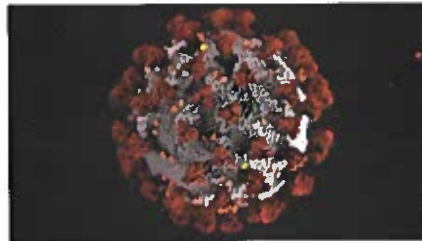




460 State Street
Rochester, NY 14608
Contact us:
Phone: 585-319-3625
Email: info@ctiny.com
ctienvironmental.com

Corona Virus COVID19





Coronavirus Disease 2019 (COVID-19)

Cleaning and Disinfection for Community Facilities

Interim Recommendations for U.S. Community Facilities with Suspected/Confirmed Coronavirus Disease 2019 (COVID-19)

Summary of Recent Changes

Revisions made on 4/1/2020:

- Added guidance on the timing of disinfection after a suspected/confirmed COVID-19 case

Revisions made on 3/26/2020:

- Updated guidance for cleaning and disinfection of soft (porous) surfaces
- Updated links to EPA-registered disinfectant list
- Added guidance for disinfection of electronics
- Updated core disinfection/cleaning guidance

Background

There is much to learn about the novel coronavirus (SARS-CoV-2) that causes coronavirus disease 2019 (COVID-19). Based on what is currently known about the virus and about similar coronaviruses that cause SARS and MERS, spread from person-to-person happens most frequently among close contacts (within about 6 feet). This type of transmission occurs via respiratory droplets, but disease transmission via infectious aerosols is currently uncertain. Transmission of SARS-CoV-2 to persons from surfaces contaminated with the virus has not been documented. Transmission of coronavirus in general occurs much more commonly through respiratory droplets than through fomites. Current evidence suggests that SARS-CoV-2 may remain viable for hours to days on surfaces made from a variety of materials. Cleaning of visibly dirty surfaces followed by disinfection is a best practice measure for prevention of COVID-19 and other viral respiratory illnesses in community settings.

It is unknown how long the air inside a room occupied by someone with confirmed COVID-19 remains potentially infectious. Facilities will need to consider factors such as the size of the room and the ventilation system design (including flowrate [air changes per hour] and location of supply and exhaust vents) when deciding how long to close off rooms or areas used by ill persons before beginning disinfection. Taking measures to improve ventilation in an area or room where someone was ill or suspected to be ill with COVID-19 will help shorten the time it takes respiratory droplets to be removed from the air.

Purpose

This guidance provides recommendations on the cleaning and disinfection of rooms or areas occupied by those with suspected or with confirmed COVID-19. It is aimed at limiting the survival of SARS-CoV-2 in key environments. These recommendations will be updated if additional information becomes available.

These guidelines are focused on community, non-healthcare facilities such as schools, institutions of higher education, offices, daycare centers, businesses, and community centers that do, and do not, house persons overnight. These guidelines are not meant for cleaning staff in healthcare facilities or repatriation sites, households, or for others for whom specific guidance already exists.

Definitions

- *Community facilities* such as schools, daycare centers, and businesses comprise most non-healthcare settings that are visited by the general public outside of a household.
- *Cleaning* refers to the removal of dirt and impurities, including germs, from surfaces. Cleaning alone does not kill germs. But by removing the germs, it decreases their number and therefore any risk of spreading infection.
- *Disinfecting* works by using chemicals, for example EPA-registered disinfectants, to kill germs on surfaces. This process does not necessarily clean dirty surfaces or remove germs. But killing germs remaining on a surface after cleaning further reduces any risk of spreading infection.

Cleaning and Disinfection After Persons Suspected/Confirmed to Have COVID-19 Have Been in the Facility



