Industrial Hygiene in the Workplace

Protecting Workers & Preventing the Spread of COVID-19 in the Workplace

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AccuTec-IHS: RESPIRATOR FIT TESTING FOR THE REAL WORLD™

AccuTec-IHS was founded by scientists, engineers and passionate Respirator Fit Testing experts with real-world experience and a shared vision of giving Respiratory Protection Program Managers an easy to use and reliable choice in Fit Test instruments.

The result: **AccuFIT 9000®** and the **new AccuFIT 9000® PRO** Quantitative Respirator Fit Test (RFT) devices.

Offering the AccuFIT line of fit testers allows us to bring outstanding value to dedicated professionals like yourself who are responsible for ensuring the health and well-being of hard-working people that are wearing all types of respirators in diverse and challenging environments.

We've addressed the shortcomings of other RFT methods and devices to ensure that AccuFIT RFTs can test virtually ANY respirator easily and quickly.

For example, the AccuFIT 9000® PRO tests all tight-fitting respirators; half- and full-facepiece models and 'disposables' (including series 95, 99, 100, FFP1, FFP2 and FFP3 filtering facepiece respirators) using OSHA, ANSI, CSA, and HSE compliant protocols including OSHA's streamlined 2019 CNC protocol.

Features like a high-visibility 7" touch-screen interface, 'Stand Alone' or PC Operation and the ability to control up to four units from a single PC with independent start/stop times ensures that whatever your preferred mode of operation, you'll have maximum control and better throughput when minutes matter. As a complete solution including adapters, supplies and software, AccuFITs are packaged in rugged 'road-worthy' travel cases and are surprisingly affordable; and include a 3-year standard warranty.

We focus on one thing only – building and supporting the best Quantitative Respirator Fit Testing system and we're grateful for the opportunity to be here for you during a time when Respiratory Protection Program effectiveness is so critically important.

Today, as we've all adapted and grown to meet these challenging times head-on, our pledge to you is simply this: We'll do what it takes to make sure you are fully satisfied with your Respirator Fit Test experience and enjoy our full support.

You can make a difference when it comes to protecting those at risk and we want to help you 'make it count' by performing true Condensation Particle Counting Fit Tests that are proven - now more than ever - to be the 'gold standard' science behind Quantitative RFT.

Bottom line: We love what we do and it shows – please let us help you achieve the best possible result whenever accurate and reliable fit testing is needed.

Together, let's make the world a safer place with 'Respirator Fit Testing for the Real World'.

Learn more at www.accutec.com.

AccuTec-IHS
Analytical Instrumentation

QUANTITATIVE TESTING FOR ALL RESPIRATOR TYPES:

✓ **N95**

✓ **P100 & N99**

✓ **FFP1, FFP2, & FFP3**

✓ **Full- & Half-Face Elastomerics**

Make a difference.
Make it count.

Introducing the New AccuFit 9000 PRO

Getting workers fitted fast and back on the job is mission-critical. There's no time for chance and uncertainty.

Today's tough environment means Quantitative Fit Testing Systems can make the difference between safe and at-risk exposures.

The new AccuFIT 9000 PRO has all the capabilities you need to accurately fit ALL mask types. It's a simple, easy-to-use device that includes OSHA's streamlined 2019 CNC protocol.

Rugged, quick to deploy and fully featured, AccuFIT and AccuFIT PRO both provide answers you need in a format you can use and come with a 3-year warranty.

Let's make it count. Together.

Our primary mission is helping professionals like you make a difference every day by protecting those who need it most—but we're not content to stop there. We created the **#accutecgivesback** initiative to bring much-needed Fit Test equipment to deserving community-based non-profit organizations by donating AccuFIT products and supplies to those in need. *See accutec.com for more information.*

About AccuTec-IHS

AccuTec-IHS was founded by a passionate, experienced team of Respirator Fit Test experts to introduce a new and better choice in particle-counting Respirator Fit Test devices. We're truly honored to help professionals making a difference in the post-SARS-2 CoV world.

ACCUTEC.COM

RESPIRATOR FIT TESTING *for the* REAL WORLD

Protecting Workers: Guidance on Mitigating and Preventing the Spread of COVID-19 in the Workplace

This guidance is intended to inform employers and workers in most workplace settings outside of healthcare to help them identify risks of being exposed to and/or contracting COVID-19 at work and to help them determine appropriate control measures to implement. Separate guidance is applicable to healthcare (CDC guidance) and emergency response (CDC guidance) settings. OSHA has additional industry-specific guidance. This guidance contains recommendations as well as descriptions of mandatory safety and health standards. The recommendations are advisory in nature, informational in content, and are intended to assist employers in providing a safe and healthful workplace.

The Roles of Employers and Workers in Responding to COVID-19

Under the OSH Act, employers are responsible for providing a safe and healthy workplace free from recognized hazards likely to cause death or serious physical harm.

Implementing a workplace **COVID-19 prevention program** is the most effective way to mitigate the spread of COVID-19 at work.

The most effective COVID-19 prevention programs engage workers and their representatives in the program's development and implementation at every step, and include the following elements:

1. *Assignment of a workplace coordinator* who will be responsible for COVID-19 issues on the employer's behalf.

2. *Identification of where and how workers might be exposed to COVID-19 at work.* This includes a thorough hazard assessment to identify potential workplace hazards related to COVID-19. This assessment will be most effective if it involves workers (and their representatives) because they are often the people most familiar with the conditions they face.

3. *Identification of a combination of measures that will limit the spread of COVID-19 in the workplace, in line with the principles of the hierarchy of controls.* This should include a combination of eliminating the hazard, engineering controls, workplace administrative policies, personal protective equipment (PPE), and other measures, prioritizing controls from most to least effective, to protect workers from COVID-19 hazards. Key examples (discussed in additional detail below) include:

   In addition to these general guidelines, more specific guidance is available for certain industries.

   A. eliminating the hazard by separating and sending home infected or potentially infected people from the workplace;
   B. implementing physical distancing in all communal work areas [includes remote work and telework];
   C. installing barriers where physical distancing cannot be maintained;
   D. suppressing the spread of the hazard using face coverings;
   E. improving ventilation;
   F. using applicable PPE to protect workers from exposure;
   G. providing the supplies necessary for good hygiene practices; and
   H. performing routine cleaning and disinfection.

4. *Consideration of protections for workers at* higher risk for severe illness *through supportive policies and practices.* Older adults and people of any age who have serious underlying medical conditions are at higher risk for severe illness from COVID-19. Workers with disabilities may be legally entitled to "reasonable accommodations" that protect them from the risk of contracting COVID-19. Where feasible, employers should consider reasonable modifications for workers identified as high-risk who can do some or all of their work at home (part or full-time), or in less densely-occupied, better-ventilated alternate facilities or offices.

5. *Establishment of a system for communicating effectively with workers and in a language they understand.* Ask workers to report to the employer, without fear of reprisal (see 12 below), COVID-19 symptoms, possible COVID-19 exposures, and possible COVID-19 hazards at the workplace. Communicate to workers, in a language they can understand and in a manner accessible to individuals with disabilities, all policies and procedures implemented for responding to sick and exposed workers in the workplace. See below for additional elements involving educating and training workers of COVID-19 procedures.

   In addition, a best practice is to create and test two-way communication systems that workers can use to self-report if they are sick or have been exposed, and that employers can use to notify workers of exposures and closures, respectively.

