

Full Facility Norovirus Cleaning – Reference Document for Food Establishments

Before beginning, gather the following necessary supplies:

- Equipment to protect yourself (personal protective equipment):
 - Disposable gloves
 - Disposable hair cover
 - Disposable shoe covers
 - Disposable gown
 - Disposable face mask (for use if you need to clean up any bodily fluids or when mixing cleaning/disinfectant products)

Clean-Up Kit:

- Disposable mop (avoid wooden mops)
 - Mop bucket
 - Disposable towels and cloths
 - Trash bags/plastic bags
 - A disinfectant proven to kill Norovirus:

Recommended Disinfectant: Mix a chlorine bleach solution using **regular strength unscented bleach and water**. Warning: Chlorine bleach may damage some fabrics and surfaces so you should spot test areas before applying the solution.

- Chlorine Bleach solutions should be freshly mixed just before beginning cleaning procedures. Opened containers of bleach can lose effectiveness 30 days after opening.¹
- Water should be approximately **75°F**. Water temperatures higher than this can decrease the effectiveness of bleach solutions.
- For hard surfaces (e.g. non-porous surfaces, ceramic, sealed countertops, utensils):
 - Bleach solution should contain **3500 ppm** chlorine
 - Add **16 tablespoons (approximately 1 cups) bleach** regular strength 5 - 8% bleach (sodium hypochlorite) to **1 gallon water**
- For porous surfaces (e.g. unsealed concrete or natural stone):
 - Bleach solution should contain **5000 ppm** chlorine
 - Add **25 tablespoons (approximately 1 ½ cups) bleach** regular strength 5 – 8% bleach (sodium hypochlorite) to **1 gallon water**
- CONSULT THE PRODUCT LABEL - NOTE THE CONCENTRATION OF BLEACH YOU ARE USING (% SODIUM HYPOCHLORITE). THIS DETERMINES THE AMOUNT OF BLEACH YOU MUST ADD TO THE MIXTURE
 - If the bleach you are using is more or less concentrated from the concentrations listed above, consult the manufacturer's instructions for proper mixing directions.
 - You can also use another disinfectant registered as effective against Norovirus by the Environmental Protection Agency (EPA)
- NOT ALL DISINFECTANTS SHOWN ON THE EPA LIST ARE APPROVED FOR USE IN FOOD FACILITIES.
 - **Make sure that product labels contain language which states that they are approved to be used in FDA food facilities AND that the label provides adequate directions for use in these settings.**
 - **QUATERNARY AMMONIA PRODUCTS ARE LESS EFFECTIVE.²**
 - If you have questions, consult the manufacturer for more information on the approval for use of their product on food contact surfaces and/or in food service facilities.
- Any product that will be used to sanitize food contact surfaces must be approved by FDA under 21CFR178.1010. See the following link for a list of approved chemicals: (List G) <https://www.epa.gov/pesticide-registration/list-g-epas-registered-antimicrobial-products-effective-against-norovirus>

- A video to review of cleanup procedures can be viewed here: <https://youtu.be/TAkH4jakLYA>

¹ OSHA. 2008. OSHA Fact Sheet: Noroviruses. U.S Department of Labor. Accessed from: <https://www.osha.gov/Publications/norovirus-factsheet.pdf>. Accessed on 4/6/20.

² CDC. 2011. Updated Norovirus Outbreak Management and Disease Prevention Guidelines. MMWR 60 (03):accessed from: <https://www.cdc.gov/mmwr/pdf/rr/rr6003.pdf>. Accessed on 4/6/20.

Procedure:

