing detergents
- Laundry detergents for domestic washing machines

List of product items:

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Applying GPP criteria

The National Action Plan for Green Public Procurement (www.gpp.gov.mt) requires **all contracting authorities** to consider and reflect the parameters (GPP criteria) stipulated below in the tenders for products falling under this product group. As a minimum requirement, these parameters must be included in technical specifications / terms of reference / bills of quantities (whichever is applicable, depending on whether the contract is for works, services or supplies) and in the corresponding selection criteria. These parameters may also feature as part of the subject matter of the contract, and, if the Most Economically Advantageous Tender (MEAT) procedure is used – in the award (evaluation) criteria

Subject Matter	"Subject Matter" means the title of the tender - i.e. a short description of the product, works or service to be procured.
Technical Specifications	"Technical specifications", in the case of public works contracts means the totality of the technical prescriptions contained in the tender documents, defining the characteristics required of a work, material, product or supply, which describes in a manner that fulfils its intended use by the contracting authority. "Technical specifications", in the case of public supply or service contracts, means a specification in a document defining the required characteristics of a product or a service. "Technical Specifications must be requested in accordance with regulation 46 of LN 296/2010.
Award Criteria	"Award Criteria" (Variants) are criteria the contracting authority will

Many employers and building managers are purchasing environmental-friendly, or "green," cleaning chemicals, thinking they are safer for workers and the environment. However, placing the word "green" in a name or on a bottle does not ensure a chemical is safe. Employers should review the cleaning chemicals they purchase, including green cleaning products, to understand their health and safety hazards. Employers should choose the least hazardous cleaners.

BETTER WAYS TO CLEAN

Employers should note recent advances in safe cleaning practices and the availability of modern cleaning equipment that minimizes the use of chemicals.

Practices and equipment to consider include the following:

- walk-off mats placed inside and outside of entryways (to prevent dirt from being tracked into the building)
- microfiber mops, cloths and dusters
- high-filtration HEPA vacuums
- walk-behind hard floor auto-scrubbers
- chemical-free cleaning systems

Building owners and planners should take building cleaning into consideration when designing new buildings, remodeling old buildings and choosing materials, such as flooring.



SAFETY DATA SHEETS

When choosing safer cleaning chemicals, employers can learn much from Safety Data Sheets (SDSs). Employers must obtain and maintain SDSs for all hazardous cleaning products and chemicals they use. SDSs must be readily accessible to workers. Employers can use the information contained in the SDSs to ensure that workers are properly protected.

SDSs include the following important information:

- hazardous chemical ingredients
- symptoms and health problems that may be caused by the chemical ingredients
- first-aid measures if workers are exposed
- recommended personal protective equipment, such as gloves, safety goggles or respirators
- proper procedures for cleaning up spills

WORKER TRAINING

Chemicals pose a wide range of health and safety hazards. OSHA's Hazard Communication Standard ([29 CFR 1910.1200](#)) is designed to ensure that information about these hazards and associated protective measures is communicated to workers. Worker training must be provided if the cleaning chemicals are hazardous. This training must be provided BEFORE the worker begins using the cleaners. Required training under the OSHA Hazard Communication Standard includes:

- health and physical hazards of the cleaning chemicals
- proper handling, use and storage of all cleaning chemicals being used, including dilution procedures when a cleaning product must be diluted before use
- proper procedures to follow when a spill occurs
- personal protective equipment required for using the cleaning product, such as gloves, safety goggles and respirators
- how to obtain and use hazard information, including an explanation of labels and SDSs

The following are important issues to be discussed with workers during training:

- Never mix different cleaning chemicals together. Dangerous gases can be released.
- Cleaning chemicals should not be used to wash hands.



CONTAMINATED MATERIALS

Contaminated Work Environments

Housekeeping staff and can be exposed to blood or other potentially infectious material (OPIM) through contaminated work environments.

OSHA requires clean and sanitary work environments to prevent contact with blood or OPIM. The employer must determine and implement an appropriate written schedule for cleaning and decontamination methods.