6. *Educate and train workers on your COVID-19 policies and procedures using accessible formats and in a* language *they understand.* Communicate supportive workplace policies clearly, frequently, in plain language that workers understand (including non-English languages, and American Sign Language or other accessible communication methods, if applicable), and in a manner accessible to individuals with disabilities, and via multiple methods to employees, contractors,

and any other individuals on site, as appropriate, to promote a safe and healthy workplace. Communications should include:

- Basic facts about COVID-19, including how it is spread and the importance of physical distancing, use of face coverings, and hand hygiene. See About COVID-19 and What Workers Need to Know About COVID-19, above and see more on physical distancing, PPE, face coverings, and hygiene, respectively, below;
- Workplace policies and procedures implemented to protect workers from COVID-19 hazards (the employer's COVID-19 prevention program); and
- Some means of tracking which workers have been informed and when.

In addition, ensure that workers understand their rights to a safe and healthful work environment, whom to contact with questions or concerns about workplace safety and health, and their right to raise workplace safety and health concerns free of retaliation. This information should also be provided in a language that workers understand. (See Implementing Protections from Retaliation, below.) Ensure supervisors are familiar with workplace flexibilities and other human resources policies and procedures.

7. ***Instruct workers who are infected or potentially infected to stay home and isolate or quarantine*** to prevent or reduce the risk of transmission of COVID-19. Ensure that absence policies are non-punitive. Policies that encourage workers to come to work sick or when they have been exposed to COVID-19 are disfavored. See below for additional guidance involving eliminating the hazard.

8. ***Minimize the negative impact of quarantine and isolation on workers.*** When possible, allow them to telework, or work in an area isolated from others. If those are not possible, allow workers to use paid sick leave, if available, or consider implementing paid leave policies to reduce risk for everyone at the workplace.

The Families First Coronavirus Response Act provides certain employers 100% reimbursement through tax credits to provide employees with paid sick leave or expanded family and medical leave for specified reasons related to COVID-19 through March 31, 2021.

9. ***Isolating workers who show symptoms at work.*** Workers who appear to have symptoms upon arrival at work or who develop symptoms during their work shift should immediately be separated from other workers, customers, and visitors, sent home, and encouraged to seek medical attention. See below for additional elements involving screening and testing.

10. ***Performing enhanced cleaning and disinfection after people with suspected or confirmed COVID-19 have been in the facility.*** If someone who has been in the facility is suspected or confirmed to have COVID-19, follow the CDC cleaning and disinfection recommendations. This includes:

   A. **Closing areas** used by the potentially infected person for enhanced cleaning.
   B. **Opening outside doors and windows** to increase air circulation in the area.
   C. **Waiting as long as practical** before cleaning or disinfecting (24 hours is optimal).
   D. Cleaning and disinfecting **all immediate work areas and equipment used by the potentially infected person**, such as offices, bathrooms, shared tools and workplace items, tables or work surfaces, and shared electronic equipment like tablets, touch screens, keyboards, and remote controls.
   E. **Vacuuming the space if needed**. Use a vacuum equipped with a high-efficiency particulate air (HEPA) filter, if available. Wait until the room or space is unoccupied to vacuum.
   F. **Providing cleaning workers with disposable gloves**. Additional PPE (e.g., safety glasses, goggles, aprons) might be required based on the cleaning/disinfectant products being used and whether there is a risk of splash.

   G. After cleaning, **disinfecting the surface with an appropriate EPA-registered disinfectant on List N: Disinfectants for use against SARS-CoV-2**.
   H. **Following requirements** in OSHA standards 29 CFR 1910.1200 and 1910.132, 133, and 138 for hazard communication and PPE appropriate for exposure to cleaning chemicals.

Once the area has been **appropriately disinfected**, it **can be opened for use**. **Workers without close contact** with the potentially infected person can return to the area immediately after disinfection.

If it is **more than 7 days** since the infected person visited or used the facility, additional cleaning and disinfection is not necessary. Continue routine cleaning and disinfection, described below.

11. ***Providing guidance on screening and testing:*** Follow state or local guidance and priorities for screening and viral testing in workplaces. Testing in the workplace may be arranged through a company's occupational health provider or in consultation with the local or state health department. Employers should inform workers of employer testing requirements, if any, and availability of testing options. CDC has published strategies for consideration of incorporating viral testing for SARS-CoV-2, the virus that causes COVID-19, into workplace COVID-19 preparedness, response, and control plans. (See below for more on the use of testing to determine when a worker may return to work after illness or exposure.)

   Note: Performing screening or health checks is not a replacement for other protective measures such as face coverings and physical distancing. Asymptomatic individuals or individuals with mild non-specific symptoms may not realize they are infected and may not be detected during through screening.

12. ***Recording and reporting COVID-19 infections and deaths:*** Employers are responsible for recording work-related cases of COVID-19 illness on their Form 300

logs if the following requirements are met: (1) the case is a confirmed case of COVID-19; (2) the case is work-related (as defined by 29 CFR 1904.5); and (3) the case involves one or more relevant recording criteria (set forth in 29 CFR 1904.7) (e.g., medical treatment, days away from work). Employers must follow the requirements in 29 CFR 1904 when reporting COVID-19 fatalities and hospitalizations to OSHA. More information is available on OSHA's website. Employers should also report outbreaks to health departments as required and support their contact tracing efforts.

In addition, employers should be aware that reprisal or discrimination against an employee for speaking out about unsafe working conditions or reporting an infection or exposure to COVID-19 to an employer or OSHA would constitute a violation of Section 11(c) of the Act. In addition, 29 CFR 1904.35(b) also prohibits discrimination against an employee for reporting a work-related illness.

13. **Implementing protections from retaliation and setting up an anonymous process for workers to voice concerns about COVID-19-related hazards:** Section 11(c) of the OSH Act prohibits discharging or in any other way discriminating against an employee for engaging in various occupational safety and health activities. For example, employers may not discriminate against employees for raising a reasonable concern about infection control related to COVID-19 to the employer, the employer's agent, other employees, a government agency, or to the public, such as through print, online, social, or any other media; or against an employee for voluntarily providing and wearing their own personal protective equipment, such as a respirator, face shield, gloves, or surgical mask.

In addition to notifying workers of their rights to a safe and healthful work environment, ensure that workers know whom to contact with questions or concerns about workplace safety and health, and that there are prohibitions against retaliation for raising workplace safety and health concerns or engaging in

other protected occupational safety and health activities (see educating and training workers about COVID-19 policies and procedures, above); also consider using a hotline or other method for workers to voice concerns anonymously.

14. **Making a** COVID-19 vaccine **or vaccination series available at no cost to all eligible employees.** Provide information and training on the benefits and safety of vaccinations.

15. **Not distinguishing between workers who are vaccinated and those who are not:** Workers who are vaccinated must continue to follow protective measures, such as wearing a face covering and remaining physically distant, because at this time, there is not evidence that COVID-19 vaccines prevent transmission of the virus from person-to-person. The CDC explains that experts need to understand more about the protection that COVID-19 vaccines provide before deciding to change recommendations on steps everyone should take to slow the spread of the virus that causes COVID-19.

16. Other applicable OSHA Standards: All of OSHA's standards that apply to protecting workers from infection remain in place. These standards include: requirements for PPE (29 CFR 1910, Subpart I (e.g., 1910.132 and 133)), respiratory protection (29 CFR 1910.134), sanitation (29 CFR 1910.141), protection from bloodborne pathogens: (29 CFR 1910.1030), and OSHA's requirements for employee access to medical and exposure records (29 CFR 1910.1020). There is no OSHA standard specific to COVID-19; however, employers still are required under the General Duty Clause, Section 5(a)(1) of the OSH Act, to provide a safe and healthful workplace that is free from recognized hazards that can cause serious physical harm or death.

This info is courtesy of OSHA. To read the entire article, please go to Protecting Workers: Guidance on Mitigating and Preventing the Spread of COVID-19 in the Workplace | Occupational Safety and Health Administration (osha.gov)

Best Practices for Employee Safety Amidst the COVID-19 Crisis

By: **Elizabeth Cuneo**, *Contributing Editor*

The ongoing COVID-19 crisis affects all people and all businesses across the U.S. Because everyone is concerned about safety and health measures right now, it's important to adopt the necessary safety measures to keep your facility and employees safe.

