Cleaning and Disinfecting to Prevent Spread of Coronavirus

CLEANING
Refers to the removal of germs, dirt, and impurities from a surface. Cleaning does not kill germs; however, by removing and lessening them, it lowers the risk of spreading infection.

DISINFECTING
Refers to using chemicals to kill germs on surfaces. The process does not necessarily clean dirty surfaces or remove the germs, but by killing the germs on a surface after cleaning, it can further lower the risk of spreading infection.

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As our understanding of SARS-CoV-2 (novel coronavirus) continues to deepen, so to does our understanding of how to combat the spread of the disease. As we now know, COVID-19spreads primarily through contact with an infected person when they cough or sneeze. It may also spread when a person touches a surface or object that has the virus on it, then touches their eyes, nose, or mouth. The disease causes respiratory illness with symptoms such as a cough, fever, fatigue, and in severe cases, shortness of breath and breathing difficulty.To better protect your health and that of your employees, we recommend the following the behavioral measures to prevent spread of this contagious virus:

+ Wash your hands regularly for at least 20 seconds with soap and water or alcohol-based hand sanitizer
+ Cover your nose and mouth with a disposable tissue or flexed elbow when you cough or sneeze
+ Avoid close contact with people who are ill
+ Stay home and self-isolate from others in the household if you feel ill
+ Do not touch your face, eyes, nose, or mouth if your hands are not clean

Environmental measures to prevent the spread of COVID-19 may include routine cleaning and disinfection of frequently touched surfaces in your household or workplace. These surfaces may include tables, doorknobs, light switches, handles, desks, toilets, faucet handles, and sinks. All cleaning products are not created equal, and it's important to know which products specifically work on the coronavirus, how to use them for maximum effectiveness, and which products to avoid.

The U.S. Environmental Protection Agency (EPA) has developed a list of EPA-registered products that have qualified for use against SARS-CoV-2, the novel coronavirus that causes COVID-19. EPA List N currently (as of 03.19.2020) contains 287 products listed by EPA registration number and common brand name with demonstrated effectiveness against hard-to-kill viruses and other human coronaviruses. It is noted that disinfectant products without an EPA registration number have not been evaluated and approved as effective in killing viruses and bacteria.

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HARD AND SOFT (POROUS) SURFACES *Centers for Disease Control Guidelines*

DILUTED HOUSEHOLD BLEACH SOLUTIONS

1) Diluted household bleach solutions can be used if appropriate for the surface.

2) Follow the manufacturer's instructions/ Safety Data Sheet for application and proper ventilation.

3) Check to ensure the product is not past its expiration date. Bleach will maintain label strength of active sodium hypochlorite for up to six months after manufacture (when stored between 50° F and 70° F and away from direct sunlight). After six months, bleach starts to break down into salt and water but still may work for household applications for nine months up to one year. Bleach stored in warmer environments (garage or outdoor shed) may start to lose its effectiveness in as few as three months. Most bleach manufacturers recommend replacement with a fresh bottle after one year. Unexpired household bleach will be effective against coronaviruses when properly diluted.

4) Diluted bleach solution in a secondary container is potent for approximately one to two days. Diluted bleach degrades faster than concentrated bleach in its original container.

5) Never mix household bleach with ammonia or any other cleanser. Mixing bleach and ammonia can create toxic chloramine gases and an explosive called nitrogen trichloride.

Note: Dirty surfaces should be cleaned using a detergent or soap and water prior to disinfection.

For disinfection, most common EPA-registered household disinfectants, alcohol solutions with at least 70% alcohol, or diluted household bleach solutions should be effective.

> **Prepare a bleach solution by mixing:**
> Five tablespoons (tbsp) or 1/3rd cup/2.5 fluid ounces bleach per gallon of water or four teaspoons (tsp) bleach per quart of water

To use a bleach solution for disinfection, wipe the surface with a saturated cloth, and allow the solution to contact the surface for five minutes and air dry. For food contact surfaces, like countertops, rinse the surface with warm water and air dry after disinfecting. Exercise caution to prevent splash of the bleach solution on your clothes or in your eyes. Use bleach solution sparingly on stainless steel sinks and surfaces and wipe down metal surfaces with water after treating them with bleach to prevent corrosion.

Household hydrogen peroxide (3% solution) is another stable and effective disinfectant against viruses when used on hard, non-porous surfaces. Hydrogen peroxide can be used as-is, directly from the bottle without dilution. Hydrogen peroxide solution should remain on the surface for at least one minute before wiping.