This written schedule must be based on the following:

- location within the facility
- type of surfaces to be cleaned
- type of soil present
- the tasks or procedures to be performed in the area

Contaminated Equipment

Employees can be exposed to blood or OPIM through contact with the following:

- equipment and working surfaces
- protective coverings
- reusable containers
- glassware

EQUIPMENT AND WORKING SURFACES

All equipment and working surfaces must be cleaned and decontaminated after contact with blood or OPIM.

- Contaminated equipment, such as IV poles, require labels or tags in accordance with [29 CFR 1910.1030\(d\)\(1\)\(i\)\(H\)](#).
- Such equipment, if grossly contaminated, must be cleaned with soap and water solution before decontamination. Some anti-microbial products will not work in the presence of blood, which interferes with the sterilizing process.

Protective Coverings

Protective coverings, such as plastic wrap or aluminum foil, must be removed and replaced as soon as possible, when they become overtly contaminated, or at the end of a work shift if they may have become contaminated during the shift [\[29 CFR 1910.1030\(d\)\(4\)\(ii\)\(B\)\]](#).

REUSABLE CONTAINERS

All bins, pails, cans, and similar receptacles intended for reuse which have a reasonable likelihood for becoming contaminated with blood or other potentially infectious material shall be inspected and decontaminated on a regularly scheduled basis.

It must be cleaned and decontaminated immediately or as soon as feasible upon visible contamination [\[29 CFR 1910.1030\(d\)\(4\)\(ii\)\(C\)\]](#).

Glassware

Broken glassware which may be contaminated must not be picked up directly with hands; use mechanical means, such as use a brush and dustpan, tongs or forceps [\[29 CFR 1910.1030\(d\)\(4\)\(ii\)\(D\)\]](#).



CONTAMINATED LAUNDRY

Employees can be exposed to blood and other potentially infectious agents from handling contaminated laundry during handling in utility rooms.

Some facilities allow employees to rinse contaminated laundry or laundry that might contain sharps, in dirty utility "hopper" rooms, instead of simply putting it in a container and then transporting it to the laundry.

The Bloodborne Pathogen Standard requires the following:

- Employees must bag and handle contaminated laundry at the location where it was used.
- Contaminated laundry, however, shall not be sorted or rinsed in the location of use. It must also be transported to the laundry for decontamination in bags or containers labeled or color-coded. When universal precautions are used in the handling of soiled laundry, alternative labeling or color-coding is sufficient. This is only the case if the labeling allows all employees to recognize the containers as requiring compliance with universal precautions.

MCSI PRACTICES

There are several good work practice controls your employer can implement. Here are a few ideas:

- Use melt away bags (dissolvable) for the bagging process. Melt away bags can be thrown directly into washers without having to unload or remove contaminated laundry from bags.
- Rinsing soiled laundry in utility rooms is acceptable, if it is not contaminated with blood, OPIM, or does not contain sharps.
- The ergonomic stressors that can occur with lifting, reaching, rinsing, and transporting wet heavy laundry must also be addressed. A lift or transfer device for the lifting of these materials is recommended.



PREVENTING ERGONOMIC INJURIES

Injury Types

- OSHA defines ergonomics as:

“The science of designing jobs, equipment, and workplaces to fit the person.”

- Janitorial and housekeeping tasks can cause ergonomic injuries, if you are not careful.
- Some housekeeping tasks can also put a lot of pressure on the discs in the back, which are the “shock absorbers” between vertebrae.
- Some examples include:
 - lifting or pushing heavy objects
 - twisting (e.g., cleaning tubs)
 - bending at the waist

INJURY TYPES (CONTINUED)

Other housekeeping tasks can also cause a lot pain in the neck and shoulders. (e.a.. irritated, swollen, or torn tendons)

Some examples include:

- scrubbing bathroom walls
- cleaning mirrors
- dusting
- vacuuming



Risk Factors

There are several ways housekeepers and janitorial staff can experience muscle discomfort or joint pain on-the-job.

For example, forceful exertions, such as lifting heavy mattresses, pushing heavy supply carts and using vacuum cleaners can cause ergonomic injuries among housekeepers.