Timing and location of cleaning and disinfection of surfaces

- At a school, daycare center, office, or other facility that **does not house people overnight**:
 - Close off areas visited by the ill persons. Open outside doors and windows and use ventilating fans to increase air circulation in the area. Wait 24 hours or as long as practical before beginning cleaning and disinfection.
 - **Cleaning staff should clean and disinfect all areas such as offices, bathrooms, common areas, shared electronic equipment like tablets, touch screens, keyboards, remote controls, and ATM machines used by the ill persons, focusing especially on frequently touched surfaces.**
- At a facility that **does house people overnight**:
 - Follow [Interim Guidance for US Institutions of Higher Education](#) on working with state and local health officials to isolate ill persons and provide temporary housing as needed.
 - Close off areas visited by the ill persons. Open outside doors and windows and use ventilating fans to increase air circulation in the area. Wait 24 hours or as long as practical before beginning cleaning and disinfection.
 - In areas where ill persons are being housed in isolation, follow [Interim Guidance for Environmental Cleaning and Disinfection for U.S. Households with Suspected or Confirmed Coronavirus Disease 2019](#). This includes **focusing on cleaning and disinfecting common areas where staff/others providing services may come into contact with ill persons but reducing cleaning and disinfection of bedrooms/bathrooms used by ill persons to as-needed.**



- In areas where ill persons have visited or used, continue routine cleaning and disinfection as in this guidance.
- If it has been more than 7 days since the person with suspected/confirmed COVID-19 visited or used the facility, additional cleaning and disinfection is not necessary.

How to Clean and Disinfect

Hard (Non-porous) Surfaces

- If surfaces are dirty, they should be cleaned using a detergent or soap and water prior to disinfection.
- For disinfection, most common EPA-registered household disinfectants should be effective.
 - A list of products that are EPA-approved for use against the virus that causes COVID-19 is available [here](#)  . Follow the manufacturer's instructions for all cleaning and disinfection products for concentration, application method and contact time, etc.
 - Additionally, diluted household bleach solutions (at least 1000ppm sodium hypochlorite) can be used if appropriate for the surface. Follow manufacturer's instructions for application, ensuring a contact time of at least 1 minute, and allowing proper ventilation during and after application. Check to ensure the product is not past its expiration date. Never mix household bleach with ammonia or any other cleanser. Unexpired household bleach will be effective against coronaviruses when properly diluted.
 - Prepare a bleach solution by mixing:
 - 5 tablespoons (1/3 cup) bleach per gallon of water or
 - 4 teaspoons bleach per quart of water

Soft (Porous) Surfaces

- 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 [that are EPA-approved for use against the virus that causes COVID-19](#)   and that are suitable for porous surfaces

Electronics

- For electronics such as tablets, touch screens, keyboards, remote controls, and ATM machines, remove visible contamination if present.
 - Follow the manufacturer's instructions for all cleaning and disinfection products.
 - Consider use of wipeable covers for electronics.
 - If no manufacturer guidance is available, consider the use of alcohol-based wipes or sprays containing at least 70% alcohol to disinfect touch screens. Dry surfaces thoroughly to avoid pooling of liquids.

Linens, Clothing, and Other Items That Go in the Laundry

- In order to minimize the possibility of dispersing virus through the air, do not shake dirty laundry.
- 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 hampers or other carts for transporting laundry according to guidance above for hard or soft surfaces.

Personal Protective Equipment (PPE) and Hand Hygiene:

- **The risk of exposure to cleaning staff is inherently low. Cleaning staff should wear disposable gloves and gowns for all tasks in the cleaning process, including handling trash.**
 - Gloves and gowns should be compatible with the disinfectant products being used.
 - Additional PPE might be required based on the cleaning/disinfectant products being used and whether there is a risk of splash.
 - Gloves and gowns should be removed carefully to avoid contamination of the wearer and the surrounding area. Be sure to **clean hands** after removing gloves.
 - If gowns are not available, coveralls, aprons or work uniforms can be worn during cleaning and disinfecting. Reuseable (washable) clothing should be laundered afterwards. Clean hands after handling dirty laundry.
- Gloves should be removed after cleaning a room or area occupied by ill persons. **Clean hands** immediately after gloves are removed.
- Cleaning staff should immediately report breaches in PPE such as a tear in gloves or any other potential exposures to their supervisor.
- **Cleaning staff and others should clean hands often**, including immediately after removing gloves and after contact with an ill person, 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 at least 60% 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 such as a child

Additional 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.

- Employers should develop policies for worker protection and provide training to all cleaning staff on site prior to providing cleaning tasks. Training should include when to use PPE, what PPE is necessary, how to properly don (put on), use, and doff (take off) PPE, and how to properly dispose of PPE.
- 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 (29 CFR 1910.1200 [↗](#)).
- Employers must comply with OSHA's standards on Bloodborne Pathogens (29 CFR 1910.1030 [↗](#)), including proper disposal of regulated waste, and PPE (29 CFR 1910.132 [↗](#)).

