

# COVID-19 HEALTHCARE FACILITY CLEANING INFO

Routine cleaning and disinfection procedures are appropriate for COVID-19 in healthcare settings, including those patient-care areas in which aerosol-generating procedures are performed. ***It is the recommendation of CDC that the rooms that have suspect COVID patients be disinfected by the medical care staff who have the PPE already donned. Custodial will not clean the rooms. If the clinic does not wish to follow this recommendation, then contact EHS (5-0153) to assist with scheduling a contractor for facility cleanup. Follow the Healthteam or Student Health protocol for locking door and labeling with hazard communication.***

Cleaning products with EPA-approved emerging viral pathogens claims are recommended for use against COVID-19.

Products can be identified by the following claim on the container:

- “[Product name] has demonstrated effectiveness against viruses similar to COVID-19 on hard non-porous surfaces. Therefore, this product can be used against COVID-19 when used in accordance with the directions for use against [name of supporting virus] on hard, non-porous surfaces.”
- This claim or a similar claim, will be made only through the following communications outlets: technical literature distributed exclusively to health care facilities, physicians, nurses and public health officials, “1-800” consumer information services, social media sites and company websites (non-label related). Specific claims for “COVID-19” will not appear on the product or master label.
- If there are no available EPA-registered products that have an approved emerging viral pathogen claim for COVID-19, products with label claims against human coronaviruses should be used according to label instructions. See [List N: Disinfectants for Use Against SARS-CoV-2](https://www.epa.gov/pesticide-registration/list-n-disinfectants-use-against-sars-cov-2) (<https://www.epa.gov/pesticide-registration/list-n-disinfectants-use-against-sars-cov-2>)

This segment can be found at: <https://www.cdc.gov/coronavirus/2019-ncov/hcp/caring-for-patients.html>

Detailed information on environmental infection control in healthcare settings can be found in CDC’s Guidelines for Environmental Infection Control in Health-Care Facilities and Guideline for Isolation Precautions: Preventing Transmission of Infectious Agents in Healthcare Settings [section IV.F. Care of the environment].

Non-healthcare facilities can refer to: <https://www.cdc.gov/coronavirus/2019-ncov/community/home/cleaning-disinfection.html>

## GENERAL PREVENTATIVE CLEANING

Cleaning products will be provided by the University, do not bring cleaning products from home. Only fragrance free or low fragrance products will be used.

If MSU employees in MSU owned properties are experiencing symptoms or sensitivities to cleaning product use, they should contact EHS Occupational Safety at 355-0153 for an indoor air quality evaluation. If MSU employees in Eyde owned properties are experiencing this they should contact [maintenance@eyde.com](mailto:maintenance@eyde.com) and request a Protech evaluation of airflow and ventilation.

## Hard Surfaces

Clean and disinfect high-touch surfaces daily in common areas. Some examples: tables, hard-backed chairs, doorknobs, light switches, remotes, handles, desks, toilets, sinks, personal electronic equipment.

Wear disposable gloves. Discard gloves after each cleaning. If reusable rubber gloves are used, they must be dedicated for cleaning and disinfection of surfaces for the COVID-19 and should not be used for any other purposes. Consult the manufacturer's instructions for cleaning and disinfecting after each use. Wash hands immediately after either type of glove is removed.

Surfaces that are visibly dirty should be cleaned prior to disinfection, using a detergent or soap and water.

## Soft or Porous Surfaces

Examples: carpeted floor, rugs, drapes, fabric chairs. Remove visible contamination if present and clean with appropriate cleaners indicated for use on these surfaces. After cleaning, launder items that can be in accordance to manufacturer's instructions using the warmest water appropriate and dry items completely or use EPA list N disinfectant that is suitable for porous surfaces.

## Laundry items

Wear gloves as described previously. Wash hands immediately after gloves are removed.

Do not shake out dirty laundry, minimize the possibility of dispersing virus through the air.