According to OSHA, companies of all sizes should develop an infectious disease preparedness and response plan. As part of this, you should stay up-to-date on guidance from federal, state, local, tribal and/or territorial health agencies, and use these recommendations and resources to develop workplace-specific plans. Some common best practice measures include:

- Frequent hand-washing
- Routine cleaning/disinfectant
- Allowing flexible worksites and telecommuting
- Restricting the amount of people in a space and maintaining 6-ft distance
- Providing PPE for employees
- If an employee is sick, encouraging them to stay home and implement a more lenient sick leave policy

Real-Life Examples and Best Practices

Most big companies across America have issued statements and policy changes in response to the COVID-19 crisis, in line with CDC recommendations. Many corporations, regardless of the sector, have instilled the 6-ft space protocol to keep employees a safe distance apart. They have changed company policy to include preventative measures, as well as reactionary ones, to ensure the safety of the warehouse, facility or plant.

Amazon, for example, says that it has made over 150 process updates to help protect employees, including common processes, like enhanced cleaning and social-distancing measures. This includes new efforts, such as using disinfectant fog in its New York fulfillment center.

BP has changed shift patterns to make social distancing easier. The company is also restricting workplace access; increasing testing of its employees; and enabling safe isolation and evacuation of any suspected cases. And, both companies are providing PPE for all their employees.

Ford Motor Company has issued a statement explaining the steps the automaker has made to keep employees safe. These steps include providing hand sanitizer, tissues, sanitizing wipes and

Many companies, large and small, are employing thorough, routine environmental cleaning with increased maintenance staff to help keep their workforces safe.

photo courtesy pexels.com

other material at various locations; increasing its cleaning standards; and encouraging greater social spacing.

What this all means for companies, large or small, is that procedures and protocol are changing. According to Vinay Panday, Director of Marketing at Alliance Environmental Group, an environmental remediation company, operations have changed in the past few weeks within the organization. It has also changed how it responds to customers, especially with regard to keeping employees safe.

"We have the correct PPE. Our workers are fully trained and licensed. We ensure that, once a job is complete, they clean off thoroughly through a wash station and portable decontamination chamber. At our branches and corporate office, we continue to clean and sanitize. We have introduced commercial sanitary wipes. We are wiping down handles and door knobs every 15 minutes. We have wiped down all computers and laptops," said Panday.

At SKC, which specializes in air sampling solutions, Corporate Industrial Hygienist Lucinette Alvarado said things changed quickly for the company. But, the company hit the ground running when it first heard of the seriousness of the COVID-19 pandemic.

"Ironically, the first thing I thought was, 'I need to get these people together.' Of course, this was meant metaphorically, not physically. I immediately thought of the AIHA publication: *The Role of the Industrial Hygienist in a Pandemic*, which had provided critical guidance in the past. I purchased the latest revision online and used it and other resources to create a presentation for SKC executive and management teams. The presentation augmented their knowledge and facilitated shaping of an emergency management action plan. I also took the opportunity to clarify my role as an industrial hygienist in providing guidance and helping with planning for the safety and health of workers," said Alvarado.

Alvarado went on to say that the company continues to follow the CDC and World Health Organization (WHO) guidelines for businesses. Some of the practical ways the company has implemented changes to keep workers safe include:

- An Infectious Disease Preparedness and Response Plan containing guidelines for operations, logistics, and health and safety protocols
- Eliminated international travel and reduced domestic travel
- Encouragement of sick employees to stay home
- Emphasized social distancing and handwashing, including provision of additional hand sanitizers throughout SKC facilities and offices
- Reinforced good respiratory care etiquette
- Thorough, routine environmental cleaning with increased maintenance staff
- Partnering with manufacturing and suppliers to maintain the flow of product and find alternatives, should supplies become limited
- A plan to have a significant number of employees working from home for an extended period

Because of all of the changes and heightened safety measures, a lot of anxiety and confusion can emerge amongst staff. To address this, Panday said it is important to be transparent and communicative with employees. This communication should work to ensure that employees follow all proper protocols and precautionary measures. To do this, proper communication is key, even if it's now sent over email instead of in person. And that goes for new employees too, who are coming on board at the height of the crisis. As Panday describes, the company is still hiring new staff during this time and training them in light of recent changes.

"We follow strict guidelines of compliance and training regulated by associations, such as OSHA, the EPA, ICRA and the CDC. We have a dedicated training team that conducts this training," said Panday.

It's easy to recognize that, because of mandated social distancing, as well as "stay home, stay safe" orders, businesses and corporations are relying less on one-on-one conversations and more on technology to get them through this time.

"Since certain corporate employees are away, we have used video conferencing, such as Zoom, to conduct virtual meetings. We also have a project management tool, Monday.com, to ensure that we are on top of workflow tasks and operations. Our company is using Microsoft Teams to stay connected," said Panday.

The new reality is that daily processes have changed, and businesses are operating differently. As you work to make sense of how to keep operations running smoothly, remember some of these best practices to keep your facility and employees safe. For more recommendations and best practices, visit www.osha/gov. ∎

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Respiratory Protection: More Important than Ever

By: **Barbara Nessinger**, *Editor-in-Chief*

photo courtesy CleanSpace

The COVID-19 pandemic has affected every aspect of daily life. This includes the reopening of workplaces around the country. State and local standards/regulations regarding COVID-19 are varied and, in some cases, difficult to enforce. Of the OSHA standards that will likely be referred to frequently, respiratory protection will be at the forefront.

Industrial Hygiene in the Workplace talked with two different companies currently dealing with the COVID-19 crisis about OHSA's respiratory fit-test standards and how this affects their businesses. Stephanie Lynch, Ph.D., is Product Manager for OHD, LLLP, a global company devoted to fit testing for respiratory PPE.

Jon Imms is Global Technical & Product Director for CleanSpace Technology, a maker of respirators with a specialty in "innovative and quality respirator design and manufacturing." Although the companies for which they work make different products, their customers have similar needs, and they both face the same challenges—especially in such unprecedented times as these.

Here are some insights from these two experts in their respective fields.

IHW: What aspects of OSHA's fit-test standard do you see as most important right now? How is your company addressing the need to make employers and employees aware of its importance?

Stephanie Lynch: I think knowledge of its requirements and current exemptions, as they pertain to you and your industry, are most important right now. We offer educational webinars and blog posts, as well as email blasts to our customer base. We try to make sure our customers are up to date on the most current information for their respiratory protection program.

Jon Imms: The COVID pandemic has increased the need to ensure a facial seal for negative-pressure products. However, given the poor supply of negative-pressure products on the market, industry has been forced to use products other than those that they have been fit-tested on. As a result, OSHA has had to relax its requirements and allow the use of alternative products—without an annual fit test. CleanSpace is a Powered Air Purifying Respirator which is positive pressure. With a positive-pressure respirator, you reduce the risk of user contamination, even with a poor fit.

IHW: Have there been many conversations/discussions with your customers about the need to train employees on how to fit-test their respirators? If so, what kind of training has been put in place?

Lynch: Yes; we offer extensive training on the use of both the Quantifit and QuantiCheck, as well as guidance on compliance, to the best of our abilities.

Imms: The topic of correct fit is more prevalent than prior to the COVID-19 pandemic; however, CleanSpace has always placed a high level of importance on the training of respiratory products to ensure compliance with the particular nuances of the respiratory products being used. CleanSpace provides a number of avenues to achieve compliance, with online video-based training and face-to-face, live online training.

