



A Union of Professionals

COVID-19 Resources:

Information on guidance from the CDC and NIOSH on **decontamination methods for N95s** and other filtering face piece respirators

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Decontamination and Reuse of Filtering Face Piece Respirators using Contingency and Crisis Capacity Strategies

bit.ly/CDCN95reuse

The National Institute for Occupational Safety and Health (NIOSH) and the Centers for Disease Control and Prevention (CDC) issued long-awaited guidance on methods that can be used to decontaminate N95s and other disposable filtering face piece respirators. **The agencies do not recommend decontamination and reuse for standard care, only as a strategy during extreme respirator shortages.**

Decontamination, reuse and extended use are a **stopgap measure.**

The employer should continue to seek and obtain new respirators, including N95, N99, N100, P95, P99, P100, R95, R99, R100 filtering face piece respirators, elastomeric respirators and powered air-purifying respirators (PAPRs).

Acceptable foreign respirators can be found on the OSHA website:

bit.ly/OSHAforeign-resp

NIOSH information on counterfeit respirators is found here:

bit.ly/CDCcounterfeit-resp

The union should demand proof that the employer is working toward getting supplies of new respirators.

A better reuse strategy

NIOSH's and CDC's first recommendation is that employers provide five respirators (such as N95s) to each employee who needs respiratory protection so that the worker can rotate them, one for each day. The recommendation to rotate the respirators with five days between uses is based on a study finding that the coronavirus (SARS-CoV-2) is viable for up to 72 hours on plastic, stainless steel and

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cardboard surfaces.¹ After a disposable respirator is used, they recommend storing it in a breathable paper bag and not using it again for a minimum of five days.

For this method to work, the employer must have a sufficient supply of respirators, and they must offer training to the affected workers on safe reuse.

1. Label the paper bags with the worker's name and date of use. Use a new paper bag for each storage to avoid recontamination. Avoid touching the inside of the paper bag.
2. Use clean gloves to don a used respirator.
3. Inspect the respirator, including the straps, for damage.
4. Perform a user seal check every time the respirator is donned. If the fit is degrading, the respirator should be discarded.
5. The respirators should be protected from contact contamination, preferably a face shield. If a face shield is not available, a face mask should be placed over it.
6. Use clean gloves or perform hand hygiene before and after each time you adjust the respirator.
7. Use clean gloves when doffing a used respirator you intend to reuse. Use the straps to doff. Avoid touching the face piece.
8. The respirator should be discarded when contaminated with bodily fluids (blood, nasal or respiratory secretions).
9. The respirator should be discarded if it becomes difficult to breathe through.
10. NIOSH recommends only five reuses of one respirator.

Guidance on decontamination methods for N95s

NIOSH and CDC only offer qualified recommendations for decontamination. To be effective against the target organism, **decontamination cannot damage the respirator's filtration, not affect the fit and**

be safe for the wearer, with no off-gassing of chemicals.

The first concern is that only respirator manufacturers can reliably provide guidance on how to decontaminate their specific models of filtering face piece respirators. In fact, 3M has issued a statement that they have been working on finding an effective disinfection method for their products for years and 3M is not satisfied with existing methods. The company is continuing to work with companies specializing in sterilization and disinfection methods.

Second, none of the available studies specifically tested decontamination methods against SARS-CoV-2, the virus that causes COVID-19. Ultraviolet germicidal irradiation has been tested on SARS-CoV-1 and MERS.

Third, not all of the studies included rigorous testing of the fit and filtering capacities of the respirators after decontamination. The agencies noted that N95s and other **disposable respirators are not designed to be reused**. Ultraviolet germicidal irradiation (UVGI), vaporous hydrogen peroxide, and moist microwave generated steam heat have been tested for the impact on filtering capacity and fit, with generally positive results.

Based on the limited research available on decontamination and reuse of N95s, NIOSH and CDC consider these methods to be the most promising:

- Ultraviolet germicidal irradiation
- Vaporous hydrogen peroxide (such as the Battelle Decontamination System)
- Moist heat

These methods were found be less effective:

- Steam treatment
- liquid hydrogen peroxide

¹ van Doremalen, N., et al., "Aerosol and Surface Stability of SARS-CoV-2 as Compared with SARS-CoV-1." New England Journal of Medicine, 2020.

NIOSH and CDC do not recommend:

- autoclaving
- dry heat
- isopropyl alcohol
- microwave irradiation
- bleach
- disinfectant wipes
- ethylene oxide

See the source document for more information on how decontamination is done and the evaluations (bit.ly/CDC-FFR-decontamination).

Decontamination is therefore only a stopgap measure to be considered.

Employers should continue to seek new respirators, whether from manufacturers, donations or stockpile allocations. The union should seek evidence that they are doing so. If the employer decides to use a decontamination method and reuse of respirators, the union should make an information request about how the process will be managed, who will be responsible and how the quality of reused respirators will be assessed.

Workers should be trained on use of decontaminated respirators.

With clean gloves, inspect the respirator for damage, including the straps.

1. Use clean gloves to don a decontaminated respirator.
2. Perform a user seal check every time the respirator is donned. If the fit is degrading, the respirator should be discarded.
3. The respirators should be protected from contact contamination, preferably a face shield. If a face shield is not available, a face mask should be placed over it.

4. Use clean gloves or perform hand hygiene before and after each time you adjust the respirator.
5. Use clean gloves when doffing a used respirator you intend to reuse. Use the straps to doff. Avoid touching the face piece.
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