Wash hands immediately after handling the laundry.

Launder items in accordance to the manufacturer's instructions, using the warmest setting allowable and drying completely. Laundry from ill people can be washed with other people's items.

Clean and disinfect clothes hamper according to hard surface instruction above. Utilize a disposable bag liner if possible and throw away after each use.

Households with ill persons should use same cleaning procedures but in addition should keep ill persons in an area of the home away from others, reduce cleaning frequency to as-needed or have the ill person clean the areas limited to their use.

## DISINFECTION PROCEDURES

Disinfection using diluted household bleach solutions, alcohol solutions with at least 70% alcohol, and EPA List N registered disinfectants are effective.

**ACTIVE INGREDIENT:**  
Sodium Hypochlorite..... 6.15%  
**OTHER INGREDIENTS:**..... 93.85%  
**TOTAL:**..... 100.00%  
(Yields 5.84% available chlorine.)

**INGREDIENTE ACTIVO:**  
Hipoclorito de Sodio..... 6.15%  
**OTROS INGREDIENTES:**..... 93.85%  
**TOTAL:**..... 100.00%  
(Proporciona 5,84% de cloro disponible.)

**DIRECTIONS FOR USE:** It is a violation of Federal law to use this product in a manner inconsistent with its labeling. **DO NOT** use this product full strength for cleaning surfaces. Always dilute strictly in accordance with label directions. For prolonged use, wear gloves.

| DISINFECTING                      | Product | Water       | Instructions  |
|-----------------------------------|---------|-------------|---|
| Floors, Walls, Bathtubs & Showers | 3/4 Cup | 1 Gallon    | Pre-wash surface, mop or wipe with bleach solution. Allow solution to contact surface for at least 5 minutes. Rinse well and air dry. |
| Toilet Bowls                      | 3/4 Cup | Toilet Bowl | Flush toilet. Pour this product into bowl. Brush entire bowl, including under rim. Let stand 5 minutes before flushing.               |

**SANITIZING**

| Work Surfaces                | 1 Tbsp (1/2 oz) | 1 Gallon | Wash, rinse, wipe surface area with bleach solution for at least 1 minute. Let air dry.           |
|------------------------------|-----------------|----------|---|
| Dishes, Glassware, Utensils  | 1 Tbsp (1/2 oz) | 1 Gallon | Wash and rinse. After washing, soak for at least 1 minute in bleach solution, drain and air dry.  |
| Mops, Brooms, Brushes & Rags | 3/4 Cup         | 1 Gallon | Pre-wash items, then soak them in bleach solution for at least 5 minutes. Rinse well and air dry. |

**DEODORIZING**

| Garbage Cans | 2/3 Cup      | 1 Gallon | After washing and rinsing, brush inside with bleach solution. Let drain. |
|--------------|--------------|----------|--|
| Drains       | 1 Cup (8 oz) | —        | Flush drains. Pour into drain. Flush with hot water.                     |

**MOLD, MILDEW & STAIN REMOVAL**

| All Surfaces | 3/4 Cup | 1 Gallon | Add bleach to concentrated detergent solution. Apply. Let stand for at least 5 minutes. Wipe and rinse. |
|--------------|---------|----------|---|
|--------------|---------|----------|---|

**DILUTION TABLE: PPM (Parts Per Million) Available Chlorine.**  
Check chlorine concentration with standard test strip.  
1/2 oz. this product (1 tablespoon) + one gallon water = 200 ppm  
2/3 cup this product + one gallon water = 2400 ppm  
3/4 cup this product + one gallon water = 2700 ppm  
12 oz. this product + one gallon water = 5000 ppm

This example of a bleach bottle label illustrates how to read the label to find the instructions for how to use the Environmental Protection Agency (EPA) registered product. It is a Federal law that you must follow the manufacturers guidelines on use of the disinfectant.