Additional Resources

- [OSHA COVID-19 Website](#) [↗](#)
- [CDC Home Care Guidance](#)
- [CDC COVID-19 Environmental Cleaning and Disinfection Guidance for Households](#)
- [CDC Home Care Guidance for People with Pets](#)

Page last reviewed: April 1, 2020

Content source: National Center for Immunization and Respiratory Diseases (NCIRD), Division of Viral Diseases



Coronavirus Disease 2019 (COVID-19)

Cleaning and Disinfection for Households

Interim Recommendations for U.S. Households with Suspected or Confirmed Coronavirus Disease 2019 (COVID-19)

Summary of Recent Changes

Revisions were made on 3/26/2020 to reflect the following:

- Updated links to EPA-registered disinfectant list
- Added guidance for disinfection of electronics
- Updated core disinfection/cleaning guidance

Background

There is much to learn about the novel coronavirus (SARS-CoV-2) that causes [coronavirus disease 2019 \(COVID-19\)](#). Based on what is currently known about COVID-19, spread from person-to-person of this virus happens most frequently among close contacts (within about 6 feet). This type of transmission occurs via respiratory droplets. On the other hand, transmission of novel coronavirus to persons from surfaces contaminated with the virus has not been documented. Recent studies indicate that people who are infected but do not have symptoms likely also play a role in the spread of COVID-19. Transmission of coronavirus occurs much more commonly through respiratory droplets than through fomites. Current evidence suggests that SARS-CoV-2 may remain viable for hours to days on surfaces made from a variety of materials. Cleaning of visibly dirty surfaces followed by disinfection is a best practice measure for prevention of COVID-19 and other viral respiratory illnesses in households and community settings.

It is unknown how long the air inside a room occupied by someone with confirmed COVID-19 remains potentially infectious. Facilities will need to consider factors such as the size of the room and the ventilation system design (including flowrate [air changes per hour] and location of supply and exhaust vents) when deciding how long to close off rooms or areas used by ill persons before beginning disinfection. Taking measures to improve ventilation in an area or room where someone was ill or suspected to be ill with COVID-19 will help shorten the time it takes respiratory droplets to be removed from the air.

Purpose

This guidance provides recommendations on the cleaning and disinfection of households where [persons under investigation \(PUI\)](#) or those with confirmed COVID-19 reside or may be in self-isolation. It is aimed at limiting the survival of the virus in the environments. These recommendations will be updated if additional information becomes available.

These guidelines are focused on household settings and are meant for the general public.

- **Cleaning** refers to the removal of germs, dirt, and impurities from surfaces. It does not kill germs, but by removing them, it lowers their numbers and the risk of spreading infection.
- **Disinfecting** refers to using chemicals, for example, EPA-registered disinfectants, to kill germs on surfaces. This process does not necessarily clean dirty surfaces or remove germs, but by killing germs on a surface *after* cleaning, it can further lower the risk of spreading infection.

General Recommendations for Routine Cleaning and Disinfection of Households



- Community members can practice routine cleaning of frequently touched surfaces (for example: tables, doorknobs, light switches, handles, desks, toilets, faucets, sinks, and electronics (see below for special electronics cleaning and disinfection instructions)) with household cleaners and [EPA-registered disinfectants](#) that are appropriate for the surface, following label instructions. Labels contain instructions for safe and effective use of the cleaning product including precautions you should take when applying the product, such as wearing gloves and making sure you have good ventilation during use of the product.
 - For electronics follow the manufacturer's instructions for all cleaning and disinfection products. Consider use of wipeable covers for electronics. If no manufacturer guidance is available, consider the use of alcohol-based wipes or spray containing at least 70% alcohol to disinfect touch screens. Dry surfaces thoroughly to avoid pooling of liquids.

