

Cleaning and Disinfecting 3M Reusable Elastomeric Half and Full Facepiece Respirators following Potential Exposure to Coronaviruses

Description

During coronavirus outbreaks, some healthcare organizations may assign reusable elastomeric facepiece respirators to workers providing care for patients with suspected or confirmed cases of coronavirus. This document contains considerations related to cleaning and disinfecting facepieces that will be reused after potential exposure to coronaviruses. 3M facepieces covered in this document: 3M™ Half Facepieces 6000, 6500 and 7500 Series and 3M™ Full Facepieces 6000 and FF-400 Series.









The 2008 U.S. Centers for Disease Control and Prevention (CDC) publication [Guideline for Disinfection and Sterilization in Healthcare Facilities](#)¹ (updated May 2019) includes information on disinfecting equipment and surfaces potentially contaminated by coronaviruses. The U.S. CDC investigated many chemicals and cited several chemical germicides as being effective for coronaviruses, when used as indicated in the product user instructions. In regions outside of the United States, where EPA-registered disinfectants may be unavailable, this CDC publication will be most helpful in addition to considering all applicable local guidance for your region as it relates to disinfection for coronaviruses.

More recently, the CDC has published [Interim Infection Prevention and Control Recommendations for Patients with Suspected or Confirmed Coronavirus Disease 2019 \(COVID-19\) in Healthcare Settings](#)² indicating that EPA-registered, hospital-grade disinfectants are appropriate for SARS-CoV-2 in healthcare settings. The United States Environmental Protection Agency (EPA) published [List N: Disinfectants for Use Against SARS-CoV-2](#)³. It is a list of EPA's registered antimicrobial products for use against novel coronavirus SARS-CoV-2, the cause of COVID-19, as a reference for specific disinfectants that can be used against coronaviruses.

NOTE: 3M relies on the expertise of the CDC and EPA with respect to microbiological efficacy and has not evaluated the effectiveness of these agents with regards to inactivating viruses on 3M equipment.

Filters and Cartridges

3M does not recommend cleaning or disinfection of filter media (e.g., disc-style filters and pre-filter pads). However, some 3M filter products have a hard-plastic case surrounding the filter media, i.e., NIOSH part numbers 7093, 7093C and 6092X as well as EN (European) part numbers 603X and 609X. This hard case can be cleaned by wiping the outside surface with a damp cloth soaked in disinfecting solution until visibly wet for the appropriate contact time and then removing the disinfecting solution with a clean, water-soaked cloth and air drying. Do not allow the disinfecting solution to reach the internal filter media and do not submerge the hard-case filters in the disinfecting solution or water. Utilize the same disinfection solutions as recommended for 3M facepieces.

Image				
Name	Disc Filters	Pre-Filter Pads	7093/7093C/603X	6092X/609X Cartridges
Wipe outside surface as indicated in disinfecting product user instructions with damp cloth and disinfecting solution				

NOTE: The guidance in this Technical Bulletin may exceed the directions found in certain 3M facepiece *User Instructions* and is therefore intended only for cleaning and disinfecting the specified respirators following potential exposure to coronaviruses. Note that respirator components may experience detrimental effects over time with prolonged or extended use of disinfecting products. As discussed in the product *User Instructions*, users must inspect their respirator prior to each use. If you discover any signs of damage, remove the respirator from service and either replace components or replace the entire facepiece as appropriate, following the guidance in the product *User Instructions*.

Respirator Facepieces

Your facility should review this information thoroughly prior to selecting a disinfecting product for your equipment and specific application. Follow the hygiene and infection control practices established by your employer for the targeted organisms, including coronaviruses.

Please always refer to the latest information from trusted sources such as the World Health Organization ([WHO](#)), the U.S. Centers for Disease Control and Prevention ([US CDC](#)), the US Occupational Safety and Health Administration ([OSHA](#)) and the European Centres for Disease Prevention and Control ([ECDC](#)) regarding selection, use, maintenance and cleaning of personal protective equipment.