IHW: How can you help end-users with hazard assessment for their respirator needs—especially in light of keeping workers safe from COVID-19?

Imms: All manufacturers have a responsibility to ensure that potential users of their products understand the benefits but also the limitations of their products. Not all purchasers of products make direct contact with the manufacturer, so any limitations regarding workplace hazards are clearly outlined in the various products' user manuals. Where possible, we work with the end-users of our products regarding the hazards in their particular workplaces to ensure that the appropriate product is selected; however, the responsibility for the selection of appropriate respiratory equipment ultimately lies with the end-user.

Use and maintenance of respirators is part of OSHA's Guidance on Preparing Workplaces for COVID-19. This includes fitting based on the hazard, as well as consistent and proper wearing of the respirator. *(photo courtesy OHD, LLLP)*

Lynch: Many of our employees have worked in respiratory protection for years, and we are always happy to assist any of our customers with an assessment of the respiratory protection they need for the hazards they face, [including] COVID-19.

CleanSpace's Powered Air Purifying Respirator is a positive-pressure respirator, helping to reduce the risk of user contamination. *(photo courtesy CleanSpace)*

MAINTAINING & USING RESPIRATORS

The use and maintenance of respirators is also part of OSHA's Guidance on Preparing Workplaces for COVID-19. This includes fitting based on the hazard; consistent and proper wearing of the respirator; regular inspections, maintenance, replacement; and proper cleaning, storage and disposal, if needed.

We asked Stephanie and Jon if (and how) this might have changed how they approach the end-users of their PPE:

Imms: It hasn't changed for us. CleanSpace has always been focused on the correct use and maintenance of our products and provides a number of avenues to achieve compliance,

again, with online, video-based training and face-to-face live online training.

Lynch: We don't offer PPE, but the respirator manufacturers we work with are promoting many novel approaches, such as the use of reusable elastomeric respirators in healthcare and qualitative testing for filtering facepiece/N95 respirators to allow for reuse.

IHW: What, if any, respirator maintenance, inspection and replacement protocols or programs have you seen with regard to staying in compliance? Does your company assist clients with such needs?

Lynch: OSHA 1910.134 App B-2 lays out how to comply, and your respirator manufacturer can also provide you with guidelines. We can help customers walk through how the OSHA standard applies to them and their situation.

Imms: CleanSpace requires minimal maintenance. However, inspection and replacement of damaged or faulty product is essential to maintain respiratory protection compliance. CleanSpace provides clear guidance of the maintenance, inspection and

replacement protocols via our user manuals and various training options.

CLEANING, STORAGE AND RESPIRATORY PROGRAMS

Cleaning and storage of respirators and respiratory equipment is more important than ever. This is covered by OSHA 1910.134 App B-2, and most manufacturers offer respirator specific guidance.

The American National Standard Practices for Respiratory Protection also includes sections on employer and wearer responsibilities to ensure that accepted, approved practices are upheld with regard to respirator safety.

IHW: How can you aid customers in establishing and administering an acceptable respirator program?

Lynch: We provide and sponsor training and materials on respiratory protection and program administration. Most recently, we gave a webinar called "Safely (Re)Implementing your Respiratory Protection Program," and we sponsored a webinar on "Respiratory Protection Programs –Maintaining Your Program in Uncharted Waters." ∎

OHD offers extensive training on the use of both the Quantifit and QuantiCheck fit-testing products , as well as guidance on compliance to its customers. *(photo courtesy OHD, LLLP)*

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A REVOLUTION IN RESPIRATORY PROTECTION

Australian Respirator Manufacturer Finds Itself At The Forefront Of The Covid Crisis

CleanSpace®
R E S P I R A T O R S

CleanSpace Technology, an Australian company that designs and manufactures next-generation respirators, has found itself at the forefront of the COVID-19 pandemic.

The proprietary technology, at the heart of all CleanSpace respirators, was designed by ex-ResMed biomedical engineers. ResMed is a world leader in CPAP devices. The engineers had the vision to make respirators that deliver a high level of protection in an easy to use and comfortable system. The company has been successfully protecting workers in a wide range of sectors for the past ten years.

Until CleanSpace, the technology for masks had not changed for 30 years. Traditional devices were typically uncomfortable, hot and provided low protection. Industries such as pharmaceuticals, constructions, mining, metal works and stonemasonry, where workers are likely to expose to harmful contaminants such as chemicals, coal dust, silica and welding fumes, have welcomed an alternative.

"Our technology was a game-changer, and still is. One of the main reasons people go unprotected is because of low compliance. If masks are uncomfortable or not quick and easy to put on, then it simply doesn't get used," said Dr Alex Birrell, CEO, CleanSpace Technology. "CleanSpace is unique, a Powered Air Purifying Respirator (PAPR) without the heavy and cumbersome belt and hoses associated with PAPRs. Its simplicity with fresh air on the face makes it far preferable to the N95 disposable."

Since COVID-19, with the rapid depletion of disposable masks and reliance on lean supply chains, companies have opted for other types of respiratory protection supplies that can be disinfected and reused.

Compared to disposable masks, CleanSpace respirators offer a high level of protection and are more economical as the cost of replacing disposables stacks up. Disposable masks are well-known for causing fogging and discomfort, leading to low compliance.

CleanSpace Respirators are a revolution in respiratory protection. They are the lightest powered respirators that offer the highest protection and reusable to deliver significant cost savings. The soft silicone mask is comfortable and transparent to allow for clear communication.

CleanSpace offers four models depending on the requirements of the industry. CleanSpace ULTRA is IP Rated 66, water tolerant, making it perfect for wet-cutting stone or concrete. CleanSpace EX is intrinsically safe, certified for use in potentially explosive environments, and CleanSpace2 is for use where water tolerance or intrinsic safety is not required. CleanSpace HALO is specifically for the Healthcare, Pharmaceutical and Laboratory sectors.

CleanSpace ULTRA with half face mask

CleanSpace ULTRA with full face mask

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CleanSpace Technology is pleased to announce CleanSpace HALO has recently prized with prestigious product awards:

- The platinum winner of the Respiratory Protection category at the OH&S Industrial Hygiene Awards 2021
- The winner of Medical Devices & Technology at the Red Dot Design Award 2021 for outstanding quality & innovative product

CleanSpace Respirators are NIOSH, AS/NZS1716 & CE mark certified.

CLEANSPACE ULTRA

CleanSpace ULTRA is suitable for workers in environments requiring face/eye protection and water tolerance.

It is compatible with either the full-face or half-face masks and the HEPA particulate or odor nuisance filter.

Features:
- NIOSH approved
- IP Rated 66, water tolerant
- High protection P3/TM3 99.97%
- APF 50 half mask & APF 1000 full mask
- Lightweight
- No hoses, belts or waist-mounted battery packs
- Easy one-button operation
- Up to 8hrs run time
- Smart AirSensit™ Technology

The CleanSpace ULTRA, with either full-face mask or half-face mask, can be used with:
- CleanSpace High Capacity HEPA Filter: High Efficiency (HEPA) Particulate Filters are suitable for protection against airborne particulate (dust, mists and fumes). Filtration efficiency 99.97% for 0.3um particles or above.
- CleanSpace Nuisance Odor Filter: A HEPA filter cartridge with a deep layer of activated carbon suitable for nuisance level exposure (Not exceeding OSHA PEL) to Organic Vapours (OV), Inorganic, Acid Gas (AG) and Ammonia.

Learn more at www.cleanspacetechnology.com. ∎

CleanSpace HICAP HEPA Filter

CleanSpace Nuisance Odor

An Overdue Update: Respirator Fit-Testing Methods

By: **Barbara Nessinger**, *Editor-in-Chief*

Respirator fit-testing is a protocol used to evaluate sealing surface leakage of a specific, tight-fitting respirator while it is being worn. Individuals do not have to be issued the same respirator that they are fit-tested with, as long as they are issued a respirator that is the same make, model, style, size and material of respirator with which they are fit-tested. There are two categories of respirator fit-testing, which include qualitative and quantitative fit-testing methods.