General Recommendations for Cleaning and Disinfection of Households with People Isolated in Home Care (e.g. Suspected/Confirmed to have COVID-19)



- Household members should educate themselves about COVID-19 symptoms and preventing the spread of COVID-19 in homes.
- **Clean and disinfect high-touch surfaces daily in household common areas (e.g. tables, hard-backed chairs, doorknobs, light switches, phones, tablets, touch screens, remote controls, keyboards, handles, desks, toilets, sinks)**
 - In the bedroom/bathroom dedicated for an ill person: consider reducing cleaning frequency to **as-needed** (e.g., soiled items and surfaces) to avoid unnecessary contact with the ill person.
- As much as possible, an ill person should stay in a specific room and away from other people in their home, following [home care guidance](#).
- The caregiver can provide personal cleaning supplies for an ill person's room and bathroom, unless the room is occupied by child or another person for whom such supplies would not be appropriate. These supplies include tissues, paper towels, cleaners and EPA-registered disinfectants ([see examples](#)).
- If a separate bathroom is not available, the bathroom should be cleaned and disinfected after each use by an ill person. If this is not possible, the caregiver should wait as long as practical after use by an ill person to clean and disinfect the high-touch surfaces.
- Household members should follow [home care guidance](#) when interacting with persons with suspected/confirmed COVID-19 and their isolation rooms/bathrooms.

How to clean and disinfect:

Hard (Non-porous) Surfaces

- Wear disposable gloves when cleaning and disinfecting surfaces. Gloves should be discarded after each cleaning. If reusable gloves are used, those gloves should be dedicated for cleaning and disinfection of surfaces for COVID-19 and should not be used for other purposes. Consult the manufacturer's instructions for cleaning and disinfection products used. **Clean hands** immediately after gloves are removed.
- If surfaces are dirty, they should be cleaned using a detergent or soap and water prior to disinfection.
- For disinfection, most common EPA-registered household disinfectants should be effective.
 - A list of products that are EPA-approved for use against the virus that causes COVID-19 is available [here](#)   . Follow manufacturer's instructions for all cleaning and disinfection products for (concentration, application method and contact time, etc.).
 - Additionally, diluted household bleach solutions (at least 1000ppm sodium hypochlorite) can be used if appropriate for the surface. Follow manufacturer's instructions for application, ensuring a contact time of at least 1 minute, and allowing proper ventilation during and after application. Check to ensure the product is not past its expiration date. Never mix household bleach with ammonia or any other cleanser. Unexpired household bleach will be effective against coronaviruses when properly diluted.
- Prepare a bleach solution by mixing:
 - 5 tablespoons (1/3rd cup) bleach per gallon of water or
 - 4 teaspoons bleach per quart of water

Soft (Porous) Surfaces

- 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:
 - Launder 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.
 - Otherwise, use products that are EPA-approved for use against the virus that causes COVID-19   and that are suitable for porous surfaces.

Electronics

- For electronics such as cell phones, tablets, touch screens, remote controls, and keyboards, remove visible contamination if present.
 - Follow the manufacturer's instructions for all cleaning and disinfection products.
 - Consider use of wipeable covers for electronics.
 - If no manufacturer guidance is available, consider the use of alcohol-based wipes or sprays containing at least 70% alcohol to disinfect touch screens. Dry surfaces thoroughly to avoid pooling of liquids.

Linens, clothing, and other items that go in the laundry

- Wear disposable gloves when handling dirty laundry from an ill person and then discard after each use. If using reusable gloves, those gloves should be dedicated for cleaning and disinfection of surfaces for COVID-19 and should

not be used for other household purposes. **Clean hands** immediately after gloves are removed.

- If no gloves are used when handling dirty laundry, be sure to wash hands afterwards.
- If possible, do not shake dirty laundry. This will minimize the possibility of dispersing virus through the air.
- Launder 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 from an ill person can be washed with other people's items.
- Clean and disinfect clothes hampers according to guidance above for surfaces. If possible, consider placing a bag liner that is either disposable (can be thrown away) or can be laundered.

Hand hygiene and other preventive measures

- Household members should **clean hands** often, including immediately after removing gloves and after contact with an ill person, 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 at least 60% alcohol may be used. However, if hands are visibly dirty, always wash hands with soap and water.
- Household members should follow normal preventive actions while at work and home including recommended **hand hygiene** 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)

Other considerations

- The ill person should eat/be fed in their room if possible. Non-disposable food service items used should be handled with gloves and washed with hot water or in a dishwasher. **Clean hands** after handling used food service items.
- If possible, dedicate a lined trash can for the ill person. Use gloves when removing garbage bags, handling, and disposing of trash. **Wash hands** after handling or disposing of trash.
- Consider consulting with your local health department about trash disposal guidance if available.