Awkward postures while cleaning the bathroom floors or tubs can cause problems as well.

Housekeepers and janitorial staff also can suffer muscle injuries because they are doing so many tasks using the same hand or arm, such as washing windows and dusting.

AWKWARD POSTURES

Awkward postures can also occur with twisted, hyper-extended or flexed back positions.

Potential Hazards

Increased potential for employee injury exists when awkward postures are used when performing many housekeeping and janitorial tasks, such as mopping floors, leaning over to wash toilets, etc.

Awkward postures include:

- twisting or bending over to lift
- forces on the spine increase when lifting, lowering or handling objects with the back bent or twisted
- lateral or side bending
- back hyperextension or flexion

Other Hazards

- More muscular force is required when awkward postures are used because muscles cannot perform efficiently.
- Fixed awkward postures (i.e., holding the arm out straight for several minutes) contribute to muscle and tendon fatigue, and joint soreness.



HOUSEKEEPING TASKS

To decrease ergonomic stressors when performing cleaning tasks, employees should:

- Alternate leading hand.
- Avoid tight and static grip and use padded non-slip handles.
- Clean objects at waist level if possible, rather than bending over them (e.g., push wheelchairs up a ramped platform to perform cleaning work, or raise beds to waist level before cleaning).
- Use knee pads when kneeling.
- Use tools with extended handles, or use step stools or ladders to avoid or limit overhead reaching.
- When sweeping or dusting, use flat head dusters and push with the leading edge; sweep all areas into one pile and pick up with a vacuum.
- Use chemical cleaners to minimize force needed for scrubbing.
- Frequently change mopping styles when mopping (e.g., push/pull, and rocking side to side) to alternate stress on muscles.
- Be sure buckets, vacuums, and other cleaning tools, have wheels or are on wheeled containers with functional brakes.
- Alternate tasks or rotate employees through stressful tasks.
- Avoid awkward postures while cleaning (e.g. twisting and bending).
- Use carts to transport supplies rather than carrying.
- Use buffers and vacuums that have lightweight construction and adjustable handle heights.
- Use spray bottles and equipment that have trigger bars rather than single finger triggers.



USING ALTERNATIVE WORK METHODS

Moving Supply Carts

- Store heaviest or most used items between your hips and chest. You have more body strength at this part of the body.
- Push carts using both hands. This keeps the body from twisting and distributes effort across both sides of the body.
- Empty trash from cart as often as possible. This makes it easier to push the cart.
- Align cart wheels in the direction of the movement. Carts with aligned wheels are easier to push.
- Replenish supply cart a few times over your shift. It takes less effort to push a lighter cart.
- Report cart problems to your supervisor. Repaired carts are easier to use.



USING ALTERNATIVE WORK METHODS (CONTINUED)

Making Beds

- **Consider using different postures.** Forward bending causes a twisted back; whereas, if you are closer to the bed, you won't be bending over.

Vacuuming

- **Regularly empty vacuum bag.** It takes less force to move an empty vacuum, which causes less fatigue.
- **Line up body with the path of the vacuum.** If your body isn't lined up, it can cause stress to your shoulder and causes you to twist your back.
- **Alternate vacuuming between your right and left hands.** This will give your body a chance to rest frequently used muscles and body parts.



USING ALTERNATIVE WORK METHODS (CONTINUED)

Cleaning Bathrooms

- **Stand inside the tub to clean wall tile.** If you are outside the tub, you will need to stretch further. That will cause stress to your shoulder.
- **Keep dirty towels off the floor as much as possible.** Repeated bending over to pick up towels from the floor can cause muscle fatigue and stress.
- **Do work at waist level as much as possible.** Removing trash and replacing liners on the floor can cause back stress and fatigue.
- **Alternate arms when cleaning surfaces.** The demands of the task is spread to both shoulders and it also gives each arm and shoulder a chance to rest.

Keeping Yourself Injury-Free

- **Wear comfortable shoes to work and do a few stretching exercises for your back, arms, and shoulders before starting your shift.**
- **Make sure you report any unusual aches and pains to your supervisor.** You can also communicate ways you have found to make the job easier to your co-workers.