The standard was developed by ANSI (which is now known as ASSP), and content was also provided by the American Society of Safety Engineers (ASSE). Guideline Z88.10-2010 provides respiratory protection program managers (RPPM) with clear, consistent guidance on respirator fit-testing and the components required of an effective respiratory protection program.

Included in the guide are instructions on how to avoid interference of PPE; it also provides detailed information on face pieces, including their selection, and other considerations for effective fit-testing. Guideline Z88.10 was last updated in 2010.

General Considerations, Training

The standard/guideline provides in-depth requirements for training fit-test operators. It also includes a large section

According to OSHA, an employer that performed fit-testing every two years reported 7% of their employees switched to different respirator sizes and/or models each time they were tested. OSHA now requires yearly fit testing. *(photo courtesy OHD, LLP)*

entitled "General Considerations," which covers, in detail, the important considerations for performing all respirator fit-testing protocols.

According to Dr. Stephanie Lynch, Ph.D., OHD, LLP Product Manager, Z88.10 is "a standard for addressing the proper way to carry out fit testing, [which] was long overdue and has been immensely helpful to the field of respiratory protection."

In addition, Clause 6 of the General Considerations section includes medical evaluation and pre-fit test training (such as how to don the respirator without assistance). Z88.10 recommends using a mirror to see how to position and adjust the respirator, for example. Also in this section are guidelines on how to inspect the respirator and how to accomplish user seal checks.

Know & Avoid the Risk Factors

There are numerous factors that could potentially diminish the effectiveness and fit of a respirator. These include:

‣ Weight gain or loss
‣ Dental work or facial surgery
‣ Significant scarring in areas where seal meets skin
‣ Wearer discomfort
‣ Facial hair or certain hair styles
‣ Cosmetics or facial jewelry
‣ Glasses or protective eyewear
‣ Do not perform fit-testing if any foreign material, like gels or creams, are present between the sealing surfaces of the face and the respirator
‣ PPE must not interfere with respirator sealing surfaces and must be worn during fit testing

There are some other conditions that can adversely affect fit. These include possible facial feature interference, such as hollow temples, exceedingly protruding cheekbones, deep skin creases, absence of teeth or dentures, or facial injury—including mouth or facial swelling.

photo courtesy OHD, LLP

Moreover, if dentures are worn during respirator use, dentures should be worn during fit-testing. If dentures are not worn during respirator use, then dentures should not be worn during fit-testing.

Passing the Test

Qualitative fit-testing is a pass/fail test that uses the wearer's sense of taste or smell, or his/her reaction to an irritant, in order to detect leakage into the respirator facepiece. Whether or not a worker needs a full-face respirator or a half-mask respirator depends on the Assigned Protection Factor (APF). The APF consists of a number that describes the level of protection that a respirator can be expected to provide—if used properly.

Yearly fit-testing is now required. According to OSHA, an employer that performed fit-testing every two years reported 7% of their employees switched to different respirator sizes and/or models each time they were tested. OSHA considered this 7% measurement to be unacceptable and adopted the policy to require both annual fit testing and training. ∎

References:
Copies of the standard can be purchased online, at the ANSI Webstore: https://bit.ly/3a1GVa6

Innovations in Safety During the COVID-19 Era

By: **Sean Stinson**, *Contributor*

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Responding to COVID-19

The COVID-19 pandemic brought about several, once-unthinkable challenges to the safety industry. Along with protecting workers from the daily risks of an industrial worksite, organizations were suddenly faced with continuing operations—while also keeping their people healthy and safe from a rapidly spreading disease.

At the onset of the pandemic, most of these challenges were limited to businesses deemed "essential," which included

Blackline Safety, as well as other organizations in sectors such as healthcare, financial, manufacturing, energy, utilities, telecom, retail and logistics. The world looked to these essential industries to ensure the continued flow of vital goods and services, also helping to keep the economy afloat as it battled the pandemic.

These industries were operating with a reduced workforce where teams often split shifts and shared daily workflows, resulting in more people working alone than ever before. These people are defined as lone workers, or personnel working in isolation, beyond the sight and sound of others, where no one is available to lend a hand.

Whether it is for short periods of time, continuously or intermittently, any second a lone worker is not monitored presents a major safety risk. That's why lone worker safety has been an increasingly critical topic in recent years; the COVID-19 pandemic has only pushed it to further into the forefront.

As time went on and more businesses began to resume operations in a limited capacity with reduced staff, the stress on the safety industry only increased. Some organizations that had been operating for months began welcoming more employees

back to work. Others were just restarting operations. No matter which category businesses fell into, they faced serious obstacles—such as continuing to protect lone workers or ensuring a higher number of on-site staff maintained physical distancing.

It has been the safety industry's responsibility to help these essential businesses protect their people and keep them safe—both from the daily challenges of the industrial worksite and from the global pandemic.

Lone Worker Monitoring Tools

While COVID-19 forced businesses to respond and adapt quickly, some were fortunate to not have to start from square one. The connected safety landscape has transformed in recent years, and solutions to monitor lone workers have become widely available for many businesses.

For example, connected safety wearables and cloud-hosted software with 24/7 staffed Safety Operations Centers are tools created by the safety industry that helped protect the increased number of lone workers. This technology offers a broad range of capabilities, including monitoring, location technology, gas detection and two-way communications, which helped organizations seamlessly combat the early challenges of the pandemic.

In addition to the capabilities of lone worker technology, several companies that employed isolated personnel created or expanded a live monitoring team to help further optimize the impact of these tools. These teams tracked employees' location and activity, as well as established and closely followed documented response protocols, empowering them with
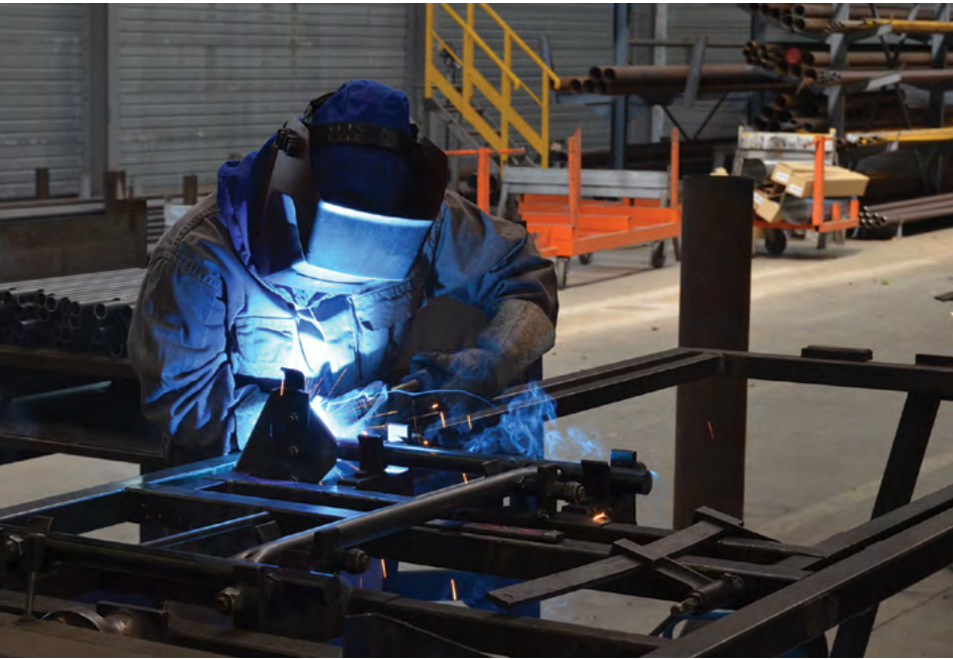
The connected safety landscape has transformed in recent years; solutions to monitor lone workers have become widely available for many businesses. *(photo courtesy Adobe Stock images)*

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full situational awareness and a plan for every scenario that might occur.