Additional Resources

- [OSHA COVID-19 Website](#) 
- [CDC Home Care Guidance](#)
- [CDC Home Care Guidance for People with Pets](#)

Page last reviewed: March 28, 2020

Content source: National Center for Immunization and Respiratory Diseases (NCIRD), Division of Viral Diseases

Coronavirus Disease 2019 (COVID-19)

Cleaning And Disinfecting Your Home

Everyday Steps and Extra Steps When Someone Is Sick

Printer-friendly version  [3 pages]

How to clean and disinfect



Wear disposable gloves to clean and disinfect.

Clean

- **Clean surfaces using soap and water.** Practice routine cleaning of frequently touched surfaces.

High touch surfaces include:

Tables, doorknobs, light switches, countertops, handles, desks, phones, keyboards, toilets, faucets, sinks, etc.



Disinfect

- Clean the area or item with soap and water or another detergent if it is dirty. Then, use a household disinfectant.
- **Recommend use of EPA-registered household disinfectant** [↗](#) .
Follow the instructions on the label to ensure safe and effective use of the product.
Many products recommend:
 - Keeping surface wet for a period of time (see product label)
 - Precautions such as wearing gloves and making sure you have good ventilation during use of the product.
- **Diluted household bleach solutions may also be used** if appropriate for the surface.
 - Check the label to see if your bleach is intended for disinfection, and ensure the product is not past its expiration date. Some bleaches, such as those designed for safe use on colored clothing or for whitening may not be suitable for disinfection.
 - Unexpired household bleach **will be effective against coronaviruses** when properly diluted.
Follow manufacturer's instructions for application and proper ventilation.
Never mix household bleach with ammonia or any other cleanser.
Leave solution on the surface for **at least 1 minute**.

To make a bleach solution, mix:

 - 5 tablespoons (1/3rd cup) bleach per gallon of water
OR
 - 4 teaspoons bleach per quart of water
- **Alcohol solutions with at least 70% alcohol may also be used.**

More details: [Complete Disinfection Guidance](#)



Soft surfaces

For soft surfaces such as **carpeted floor, rugs, and drapes**

- **Clean the surface using soap and water** or with cleaners appropriate for use on these surfaces.
- **Launder items** (if possible) according to the manufacturer's instructions. Use the warmest appropriate water setting and dry items completely.

OR

- **Disinfect with an EPA-registered household disinfectant.** [These disinfectants](#) meet EPA's criteria for use against COVID-19.



Electronics

For electronics, such as **tablets, touch screens, keyboards, and remote controls.**

- Consider putting a **wipeable cover** on electronics
- Follow **manufacturer's instruction** for cleaning and disinfecting
 - If no guidance, use alcohol-based wipes or sprays containing at least 70% alcohol. Dry surface thoroughly.



Laundry

For clothing, towels, linens and other items

- Launder items according to the manufacturer's instructions. Use the **warmest appropriate water setting** and dry items completely.
- **Wear disposable gloves** when handling dirty laundry from a person who is sick.
- Dirty laundry from a person who is sick **can be washed with other people's items.**
- **Do not shake** dirty laundry.
- Clean and **disinfect clothes hampers** according to guidance above for surfaces.
- Remove gloves, and **wash hands right away.**



Clean hands often


- **Wash your hands often** with soap and water for 20 seconds.
 - Always wash immediately after removing gloves and after contact with a person who is sick.
- **Hand sanitizer:** If soap and water are not readily available and hands are not visibly dirty, use a hand sanitizer that contains at least 60% alcohol. However, if hands are visibly dirty, always wash hands with soap and water.
- **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)
- **Avoid touching** your eyes, nose, and mouth with unwashed hands.

When Someone is Sick



Bedroom and Bathroom

Keep separate **bedroom and bathroom** for a person who is sick (if possible)

- The person who is sick should stay separated from other people in the home (as much as possible).
- **If you have a separate bedroom and bathroom:** Only clean the area around the person who is sick when needed, such as when the area is soiled. This will help limit your contact with the person who is sick.
 - Caregivers can **provide personal cleaning supplies** to the person who is sick (if appropriate). Supplies include tissues, paper towels, cleaners, and [EPA-registered disinfectants](#) . If they feel up to it, the person who is sick can clean their own space.
- **If shared bathroom:** The person who is sick should clean and disinfect after each use. If this is not possible, the caregiver should wait as long as possible before cleaning and disinfecting.
- See [precautions for household members and caregivers](#) for more information.