- Be aware of expiration information for the concentrated product and it's required dilution. If you cannot find the expiration information on the bottle, contact the manufacturer. Bleach information is also found on EPA website.
  - Concentrated product expires 6 months after being opened, as per EPA.
  - Diluted product expires after 24 hours of being diluted, as per EPA.
- Check the percent active ingredient and follow the instructions for the product.
- Check the concentration required for the type of use. Follow the concentration recommended for what you are using it for. See chart on bottle label above for DISINFECTING requires 2700 ppm, ¾ cup of the product added to 1 gallon of water.
- Review hazards and wear appropriate personal protective equipment (PPE). Ensure proper ventilation.
  - Bleach is corrosive and poses a splash hazard. Wear clothing covering skin (lab coat, long pants, closed toed shoes), disposable gloves, splash goggles when making dilution or using.
  - Never mix bleach with ammonia or any other cleanser.
- Follow instruction for pre-wash, contact time, rinsing, and drying.
  - Pre – wash soiled areas before disinfecting
  - Allow solution to contact surface and remain wet for at least 5 minutes.
  - Rinse well and air dry.
- Find out from the facility how to dispose of used product. Diluted product can be disposed of down the sanitary sewer or larger amounts or concentrated amounts should be collected and picked up by EHS.

## HAND HYGIENE

Wash hands often, including immediately after removing gloves or after contact with an ill person.

Other times to wash hands:

- After blowing 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 (child, elderly)

Wash hands with soap and water for 20 seconds, dry well. If soap and water are not available and hands are not visibly dirty, an alcohol-based hand sanitizer that contains at least 60% alcohol can be used. If visibly dirty, the hand sanitizer will not be as effective.

## Other preventative measures

Suspected COVID-19 patients will be placed in an exam room away from others. After the patient leaves, the room will be labeled a potential infectious area and the room will be locked until a contracted EHS approved cleaning company decontaminates the room.

Household members of ill persons should follow normal preventative actions while at work and home, including recommended hand hygiene and avoiding touching eyes, nose, or mouth with unwashed hands.

## PERSONAL PROTECTIVE EQUIPMENT (PPE)

Employers should select appropriate PPE and provide it to health care providers (HCP) in accordance with OSHA PPE Standards (29 CFR 1910 Subpart I). HCP must receive training on and demonstrate an understanding of:

- When to use PPE
- What PPE is necessary
- How to properly don, use, and doff PPE in a manner to prevent self-contamination
- How to properly dispose of or disinfect and maintain PPE
- The limitations of each type of PPE

Any reusable PPE must be properly cleaned, decontaminated, and maintained after and between uses. Facilities should have policies and procedures describing a recommended sequence for safely donning and doffing PPE.

## PPE for caring for a patient known or suspected of having COVID – 19

- Respirator or Facemask
  - Don these prior to entering patient room or care area
  - N95 respirators should be used instead of a facemask when performing or present for an aerosol-generating procedure
  - Disposable respirators and facemasks should be removed and discarded after exiting the patient's room and closing the door.
  - Perform hand hygiene immediately afterward
  - Reusable respirators must be cleaned and disinfected according to manufacturer's reprocessing instructions prior to re-use.
- Eye protection
  - Put goggles or disposable face shield on upon entry to the patient room or care area. Personal eyeglasses and contact lenses are NOT considered adequate.
  - Remove eye protection before leaving the patient room.
  - Reusable eye protection must be cleaned and disinfected according to manufacturer's reprocessing instructions prior to re-use.

- Disposable eye protection must be discarded properly after use.
- Gloves
  - Don clean non-sterile gloves upon entry into the patient room.
  - Change gloves if they become torn, soiled or heavily contaminated
  - Remove and discard gloves appropriately when leaving patient room
  - Immediately perform hand hygiene
- Gowns
  - Don a clean isolation gown upon entry into the patient room.
  - Change the gown if it becomes soiled or torn.
  - Remove and discard the gown in a dedicated container for waste or linen before leaving the room.
  - Disposable gowns should be discarded after use.
  - Cloth gowns should be laundered after each use.
    - Shortage of gowns – prioritize for aerosol-generating procedures, care activities where splashes and sprays are anticipated, high-contact patient care activities that provide opportunities for transfer of pathogens to the hands and clothing of HCP, examples: dressing, bathing/showering, transferring, hygiene, changing linens, changing briefs or assisting with toileting, device care or use, wound care.