For lone workers and monitoring teams, the most effective organizations also implemented a strong system of communication that operated without interruption. The same connected safety products that businesses leverage to monitor lone workers also often come equipped with functionality similar to a walkie-talkie, allowing field and office staff to communicate directly in real-time. These tools helped expand and enhance communication systems that were challenged with an increased number of lone workers.

No matter the severity of a potential incident, the response must be quick and seamless. The combination of technology and an equipped monitoring team ensured every lone worker could go to work during an uncertain time, knowing they had somebody looking over them and keeping them safe.

As many regions began re-opening, the importance of physical distancing increased, and organizations needed strategies for monitoring workers who are not alone. Location-enabled, wearable safety technology, such as this Blackline G7 device with a "close contact" notification, enables businesses to manage exposure risks as part of their COVID-19 return-to-work programs. *(photo courtesy Blackline Safety)*

The Challenges of Returning to Work

As many regions began re-opening to some degree and the importance of physical distancing increased, organizations also needed a strategy for monitoring workers who are not alone. This was because individuals who returned to the field or office and did not properly distance present a severe risk to any given workforce and their loved ones.

While masks and other PPE played an important role in avoiding an outbreak, the safety industry was quick to create tools that helped encourage and remind workers to social distance while performing work. Through the location-monitoring feature of safety wearables, many organizations benefitted from technology that offered a close contact-detection feature, which provides users with a real-time notification when they enter into proximity of others wearing the same technology.

Additionally, through communications, location technology, cloud-hosted software and data science, businesses were also able to leverage the same digital tools to support contact tracing investigations on an industrial worksite. While Google and Apple collaborated on contact tracing apps for smartphones, most industrial entities required employees to leave their phones in their locker due to safety concerns. This left a gap that lone worker monitoring solutions were able to readily fill, helping support business continuity while maximizing employee safety.

Specifically, location-enabled wearable safety technology helped industrial businesses to better manage exposure risks as part of their COVID-19 return-to-work programs. Organizations that already deployed connected safety solutions were able to quickly achieve an integrated digital contact tracing system without needing to install additional infrastructure.

Through data science and visualizations from their current connected solutions, businesses had immediate and improved visibility into the frequency of close contact events between workers and where on the worksite these interactions were occurring. Safety professionals could identify potential super-spreaders or high-contact areas in which close contact was most frequently occurring. They could also quickly retrace a worker's steps, in the event of a positive test, and identify exactly which workers with whom they had close contact during the past weeks.

All of this data has helped enable companies to rapidly mitigate the spread of COVID-19 throughout their workforces, while simultaneously maintaining or improving the productivity of their worksites. For example, on a construction job site, organizations have been able to glean insights, such as how long it takes for workers to wait at a tool crib, while ensuring those people properly distance and the area is not at risk of high contact occurrences.

Innovation in the Safety Industry

While COVID-19 continues to impact our communities and industrial worksites, the various capabilities that technology has delivered have enabled organizations to effectively navigate the safety and economical challenges of the pandemic. This digital and "connected" approach has also helped prepare the safety industry for future challenges, enabling businesses to quickly adapt to new or unknown concerns that may emerge down the road.

The past year has demonstrated the innovation, passion and responsiveness of our industry—a tremendous accomplishment that makes the team at Blackline Safety proud to have played a small role in making it a reality. Together, we have the tools and expertise to protect industrial workers around the world, giving them the confidence they need to get the job done and return home safe. ◾

[Sean Stinson is Chief Revenue Officer at Blackline Safety.]

A Checklist for Selecting a Safe & Reliable Respirator

By: **John Schwind**, *Contributor*

Throughout most of the pandemic, our most prestigious medical and governmental institutions have advocated social distancing—six feet, at least—and wearing a respirator as the two most reliable practices to protect from the coronavirus. The former is an issue of behavior. Being alert about our physical surroundings allows some degree of control, and six feet is a measuring standard that doesn't change.

The latter practice is product-centric. Wear a respirator, especially in the workplace. It might seem axiomatic nearly a year into the pandemic, but a recurring question persists: How can I have confidence that my respirator provides the highest degree of safety?

When followed, this checklist ensures the respirator you choose meets the accepted scientific guidelines for protection from particulate hazards, including dust, bacteria, viruses, mold, industrial particles and smoke particles. It is imperative to follow safety protocols from reliable sources, such as the Centers for Disease Control and Prevention (CDC) or the National Institute for Occupational Health and Safety (NIOSH).

A reliable, four-step litmus test should apply to every respirator any institution proffers to its employees. If it passes the checklist, you can wear the respirator with confidence.

The steps are as follows:

STEP 1: What's your number?

N95 respirators and surgical masks are examples of PPE used to protect the wearer from airborne particles and liquid contaminating the face. The CDC, NIOSH and OSHA regulate N95 respirators. By now, most of us want our respirator to have an N95 rating. This is particularly true for medical and factory workers. It can filter out both large and small particles at 0.03 microns, the desired efficiency that NIOSH demands for its coveted rating. The appeal is that it offers two-way protection. The "N" stands for "not resistant to oil," and the 95 represents its ability to filter at least 95% of particles. Most experts consider the N95 rating the gold standard for respirators.

The CDC has also designated most N95s as "single-use" but has provided interim "reuse" and "extended use" guidelines that include:
➔ Are usable for up to eight hours
➔ Are usable for up to five donning and doffing times
➔ Recognizes that face shields will extend the use of up to five days or more

STEP 2: Who's the imprimatur?

Carefully examine the packaging and ensure that NIOSH or the FDA have certified your N95. Both have stringent guidelines that demand rigorous testing that manufacturers must meet before receiving government approval. We are essentially in the Wild West of respirator manufacturing. This warrants ongoing government scrutiny, because anyone can manufacture respirators, and

Fit testing confirms the fit of any respirator that forms a tight seal on the user's face before using it in the workplace. This ensures the expected level of protection by minimizing contaminant leakage into the facepiece. *(photo courtesy Global Safety First)*

hundreds—possibly thousands—have tried. News stories abound, reporting that some Chinese manufacturers falsely claimed their N95 respirator had met U.S regulations. You can check your respirator against the CDC's counterfeit and misrepresentation list at https://bit.ly/370SsWu. Searching for a "Made in the USA" brand is a permissible bias, I believe.

STEP 3: Does it fit?

There are two questions regarding the respirator's "fit." The first is whether you appropriately don and doff the respirator. Legitimate manufacturers will provide a comprehensive manual, and some, like Global Safety First, provide video instruction (https://www.youtube.com/watch?v=DcjCCXBna18&t=1s). The larger question is whether your respirator can pass a fit test.

There are essentially two types of fit testing. A quantitative fit test uses an instrument to measure the respirator's effectiveness numerically. A qualitative fit test is a pass/fail test that relies on the individual's sensory (taste or smell) detection of a test agent, such as saccharin (sweetener) or Bitrex® (bitter) solutions.

Fit testing confirms the fit of any respirator that forms a tight seal on the user's face before using it in the workplace. This ensures users are receiving the expected level of protection by minimizing contaminant leakage into the facepiece. The CDC is blunt about the need for a tight-fitting seal. "This all boils down to a simple reality: If the respirator does not form a seal with the face, it cannot provide the expected level of protection."

STEP 4: Are you in compliance?