Food

- **Stay separated:** The person who is sick should eat (or be fed) in their room if possible.
- **Wash dishes and utensils using gloves and hot water:** Handle any used dishes, cups/glasses, or silverware with gloves. Wash them with soap and hot water or in a dishwasher.
- Clean hands after taking off gloves or handling used items.



Trash

- **Dedicated, lined trash can:** If possible, dedicate a lined trash can for the person who is sick. Use gloves when removing garbage bags, and handling and disposing of trash. Wash hands afterwards.

More details: [Complete Disinfection Guidance](#)

More Information

[Symptoms](#)

[What to do if you are sick](#)

[Frequently asked questions](#)

[COVID-19 and Animals](#)

[Get your home ready](#)

[Schools, workplaces, and community locations](#)

[Healthcare professionals](#)

Page last reviewed: April 2, 2020

Content source: National Center for Immunization and Respiratory Diseases (NCIRD), Division of Viral Diseases

An official website of the United States government.

We've made some changes to EPA.gov. If the information you are looking for is not here, you may be able to find it on the EPA Web Archive or the January 19, 2017 Web Snapshot.

Close



List N: Disinfectants for Use Against SARS-CoV-2

Other COVID-19 Resources

- [EPA's Coronavirus Site](#)
- [CDC's Coronavirus Disease 2019 Site](#)
- [CDC's Cleaning and Disinfection Recommendations for COVID-19](#)
- [NPIC's COVID-19 Virus Factsheet](#)

All products on this list meet EPA's criteria for use against SARS-CoV-2, the virus that causes COVID-19.

Finding a Product

The easiest way to find a product on this list is to enter the first two sets of its EPA registration number into the search bar below.

For example, if EPA Reg. No. 12345-12 is on List N, you can buy EPA Reg. No. 12345-12-2567 and know you're getting an equivalent product. You can find this number by looking for the EPA Reg. No. on the product label.

Using Other Products

If you can't find a product on this list to use against SARS-CoV-2, look at a different product's label to confirm it has an EPA registration number and that human coronavirus is listed as a target pathogen.

Follow the Label

When using an EPA-registered disinfectant, follow the label directions for safe, effective use. Make sure to follow the contact time, which is the amount of time the surface should be visibly wet, listed in the table below.

These products are for use on surfaces, not humans.

Additional Resources

- [Still have questions? See our FAQs about this list.](#)
- [My company has a product it would like included on this list.](#)

Note: Inclusion on this list does not constitute an endorsement by EPA. Additional disinfectants may meet the criteria for use against SARS-CoV-2. EPA will update this list with additional products as needed.

List N was last updated on April 9, 2020.







Search the Table

Show entries

[Export to PDF](#)

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List N: Products with Emerging Viral Pathogens AND Human Coronavirus claims for use against SARS-CoV-2