# N95 RESPIRATORS

You have been medically evaluated and fit tested to wear an N95 respirator during the COVID-19 pandemic. This handout serves as refresher information for the use, handling and disposal of the N95 respirators (“N95”).

**REMINDER: You must be fit tested and answer a medical questionnaire before wearing an N95. If you have not done this, STOP and contact Environmental Health and Safety (EHS) at 517-355-0153 before wearing one.**



## PUTTING ON AN N95 - DONNING

Wash your hands. Ensure the respirator is fully open/unfolded as necessary. Secure the elastic bands at the middle of the head and neck, making sure the N95 fits snug to face and below chin. Fit the flexible band to the bridge of your nose, form to the nose bridge do not pinch! Now perform both a negative and positive pressure check.

Negative pressure check: Place both hands completely over the N95 and inhale sharply -the respirator should pull into your face. If you feel air leaks, adjust the nosepiece and straps and repeat the positive pressure check.

Positive pressure check: put your hands over the N95 and breathe out sharply. Also cover the exhalation valve (if your N95 has one). If you feel air leaks, adjust the nosepiece and straps. Repeat the negative pressure check.



## WHEN TO THROW OUT THE N95 MASK - DOFFING

Get a new N95 respirator if the old one becomes wet or dirty on the inside, is torn or deformed, or you encounter a patient with an active infection. An N95 cannot be cleaned or disinfected; dispose of it in a biohazard waste container, along with other potentially contaminated gloves, gowns, etc.

It's important to take off a used N95 correctly so you don't contaminate yourself. **Do NOT touch the front of the respirator due to heavy contamination.** First, tilt your head forward. Then, use two hands to grab the bottom strap, pull to the sides, then over your head. Next, use both hands to grab the upper strap, pull to the sides, then over your head. Keep tension on the upper strap as you remove it, which will let the mask fall forward. Dispose of it in a solid, biohazardous waste container. **Wash your hands!**

## INTERIM MEASURES TO CONSERVE LIMITED SUPPLIES OF N95 RESPIRATORS

*It is imperative that departments with essential workers requiring scarce personal protective equipment implement measures to conserve our extremely limited supply of N95 respirators. Extended use and limited reuse of N95 respirators is a legitimate strategy for extending scarce personal protective equipment in view of the current COVID-19 crisis.* MSU has adopted the following CDC and OSHA strategies for optimizing the current supply of N95 respirators and prioritizing their use. Contact EHS (517-355-0153) if you have questions regarding implementation of these measures.

### Extended use of N95 respirators

**Extended use refers to wearing the same N95 for repeated encounters with several patients without removing the respirator between patient encounters.**

- **Discard** N95 respirators after use during aerosol generating procedures
- **Discard** N95 respirators contaminated with blood, respiratory or nasal secretions, or other bodily fluids from patients
- **Discard** N95 respirators following close contact with, or exit from, the care area of any patient co-infected with an infectious disease requiring contact precautions
- **Wear a face shield** over an N95 respirator to reduce surface contamination
- **Wash hands** with soap and water or use an alcohol-based hand sanitizer before and after touching or adjusting the respirator
- **Discard** any respirator that is obviously damaged
- **Discard** any respirator that becomes hard to breathe through
- **Discard** respirator after 8 hours of continuous or intermittent use

### Limited reuse of N95 respirators

**Reuse refers to the practice of using the same N95 for multiple encounters with patients but removing it after each encounter. The respirator is stored in between encounters to be put on again.**