Be sure your employer or administrator follows established guidelines. A serious consequence of failing to follow protocols for respirators and other PPE can be legal sanctions. Recently, OSHA levied fines against medical institutions in Connecticut, Illinois, Massachusetts and New Jersey, ranging from $12,000 to more than $25,000. In October 2020, an OSHA press release revealed it had levied 204 citations for coronavirus-related violations. The proposed penalties totaled more than $2.8mil.

Among the legal community, expect more activity in the post-coronavirus era. In one case, a person sued after the employer told them to wear a coffee filter for protection after they ran out of PPE. It is not unreasonable to expect an uptick in litigation for institutions and companies that fail to provide adequate safety products and protocols.

A professionally designed, comfortably fitting respirator that seals tightly and meets government N95 specifications is your first line of defense (along with social distancing) against the coronavirus or any respiratory infection. Just make sure that your respirator is up to the task. ∎

[John Schwind is President of Global Safety First and the co-inventor of the ReadiMask. For a video of how to wear an N95 respirator, such as the ReadiMask, visit https://www.youtube.com/watch?v=DcjCCXBna18&t=1s. To obtain free samples, visit www.ReadiMask.com.]

A professionally designed, comfortably fitting respirator that seals tightly and meets government N95 specifications is considered a first line of defense against the coronavirus or any respiratory infection. *(photo courtesy Global Safety First)*

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Best Practices to Clean, Sanitize & Disinfect the Workplace

By: **Bernard L. Fontaine, Jr., CIH, CSP, FAIHA,** *Contributor*

With the current COVID-19 pandemic, there has been an even greater urgency to keep industrial workspaces, schools, public spaces and commercial facilities clean. While a clean workspace can help reduce the risk of contracting the SARS CoV-2 virus, people need to understand that wiping a surface clean and/or spraying a chemical after wiping the surface is not always going to do the trick. It is a bit more scientific than traditional custodial or janitorial services—but far less complicated than infection control in a hospital.

Best practices for infection control can be used in medical clinics, office buildings, banks, restaurants, government facilities, schools, libraries, museums, bowling alleys, theaters, cruise ships, prisons, municipalities, essential/nonessential businesses, and other facilities or locations where workers or public come into contact with contaminated, touched surfaces. The same techniques should be used to clean, sanitize and disinfect high-density work occupancies, such as fisheries, canneries, meat packers, agricultural fields and migrant living quarters; assisted living facilities; emergency medical services; conference rooms; and public transportation (buses, trains, ferry boats, etc.).

Cleaning Dos & Don'ts

Cleaning is a process to remove germs, dirt and impurities from building surfaces or touched objects. Cleaning works by scrubbing, washing and rinsing using soap (or detergent) and warm water to physically remove debris, along with any residual fats and oils (grease). This process does not necessarily kill germs; rather, it removes most of the gross surface contamination that prevents sanitizers and disinfectants from doing their jobs.

Most people use products like paper towels, commercial towelettes or reusable cloths to wipe the surface. Studies show that using a microfiber cloth, rather than other cleaning products, provides better cleaning efficiency. This is because dirt, grease and grime are able to cling better to the microfiber cloth. Using a black light and uncooked chicken,

demonstrations show that residual bacteria was left behind on the countertop after using a commercial towelette and paper towel, but the surface was clean with the microfiber cloth.

These products failed to pick up the surface residue left behind during the cleaning process. The black light clearly showed how the smeared surface was left unknowingly contaminated, whereas the surface with the microfiber cloth was visibly clean.

Microfiber cloths, like any other cleaning product, must be laundered periodically for cleaning efficiency. The cloth must be folded into quarters; one should wipe in a structured pattern (up and down, then horizontal); and the cloth surface should be rotated periodically to remove any surface grease, grime or grit .Wiping in a circular pattern is not effective.

Sanitize and Disinfect

Sanitizing helps lowers the number of germs (bacteria) on surfaces or objects to a safer level, as determined by public health standards and requirements. Sanitizers should be used only after effectively cleaning a high-touched surface. These chemicals and commercial products do not kill all organisms.

Disinfectants are the only commercial and industrial products that are registered to kill or inactivate viruses by the U.S. Environmental Protection Agency (USEPA).[1]

Countertops and other high-touch points also should be sanitized twice a day. A multi-purpose cleaner can help kill germs in work areas. Sanitizer can be used in common areas where it's difficult to always keep surfaces and technology clean. The CDC recommends using an alcohol-based sanitizer with at least 60% percent alcohol. Make sure facilities are stocked with plenty of hand soap in the breakroom and bathrooms. Different areas, including office furniture and various surfaces, require different types of cleaning products.

Disinfecting kills or inactivates germs (both bacteria and viruses) on touched surfaces or objects. Disinfecting works by using chemicals to kill germs on surfaces or objects. This process does not necessarily clean dirty surfaces or remove germs, but by killing germs on a surface after cleaning, it can further lower the risk of spreading infection. If disinfectants on this list are in short supply, alternative disinfectants can be used (for example, 1/3 cup of 5.25-8.25% bleach added to 1 gallon of water; or 70% alcohol
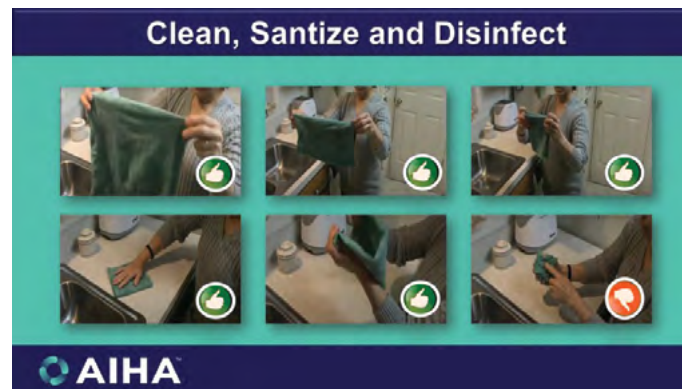
Proper procedure for wiping high contact surface with microfiber cloth. *(photo source AIHA)*

Comparison between microfiber cloths and commercially available towelettes *(photo source AIHA)*

1   Pesticide Registration List N - Disinfectants for Coronavirus (COVID-19): https://www.epa.gov/pesticide-registration/list-n-disinfectants-coronavirus-covid-19

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solutions). Bleach solutions will be effective for disinfection up to 24 hours.[2]

Besides ethyl and methyl alcohol, other disinfectants include chlorine and chlorine-based compounds, formaldehyde and glutaraldehyde, hydrogen peroxide, iodophors, ortho-phthalaldehyde, peracetic acid (with and without hydrogen peroxide), phenolics and quaternary ammonia.[3]

Fogging, Vaporizing and Other Risky Methods

Beside wiping surfaces, contractors are using other application methods, like fogging, airless and electrostatic spraying, vaporizing and ionization, to cover large areas in commercial buildings, public transportation, bars and restaurants, and other public spaces. While the USEPA and chemical manufacturers restrict the use and application of certain pesticides, there are contractors that do it anyway. Most of these contractors fail to realize the potential occupational hazard to the applicators and the workforce and/or public that may reoccupy the space.

A small percentage of workers and people who are asthmatics, migraine sufferers, have allergies, or those with immune disorders or suppressed immune systems may experience symptoms such as memory loss, trouble concentrating, mood swings, irritability, headaches, seizures, nausea and vomiting without proper building ventilation, airflow and distribution of air throughout the build environment. Many of the chemicals used evaporate quickly. The evaporation also may impede the necessary dwell time the chemical needs to contact the surface to sanitize or disinfect. Chemicals used to sanitize and disinfect need the appropriate dwell time to work. Otherwise, the surface may remain contaminated with the SARS CoV-2 virus.