EPA Registration Number 	Active Ingredient(s)	Product Name	Company	Follow the disinfection directions and preparation for the following virus	Contact Time (in minutes) 	Formulation Type 	Surface Types for Use 	Use Site 	Emerging Viral Pathogen Claim? 
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<input type="text" value="Search"/>	<input type="text" value="Search"/>	<input type="text" value="Search"/>	<input type="text" value="Search"/>	<input type="text" value="Search"/>	<input type="text" value="Search"/>	<input type="text" value="Search"/>	<input type="text" value="Search"/>	<input type="text" value="Search"/>	<input type="text" value="Search"/>
70144-2	Quarternary ammonium; Isopropanol	Opti-Cide 3® Wipes	Micro-Scientific LLC	Rotavirus; Rhinovirus	3	Wipe	Hard nonporous	Healthcare; Institutional	Yes
1677-259	Dodecylbenzenesulfonic acid; Lactic acid	CW32A-RTU	Ecolab Inc	Norovirus	0.5	RTU	Hard nonporous	Healthcare; Institutional; Residential	Yes
1677-260	Dodecylbenzenesulfonic acid; Lactic acid	S&S Sanitizer	Ecolab Inc	Norovirus	0.5	Dilutable	Hard nonporous	Healthcare; Institutional; Residential	Yes
91899-2	Hydrogen peroxide	MDF-200 Part B	Span-World LLC	Feline calicivirus	10	Dilutable	Hard nonporous	Healthcare; Institutional	Yes
91899-1	Quarternary ammonium	MDF-200 Part A	Span-World LLC	Feline calicivirus	10	Dilutable	Hard nonporous	Healthcare; Institutional	Yes
34810-35	Citric acid	Cleancide	Wexford Labs Inc	Feline calicivirus	5	RTU	Hard nonporous	Healthcare; Institutional	Yes
9804-1	Chlorine dioxide	Oxine	Bio-Cide International Inc	Canine parvovirus	10	Dilutable	Hard nonporous	Healthcare; Institutional	Yes
58779-4	Hydrogen peroxide	Vaprox Hydrogen Peroxide Sterilant	Steris Corporation	Use this product for sterilization as instructed in the Vaporized Hydrogen Peroxide (VHP®) User's Equipment Manual	Consult user manual	Vapor (use in conjunction with VHP generator)	Hard nonporous; Porous	Institutional	Yes
58232-2	Sodium hypochlorite	Sodium Hypochlorite 8.25%	Hasa Inc	Rhinovirus	5	Dilutable	Hard nonporous	Healthcare; Institutional; Residential	Yes
4822-593	L-Lactic Acid	Windex Disinfectant Cleaner	S.C. Johnson & Son Inc	Rhinovirus	5	RTU	Hard nonporous	Institutional; Residential	Yes
66251-2	Citric acid; Thymol	SBT 2 to 1 Concentrate	Melaleuca Inc	Rhinovirus, Poliovirus	10	Dilutable	Hard nonporous	Residential	Yes
71700-2	Chlorine dioxide; Quarternary ammonium	SNiPER	Global Environmental Restoration Inc	Canine parvovirus	10	RTU	Hard nonporous	Healthcare; Institutional; Residential	Yes
9150-2	Chlorine dioxide	Anthium Dioxide	International Dioxide Inc	Canine parvovirus	15	Dilutable	Hard nonporous	Healthcare; Institutional	Yes
66171-103	Peroxyacetic acid; Hydrogen peroxide	Peraside A Peroxyacetic Acid-Based Sanitizer/Disinfectant	Preserve International	Murine norovirus	2	Dilutable	Hard nonporous	Healthcare; Institutional	Yes
3573-54	Citric acid	Comet Disinfecting Bathroom Cleaner	The Proctor & Gamble Company	Feline calicivirus; norovirus	10	Dilutable	Hard nonporous	Healthcare; Institutional; Residential	Yes
39967-138	Potassium peroxydisulfate; Sodium choride	Rely+On Multipurpose Disinfectant Cleaner	Lanxess Corporation	Hepatitis A virus; Feline calicivirus	10	Dilutable	Hard nonporous	Healthcare; Institutional; Residential	Yes
1839-246	Quaternary ammonium	SC-5:128HN	Stepan Company	Rotavirus; Feline calicivirus	5	Dilutable	Hard nonporous	Healthcare; Institutional; Residential	Yes
1839-86	Quaternary ammonium	BTC 2125 M 10% Solution	Stepan Company	Adenovirus	10	Dilutable	Hard nonporous	Healthcare; Institutional; Residential	Yes

84683-3	Thymol	Beneffect Botanical Daily Cleaner Disinfectant Spray	Cleanwell LLC	Rhinovirus	10	RTU	Hard nonporous	Healthcare; Institutional; Residential	Yes
88897-2	Quaternary ammonium; Isopropanol; Ethanol	Panther Disinfectant	Maxill Inc	Adenovirus; Feline calicivirus	3	RTU	Hard nonporous	Healthcare; Institutional	Yes
42048-4	L-Lactic Acid	Sani-Cide EX3 (10X) RTU	Celeste Industries Corp	Feline calicivirus	10	RTU	Hard nonporous	Institutional	Yes
66171-7	Quaternary ammonium; Glutaraldehyde	Synergize	Preserve International	Feline calicivirus	10	Dilutable	Hard nonporous	Institutional	Yes
85837-4	Hydrogen peroxide	Proxi Home General Disinfectant Cleaner Spray	Innovasource LLC	Rhinovirus	10	RTU	Hard nonporous	Healthcare; Institutional; Residential	Yes
498-179	Quaternary ammonium; Ethanol	Champion Sprayon Spray Disinfectant Formula 3	Chase Products Co	Rhinovirus	10	RTU	Hard nonporous	Healthcare; Institutional; Residential	Yes
1839-236	Quaternary ammonium	SC-5:128N	Stepan Company	Rotavirus	5	Dilutable	Hard nonporous	Healthcare; Institutional; Residential	Yes