- **Discard** N95 respirators after use during aerosol generating procedures
- **Discard** N95 respirators contaminated with blood, respiratory or nasal secretions, or other bodily fluids from patients

- **Discard** N95 respirators following close contact with any patient co-infected with an infectious disease requiring contact precautions
- **Discard** N95 respirators after a maximum of 5 reuses
- **Do Not Share:** N95 respirators can only be used by a single wearer
- **Wear a face shield** over an N95 respirator to reduce surface contamination
- Store respirators in a clean zip top bag between uses. To minimize potential cross-contamination, store respirators individually and label the bag with the name of the person using the respirator. Storage containers should be disposed of or disinfected regularly.
- **Wash hands** with soap and water or use an alcohol-based hand sanitizer before and after touching or adjusting the respirator
- Avoid touching the inside of the respirator. If inadvertent contact is made with the inside of the respirator, wash hands with soap and water or use an alcohol-based hand sanitizer
- Use a pair of clean gloves when donning a used N95 respirator and performing a user seal check. Discard gloves after the N95 respirator is donned and any adjustments are made.
- Inspect N95 respirators for physical damage before reuse

## Risks of extended use and limited reuse of N95 respirators

- Most significant risk is of contact transmission from touching the surface of the contaminated respirator
- Some devices have not been FDA-cleared for reuse
- Some manufacturers' product user instructions recommend discard after each use (i.e., "for single use only"), while others allow reuse if permitted by infection control policy of the facility

## Alternatives to N95 respirators

- Half-mask air purifying respirators
- Full facepiece air purifying respirators
- Powered air purifying respirators (PAPRs)

Use of these alternatives require enrollment in the MSU Respiratory Protection Program; which includes [medical evaluation](#); training and fit testing.

## Annual fit testing requirements

MSU is temporarily suspending the annual fit testing of N95 filtering facepiece respirators to preserve and prioritize the supply of respirators for use in situations where they are required to be worn. This is in accordance with the [Temporary Enforcement Guidance - Healthcare Respiratory Protection Annual Fit-Testing for N95 Filtering Facepieces During the COVID-19 Outbreak](#) recently released by the Occupational Safety and Health Administration (OSHA).

An **initial** fit test is still required for anyone wearing a respirator to protect against COVID-19. Annual re-fitting can be temporarily suspended if the employee has already been fit tested to that respirator.

Reminders for those postponing annual fit testing:

- Workers must perform a user seal check (i.e., a fit check) each time a respirator is put on to make sure they are getting an adequate seal
- Workers must schedule an annual re-fitting if they observe visual changes in their physical conditions that could affect respirator fit (e.g., facial scarring, dental changes, cosmetic surgery, or obvious changes in body weight). This must be done because if the face shape has changed

since the last fit test, the user may no longer be getting a good facial seal with the respirator, and would not be adequately protected

- Workers should inform their supervisor if the integrity and/or fit of their N95 respirator is compromised

Information in this guidance document is based on the following:

**[Recommended Guidance for Extended Use and Limited Reuse of N95 Filtering Facepiece Respirators in Healthcare](#)**

**[Temporary Enforcement Guidance - Healthcare Respiratory Protection Annual Fit-Testing for N95 Filtering Facepieces During the COVID-19 Outbreak](#)**

**[Enforcement Guidance for Respiratory Protection and the N95 Shortage Due to the Coronavirus Disease 2019 \(COVID-19\) Pandemic](#)**

## Questions

The MSU Office of Environmental Health and Safety, in partnership with the Office of the University Physician (UPhys) manages the respiratory protection program at MSU. If you have medical questions, please call UPhys (517-353-8933). Call MSU Office of Environmental Health & Safety at 517-355-0153 with questions regarding use and disposal of N95 respirators. MSU EHS is available 24 hours a day, 7 days a week to answer time-sensitive questions about respiratory protection and infection control.