- **WASH YOUR HANDS**
- **PUT ON PERSONAL PROTECTIVE EQUIPMENT** (change if any item becomes soiled)
- **CLEANING**
 - **Begin with clean equipment and clean supplies.**
 - Make sure that cleaning supplies are clean.
 - Begin with a fresh cleaning solution in a spray bottle so that the cleaner solution doesn't become contaminated.
 - If you use a mop and bucket to clean the floor, the mop head should be thrown away and the mop equipment (including handles, mop bucket and wheels, etc.) should be disinfected when finished. Mop equipment can hold bacteria and viruses and can contaminate already-cleaned surfaces.
 - **Do not use wooden mops.** Some are not sealed and cannot be disinfected properly.
 - **Cleaners** (also known as **detergents**) remove dirt and germs off surfaces so they can be rinsed away with water. **Cleaning** is important as you **must make sure dust and dirt are removed from surfaces before disinfecting or the disinfectant will not be effective.**
 - **Visible vomit or diarrhea should be absorbed with a paper towel or other commercial absorbent material such as kitty litter, and discarded prior to disinfection.**
- **DISINFECTION**
 - **Disinfectants** are chemical products that destroy or inactivate germs and prevent them from growing. Disinfectants have no effect on dirt, soil, or dust so surfaces **MUST** be cleaned (as described above) before they are disinfected.
 - Apply disinfectant to all surfaces in the room, paying close attention to frequently-touched areas
 - Change cloth when soiled.
 - Make sure to allow the disinfectant to remain in contact with the surface it is applied to for the appropriate amount of time (this is referred to as "contact time"). Use the manufacturer's guidelines to determine what the appropriate contact time is.
 - Bleach solutions typically need at least 5 minutes of contact time.
 - If the disinfectant dries before the appropriate contact time has passed, you should re-apply disinfectant to that area.
- **RINSE** Food Contact Surfaces
 - **BEFORE USE, RINSE ALL FOOD CONTACT SURFACES WITH HOT POTABLE WATER (WATER THAT IS SAFE FOR DRINKING) AND SOAP AFTER THE APPROPRIATE CONTACT TIME HAS PASSED.**
 - IF SURFACES ARE NOT RINSED, LEVELS OF THE DISINFECTANT THAT ARE LEFT BEHIND MAY MAKE PEOPLE SICK.
- **AIR DRY**
 - **Allow all surfaces to *air dry*. Do NOT use towels to dry any surfaces as they may re-contaminate equipment.**
- **WHEN FINISHED, REMOVE ALL PERSONAL PROTECTIVE EQUIPMENT AND PLACE IN A TRASH BAG. IMMEDIATELY DISPOSE OF TRASH BY THE MOST DIRECT ROUTE THAT DOES NOT PASS THROUGH FOOD PREPARATION AREAS.**
- **WASH YOUR HANDS THOROUGHLY WITH SOAP AND WATER IMMEDIATELY AFTER DISPOSING OF TRASH**

- Hand sanitizers may not be effective against Norovirus and should not be used as a substitute for hand washing.
- **CONTACT YOUR INSPECTOR FOR FINAL APPROVAL OF NOROCLEAN PROCEDURES BEFORE RE-OPENING TO THE PUBLIC.** Contact information for inspectors by county can be found at: <https://dia.iowa.gov/document/food-inspector-map>

Important Notes:

- **Work from clean to dirty surfaces**
 - Always begin cleaning in the least dirty areas and clean toward the known, dirtier areas.
 - If you are cleaning up any bodily fluids (such as vomit), you should clean from the edges of the spill toward the center.
 - Bathrooms should be cleaned last.
- **Clean from top to bottom**
 - Carpets and floors should be cleaned last.
 - **Carpets** should be cleaned with a chemical disinfectant that is effective against Norovirus and then carpets should be **steam cleaned at 158°F for 5 minutes or 212°F for 1 minute** for complete inactivation.
- **Use the proper cleaning agent**
 - <https://www.epa.gov/pesticide-registration/list-g-epas-registered-antimicrobial-products-effective-against-norovirus>
- **Separate clean from dirty**
 - Do not place dirty items with, above, or close to clean items.
- **Laundering of dirty linens/clothing**
 - Items containing bodily fluids (such as vomit) that need to be laundered should be double-bagged.
 - Handle laundry carefully and avoid shaking it as this can spread the virus.
 - Launder with hot water in a laundry detergent effective against Norovirus (see the above link) for the longest available cycle length. Laundry should then be machine dried

Resources:

- **“Clean Up and Disinfection for Norovirus” - Downloadable posters in English & Spanish.** Disinfect for Health – Water Quality & Health Council. <https://waterandhealth.org/resources/posters/#norovirus>
- **“Norovirus for Food Handlers” - Centers for Disease Control & Prevention (CDC) –** Several resources available for download at the bottom of the web page. https://www.cdc.gov/norovirus/about/prevention.html?CDC_AA_refVal=https%3A%2F%2Fwww.cdc.gov%2Fnorovirus%2Ffood-handlers%2Fwork-with-food.html

Approved cleaners/disinfectants for Norovirus:

Cleaners/disinfectants will list, on the original container, what bacteria and viruses they are capable of killing with an appropriate contact time. Approved cleaners/disinfectants will list Norovirus or Norwalk-like virus with a corresponding contact time.

A list of EPA approved cleaners/disinfectants for Norovirus/Norwalk-like virus can be found here: (List G) <https://www.epa.gov/pesticide-registration/list-g-epas-registered-antimicrobial-products-effective-against-norovirus>