



BUILD ELECTRONICS BETTER

IPC SPECIAL REPORT:

WORKPLACE MEASURES TO MANAGE COVID-19 RISK: DISPELLING MYTHS WITH EFFECTIVE METHODS



August 2020

The COVID-19 pandemic is dynamic and requires vigilance to ensure that employers are aware of the latest scientific information and can make decisions that prevent harm to employees in their workplaces. This guidance document address frequently asked questions that IPC has received from its members on the topic of workplace safety. The goal of this document is to inform readers on effective methods to manage the risk of COVID-19 in the workplace and dispel myths related to COVID-19 infection and the methods used to controls its spread in the workplace.

Are face coverings, masks, gloves, or eye protection made with nanomaterials more effective at preventing the spread of coronavirus?

Face coverings are not personal protective equipment (PPE) and are not intended to protect the person wearing them. They are a public health measure intended to reduce the risk of spreading the virus from an infected person, not necessarily to reduce an individual’s exposure to airborne virus. (1)

The material used to construct a face mask does impact its effectiveness but there is no official testing system to compare their effectiveness. We are left to rely upon claims made by manufacturers. There is independent research on disposable 3-ply surgical masks and medical procedure masks used by healthcare personnel. (2,3)

Available information specific to masks and other PPE made with nanomaterials is limited to manufactures’ claims. Whether or not they prevent the spread of SARS-CoV-2, the virus that causes COVID-19, better than other materials is unknown.

Research studies on the efficacy of face coverings and masks are ongoing and our understanding about usefulness of this type of “source control” is evolving. For example, a recent study demonstrates a simple measurement method to test the efficacy of different types of face coverings and masks.(4) The findings indicate that many of the different types perform well in limiting the spread of what you exhale, but that there may be limitations to some styles.

The effectiveness of face coverings, masks, and respiratory protection can be ranked in the following order from most to least effective (2,3).

- N95 (or KN95) Respirators ~90-95% reduction
- Medical Procedure mask 70-80%% reduction
- Surgical Mask (3-ply) 40% reduction
- General multi-layer cloth mask (nonwoven cotton) 20-55% reduction
- Handkerchief (1 to 4 layers of cotton). 1-4% reduction

For more information, please read through IPC’s framework “Face coverings and masks: protecting each other on the job” to help your decision-making process. (5)

How many times can I re-wear a cloth face covering? What about a surgical mask? Can I use disinfectants to clean my face covering/mask?

The outer surfaces of disposable face coverings, masks, and respirators can become contaminated with infectious microorganisms, like the virus that causes COVID-19, so taking them off and reusing them poses a risk of spreading these disease-causing microorganisms. Carefully disposing of these items is important to reducing the risk of contracting the virus.

Cloth coverings can be cleaned for reuse. Soap and hot water (140 °F (60 °C) or higher) are sufficient to inactivate the virus. There should be no need to apply disinfectants if you can clean the cloth face covering daily. (6) Disinfectants can degrade the cloth and may pose a health risk if you breathe them in from the mask, so it is best to avoid using disinfectants on reusable masks.

Is the microwave an effective way to clean or disinfect face coverings, masks, gloves, or eye protection?

Microwaving a face covering, mask or PPE can cause them to catch fire because metal staples and parts within the mask or PPE can potentially spark and result in a fire. (7)

Steam-generated by using a microwave has been shown to effectively reduce virus levels on respirators and cloth material. (8) However, it is probably safer to use a steamer produced by boiling water on a stovetop for three or more minutes to disinfect face masks or respirators.

Gloves and eye protection can be disinfected using alcohol or other disinfectants approved for hard, nonporous surfaces and that are compatible with the PPE material. You should NOT place them into a microwave oven as they can melt and catch fire.

Is ultraviolet (UV) light useful to disinfect surfaces that workers touch in the workplace?

While UV lights can be effective at inactivating SARS-CoV-2, they are also harmful to people: UV lights powerful enough and at the right wavelength to kill the virus can injure your eyes. (9)

Only fully engineered UV light systems that are installed, maintained, and verified to be effective should be considered for a workplace. (10) Small handheld portable systems used to “disinfect” surfaces are not usually effective and safe.

Can I turn up the temperature on my building's heating system to disinfect the workplace? What temperature do I use and for how long?

No. Studies indicate that heat disinfection at 140 °F (60 °C) for 30 minutes, 149 °F (65 °C) for 15 minutes, or 176 °F (80 °C) for one minute was effective to strongly reduce infectivity. (11) Most heating systems at workplaces cannot achieve these temperatures. In addition, exposure to these temperatures may lead to heat-related illnesses, may not be suitable for the equipment inside the workplace, and may damage the building materials, finishes, and furnishings.

Can I use misting or fogging of disinfectants in the workplace?

Misting or fogging of disinfectants is not currently recommended for applying disinfectants. The U.S. Environmental Protection Agency does not recommend this approach (12, 13) and the U.S. Centers for Disease Control and Prevention (CDC) recommends that you clean contaminated surfaces with liquid disinfectant products.

Misting and fogging applications cannot ensure that all high touch surfaces are treated with the correct concentration of disinfectant for the minimum contact time. Fogging increases the risk of inhaling the disinfectant and should require occupants to leave the area during and after application.

For more information, please refer to the recommended best practices for protecting the reliability and integrity of electronic products and assemblies when disinfecting for SARS-CoV-2. (14)

Can I use a portable air filtration device to protect workers as they move about the workplace?

HEPA-filtered portable air filtering devices can be used to significantly reduce the levels of SARS-CoV-2 in the air inside a room or building; this approach is best used to treat areas of a building or a specific room.

To be effective at reducing airborne exposures to the virus, HEPA-filtered portable air filtering devices should deliver at least six air changes per hour (ACH), but 10 to 12 ACH may be needed in areas with higher occupancy. (15, 16)

Can I use a portable air filtration device to safely move a known positive worker out of the facility?

No, because they do not work fast enough to reduce the airborne concentrations of coronavirus.

A better approach to moving a worker exhibiting symptoms, or who has tested positive for COVID-19, is to ask them to wear a disposable surgical mask while they exit the facility to minimize transmission of virus-containing aerosols they exhale.

Should I stock the bathroom at the workplace with antibacterial soap? What if all I have in stock is antibacterial soap for use at handwashing sinks, is it effective at preventing spread of coronavirus?

Antibacterial soap is not needed to effectively clean the SARS-CoV-2 from your hands. However, if all you have is antibacterial soap, it will work just as well as regular soap. Use it.

How effective are wrist-worn tracking devices for contact tracing?

Contact tracing can extend outside the workplace to include the immediate community and beyond, therefore, local or state public health authorities are better positioned than workplaces to conduct contact tracing.

Electronic tracking devices like wrist-worn devices or other wearable tracking tools are being used in some jurisdictions, but their effectiveness is still being determined for different populations and applications. (17)

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For more information related to this Industry Update, please contact:

Kelly Scanlon

Director of Environment, Health and Safety Policy and Research

KellyScanlon@ipc.org

Tel: + 1-202-661-8091

www.ipc.org/coronavirus

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BUILD ELECTRONICS BETTER

3000 Lakeside Drive, Suite 105 N
Bannockburn, IL 60015 USA
+1 847-615-7100 **tel**
+1 847-615-7105 **fax**
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