Isopropyl alcohol is an effective disinfectant against coronavirus if used in a concentration of at least 70%. Pure (100%) alcohol evaporates too quickly to be an effective disinfectant. Wipe or spray the surface and allow it to remain in contact for at least 30 seconds.

Vinegar or vinegar-based alternative cleaning products are not approved by EPA as a disinfectant and are ineffective against most bacteria and viruses – it kills neither the flu nor coronavirus.

For soft (porous) surfaces such as carpeted floor, rugs, and drapes, remove visible contamination if present and clean with appropriate cleaners indicated for use on these surfaces.

> **After cleaning:**
> If the items can be laundered, launder items in accordance with the manufacturer's instructions using the warmest appropriate water setting for the items and then dry items completely. Otherwise, use products with the EPA-approved emerging viral pathogens claims that are suitable for porous surfaces.

Products with EPA-approved emerging viral pathogens claims are expected to be effective against COVID-19 based on data for harder to kill viruses. Follow the manufacturer's instructions for all cleaning and disinfection products (e.g., concentration, formulation (dilutable or Ready-To-Use), application method and contact time, etc.). Contact time is an essential feature of product effectiveness in killing germs. The treated surface should be visibly wet for the duration of contact time – full contact time may require multiple applications of the product.

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LINENS, CLOTHING, AND OTHER LAUNDERED ITEMS

+ Do not shake dirty laundry; this minimizes the possibility of dispersing the virus through the air.
+ Wash items as appropriate in accordance with the manufacturer's instructions. If possible, launder items using the warmest appropriate water setting for the items and dry items completely.
+ Dirty laundry that has been in contact with an ill person can be washed with other people's items.
+ Clean and disinfect all hampers and carts for transporting laundry according to guidance above for hard or soft surfaces.

Hot Water
130° F or above

Hot water is best to remove germs and heavy soil. It can shrink, fade, and damage some fabrics. Recommended for whites, typically dirty clothes and diapers.

Warm Water
90° F to 130° F

Warm water offers good cleaning without significant fading or shrinking. Recommended for man-made fibers.

Cold Water
80° F

Recommended for dark or bright colors that bleed or delicate fabrics.

HAND HYGIENE

Clean hands often by washing hands with soap and water for 20 seconds. If soap and water are not available and hands are not visibly dirty, an alcohol-based hand sanitizer that contains 60% to 95% alcohol may be used. However, if hands are visibly dirty, always wash hands with soap and water.

Follow normal preventive actions while at work and home, including cleaning hands and avoiding touching eyes, nose, or mouth with unwashed hands.

Additional key times to clean hands include:

+ After blowing one's nose, coughing, or sneezing
+ After using the restroom
+ Before eating or preparing food
+ After contact with animals or pets
+ Before and after providing routine care for another person who needs assistance (e.g., a child)

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CONSIDERATIONS FOR EMPLOYERS

Employers should **work with their local and state health departments** to ensure appropriate local protocols and guidelines, such as updated/additional guidance for cleaning and disinfection, are followed, including for identification of new potential cases of COVID-19.

Employers should **educate staff and workers performing cleaning, laundry, and trash pick-up activities to recognize the symptoms** of COVID-19 and provide instructions on what to do if they develop symptoms within 14 days after their last possible exposure to the virus. At a minimum, any staff should immediately notify their supervisor and the local health department if they develop symptoms of COVID-19. The health department will provide guidance on what actions need to be taken. When working with your local health department, check their available hours. Symptoms may appear 2 – 14 days after exposure. Employees showing early warning signs for COVID-19 should be directed to get medical attention immediately.

Early warning signs:

+ Difficulty breathing
+ Persistent pain or pressure in the chest
+ New confusion or inability to arouse
+ Bluish lips or face
+ Any other symptoms that are severe or concerning

Employers should **develop policies for worker protection and provide training** to all cleaning staff on-site prior to providing cleaning tasks.

Employers must **ensure workers are trained on the hazards of the cleaning chemicals used in the workplace in accordance with OSHA's Hazard Communication standard**. Updated Safety Data Sheets (SDSs) for most chemicals are readily available on the manufacturer's or supplier's website. Employers should rigorously require that employees carefully review the SDS for any cleaning and disinfecting chemical that they use or come into contact with.

Employers must **comply with OSHA's standards** on Bloodborne Pathogens, including proper disposal of regulated waste, and PPE.

Resources:

EPA List of Disinfectants for Use Against SARS-CoV-2; epa.gov

CDC Environmental Cleaning and Disinfection Recommendations; cdc.gov