Possible disinfection methods:

- Sodium hypochlorite solution (at a free chlorine concentration of 5,000 ppm) with 1-minute contact time
- 70% Isopropanol solution with 5-minute contact time

Note: Soaking in IPA solution resulted in degradation of inhalation valves after ~ 20 cycles, for 6200 and 7500 facepieces. Pay close attention to this area during inspection.

If an EPA-registered disinfectant is required please consider the following:

- 3M™ Neutral Quat Disinfectant Cleaner Concentrate 23A (EPA Reg. No. 47371-129-10350)

Cleaning and Disinfecting 3M Half and Full Facepieces

- 1) Cleaning is recommended after each use. Nitrile or vinyl gloves should be worn during cleaning as well as other personal protective equipment (PPE) as indicated.
- 2) Remove any filters or cartridges. The facepiece may be further disassembled as necessary.

- 3) Inspect the facepiece per the User Instructions to identify any damage or excessive wear. Replace components or the entire facepiece as necessary.
- 4) Clean the facepiece by immersing it in warm water not to exceed 120°F (49°C), and scrub with soft brush until clean. Add neutral detergent if necessary. Do not use cleaners containing lanolin or other oils. **NOTE:** Solvents and strong detergents may damage 3M facepieces and should not be used for cleaning.
- 5) Rinse thoroughly with fresh warm water.
- 6) Disinfect by soaking the facepiece according to the user instructions for the selected disinfectant, including usability, application and contact time.
- 7) Rinse thoroughly with fresh warm water.
- 8) Air dry in a non-contaminated area.
- 9) Inspect and reassemble the respirator as described in the *User Instructions*.

Glossary of Terms

Below is a glossary of terms used in this document ^{4,5}:

Cleaning: Removal of soil (organic and inorganic) and foreign material from objects and surfaces. This is typically accomplished with water and mechanical action. Detergents may be used to assist the process.

Disinfection: A process of inhibiting or destroying disease-producing microorganisms (but may not kill bacterial spores). It usually involves the use of chemicals, heat, and/or ultraviolet light and is divided into three categories: high, intermediate and low-level disinfection.

NOTE: Failure to remove foreign material (soil, face oils, etc.) from an object can make the disinfecting process ineffective.

Before using any of the products or information detailed herein, you must evaluate it and determine if it is suitable for your intended use. You assume all risks and liability associated with such use. 3M makes no warranties relating to the efficacy of any of the products detailed herein in preventing the spread and/or contraction of coronavirus. 3M will not be liable for any loss or damage arising from any information contained herein, whether direct, indirect, special, incidental or consequential, regardless of the legal or equitable theory asserted, including warranty, contract, negligence or strict liability.

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If you have any questions or concerns, please contact your local 3M representative or 3M Technical Service.

References

- 1) Guideline for Disinfection and Sterilization in Healthcare Facilities, 2008; updated 2019. United States Centers for Disease Control. William A. Rutala, Ph.D., M.P.H., David J. Weber, M.D., M.P.H. and the Healthcare Infection Control Practices Advisory Committee (HICPAC). 2008. <https://www.cdc.gov/infectioncontrol/pdf/guidelines/disinfection-guidelines-H.pdf>
- 2) Interim Infection Prevention and Control Recommendations for Patients with Suspected or Confirmed Coronavirus Disease (COVID-19) in Healthcare Settings. Coronavirus Disease (COVID-19). <https://www.cdc.gov/coronavirus/2019-ncov/infection-control/control-recommendations.html>

- 3) List N. EPA's Registered Antimicrobial Products for Use Against Novel Coronavirus SARS-CoV-2, the Cause of COVID-19. United States Environmental Protection Agency. 03/03/2020. <https://www.epa.gov/pesticide-registration/list-n-disinfectants-use-against-sars-cov-2>
- 4) Rutala, WA. American Journal of Infection Control. APIC Guideline for Selection and Use of Disinfectants. Vol. 24, No. 4, pp. 313-342, August 1996.
- 5) Rutala, WA. CDC. Guideline for Disinfection and Sterilization in Healthcare Facilities. 2008.

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