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LAST UPDATED ON APRIL 10, 2020

Insecticides**Natural and Biological****Pesticides****Repellents****Rodenticides****Other types of pesticides**

Disponible en español

Using Disinfectants to Control the COVID-19 Virus

This guidance is for the public and professionals to control the COVID-19 virus on surfaces. The coronavirus named "SARS-CoV-2" is the cause of "COVID-19" in people.

This information applies to sprays, **surface wipes**, and other liquids. You may see them called "**antimicrobials**", "disinfectants", or "biocides" on product labels.



Antimicrobial Products List

There are currently no EPA-registered disinfectants that specifically include the SARS-CoV-2 virus on the product label. Refer to the following list from the U.S. Environmental Protection Agency for products that control the virus:

List N: Disinfectants for Use Against SARS-CoV-2

<https://www.epa.gov/pesticide-registration/list-n-disinfectants-use-against-sars-cov-2>

Using products effectively:

- **To kill the virus, the surface must stay wet for the entire time on the label. Look for "contact time" or "dwell time".**
- Surface wipes can dry out during use. They must remain wet to be effective.
- Each product has only been shown to work where the label says it can be used. Look for **"use sites"** on the label.
- Disinfectants may not work on all surfaces. Follow the label carefully. Examples of surface types are listed in Table 1 below.
- "Cleaning" wipes do not kill viruses. They do not make claims to disinfect and are not registered by the U.S. EPA.

Table 1. Porosity of common household materials^{1,2,3,4}

Porous	Semi-porous	Non-porous
Carpeting Clothing Bedding Pillows Mattresses Upholstered furniture Fabrics Leather Wall Insulation Ceiling tile	Wood Drywall Tile grout Hardwood floor Linoleum Concrete	Some tiles Some sealed countertops Glass Metal

Consider these steps to reduce your risk when using disinfectants:

- To avoid chemical exposure when using disinfectants, follow the label's "precautionary statements". If no label guidance is provided, consider wearing gloves, eye protection, shoes with socks, and long sleeves/pants.
- Keep children, pets, and other people away during the application until the product is dry and there is no odor.
- Open windows and use fans to ventilate. Step away from odors if they become too strong.
- Wash your hands after using any disinfectant, including surface wipes.
- Keep lids tightly closed when not in use. Spills and accidents are more likely to happen when containers are open.
- Do not allow children to use disinfectant wipes. Keep cleaners and disinfectants out of reach from children and pets.
- Throw away disposable items like gloves and masks after use. They cannot be cleaned.
- Do not use disinfectant wipes to clean hands or as baby wipes.

For questions about disinfectants and other pesticides call us at **800-858-7378** (8:00am - 12:00pm PST), or email us at npic@ace.orst.edu.

Additional Resources:

1. **Guidance to Registrants: Process for Making Claims Against Emerging Viral Pathogens not on EPA-Registered Disinfectant Labels** - U.S. EPA
2. **Interim guidance for environmental cleaning in non-healthcare facilities exposed to SARS-CoV-2** – European Centre for Disease Prevention and Control



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References:

1. Mysz, A.; Martinez, J. *Indoor Carbaryl Dust Cleanup*; EPA Region 5: Chicago, IL, 2011.
2. Emergency or Incident Response. *National Pesticide Applicator Certification Core Manual*; National Association of State Departments of Agriculture Research Foundation: Arlington, VA, 2014, pp 144–145.
3. Johnson, M. *Letter to Steve Renninger, On-Scene Coordinator, US EPA: Documentation for Previous Verbal Consultations that ATSDR Provided to the US EPA and the Cincinnati Department of Health Regarding Excessive Spray of Malathion in Several Residences*; U.S. Department of Health and Human Services, Agency for Toxic Substances and Disease Registry: Chicago, IL, 2011.
4. *OSHA Fact Sheet: Mold Hazards during Disaster Cleanup*; U.S. Department of Labor, Occupational Safety and Health Administration: Washington, DC, 2013.

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