Here are few more tips regarding use of cleaning products.
- Store and use disinfectants in a responsible and appropriate manner according to the label.

A worker sprays disinfectant inside a Delta airplane at the Ronald Reagan Washington National Airport in Arlington, Va., between flights to kill any coronavirus left on surfaces. *(photo courtesy Nathan Ellgren/Associated Press)*

- Do not mix bleach or other cleaning and disinfection products together–this can cause fumes that may be very dangerous to breathe in.
- Keep all disinfectants out of the reach of children.
- Do not overuse or stockpile disinfectants or other supplies. This can result in shortages of appropriate products for others to use in critical situations.
- Always wear gloves appropriate for the chemicals being used when you are cleaning and disinfecting.
- Additional PPE may be needed, based on setting and product. For more information, see CDC's website on "Cleaning and Disinfection for Community Facilities."[4]

Surface Matters

For soft surfaces, such as carpeted floor, rugs and drapes, clean the surface using soap and water or with cleaners appropriate for use on these surfaces. Launder items (if possible) according to the manufacturer's instructions. Use the warmest appropriate water setting and dry items completely. Vacuum as usual.

For electronics, such as tablets, touch screens, keyboards, remote controls and ATM machines, consider putting a wipeable cover on electronics. Follow manufacturer's instruction for cleaning and disinfecting. If there is no guidance, use alcohol-based wipes or sprays containing at least 70% alcohol.

2   Important Reminders about Coronaviruses and Reducing the Risk of Exposure: https://www.cdc.gov/coronavirus/2019-ncov/community/reopen-guidance.html
3   Chemical Disinfectants: Guideline for Disinfection and Sterilization in Healthcare Facilities: https://www.cdc.gov/infectioncontrol/guidelines/disinfection/disinfection-methods/chemical.html
4   Cleaning and Disinfecting Your Facility - Everyday Steps, Steps When Someone is Sick, and Considerations for Employers: https://www.cdc.gov/coronavirus/2019-ncov/community/disinfecting-building-facility.html

Dry surface thoroughly. Alternatively disinfect with a household disinfectant on "List N: Disinfectants for use against SARs-CoV-2".

For clothing, towels, linens and other items, launder items according to the manufacturers' instructions. Use the warmest appropriate water setting and dry items completely. Wear disposable gloves when handling dirty laundry from a person who is sick. Dirty laundry from a person who is sick can be washed with other people's items. Do not shake dirty laundry. Clean and disinfect clothes hampers according to guidance above for surfaces. Finally, remove gloves and wash hands right away with soap and water.

The American Industrial Hygiene Association (AIHA) has published a number of free Back to Work Safely (BTWS) guidance documents to help employers, workers and the public better understand some of the issues related to returning back to work. In addition, AIHA has published other free guidance and provided resources on "Effective and Safe Practices, Guidance for Custodians, Cleaning and Maintenance Staff," "Employers Guide to COVID Cleaning and Disinfection in Non-Healthcare Workplaces" and "Workplace Cleaning for COVID-19."[5-6] The Restoration Industry Association (RIA), in collaboration with both the Institute of Inspection, Cleaning and Restoration Certification (IICRC) and AIHA, published another guidance document titled "A Report for Professional Cleaning and Restoration Contractors".[7]

In conclusion, cleaning, sanitizing and disinfection is a defined process that must be clearly understood by employee education and training, and practiced by janitorial and custodial staffs. The selection and use of chemicals and their application must be done in accordance with guidelines to prevent occupational exposure to hazardous vapors in air or direct contact causing skin or eye irritation. The selection and use of respirators and/or PPE and clothing should be appropriate for the work task and the anticipated hazard or risk.

Finally, workers should be properly trained to read and understand any written information presented on product labels and Safety Data Sheets (SDSs). SDSs should be readily available for workers to read and copy. Each of these suggestions are clear mandates by federal and state OSHA regulatory compliance requirements. Any questions regarding the proper procedures for cleaning, sanitizing and disinfection should be addressed by the employer. Workers who are affected or become ill by using chemicals for cleaning, sanitizing or disinfection should report the incident to their supervisor. ■

Bernard L. Fontaine, Jr., CIH, CSP, FAIHA, is with The Windsor Consulting Group, Inc.

Joint collaboration of AIHA, RIA and IICRC to clean, sanitize and disinfect by contractors *(photo courtesy AIHA)*
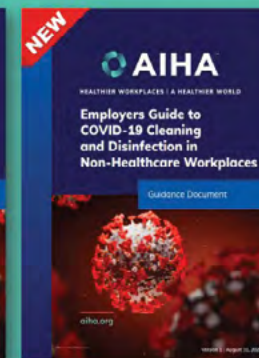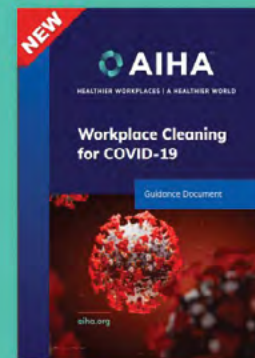
Reference material available from the American Industrial Hygiene Association *(photo courtesy AIHA)*

5   COVID-19 guidance documents from the American Industrial Hygiene Association (AIHA): https://www.aiha.org/public-resources/consumer-resources/coronavirus_outbreak_resources/aiha-covid-19-pandemic-efforts/free-covid-19-public-resources

6   AIHA Back to Work Safely (BTWS) guidance: https://www.backtoworksafely.org/

7   A Report for Professional Cleaning and Restoration Contractors, 5th edition, Oct 26, 2020, Ref: https://www.restorationindustry.org/sites/default/files/docs/covid-19-professional-cleaning-and-restoration-industry-fifth-edition-1026-2020.pdf

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Reduce the Spread of Germs in Manufacturing Facilities

By: **Colwin Chan** and **JoAnn Mrgich**, *Contributor*

Manufacturing workers are some of the employees that have the highest risk of exposure to the novel coronavirus (COVID-19) in your facility. It's important to identify and minimize the exposure risks as much as possible to help them safely return to work during the pandemic.

COVID-19 has had, and will continue to have, a huge impact on our personal lives and economic responsibilities. Promoting coronavirus safety and implementing changes that help reduce the spread of germs in your manufacturing facility helps protect your employees and is simply good business.

In this article, you will find four practical ways to reduce the spread of germs in your facility, based on CDC and OSHA recommendations.

1) Know the Exposure Risk for Manufacturing Workers

Minimal distance between individuals. During the manufacturing process, it is common for employees to work closely together on production and/or assembly lines. Crowding may also be caused by the natural structure of the workday. For example, many employees will be clocking in and out; taking breaks; and using locker/changing rooms at the same time.

Prolonged contact with coworkers. Manufacturing shifts are generally between eight-12 hours long, with extended contact between coworkers. If there is an infectious person on a long shift, the risk of transmitting COVID-19 increases—the longer they are near others.

Droplets in the air and contaminated surfaces. A cough or a sneeze from an infected person can cause workers to be exposed to the coronavirus through airborne particles. The same droplets can also contaminate tools, break room tables, door handles, workstations and other surfaces.

2) Create a COVID-19 Assessment and Control Plan

Designate a qualified person in your facility to act as coronavirus safety coordinator, responsible for assessing COVID-19 hazards; planning controls; and staying up-to-date with state and county officials. This person can also lead regular work site assessments to identify COVID-19 risks and prevention strategies.

What should your coronavirus safety control plan look like?

The CDC and OSHA recommend using the hierarchy-of-controls approach for preventing the spread of germs. The recommended three-point approach includes eliminate hazards; install engineering controls; and implement appropriate sanitation, cleaning and disinfection methods.

Eliminate hazards. Make sure employees know to stay home if they are sick. Make sure anyone (including contractors and visitors) that exhibits COVID-19 symptoms is separated and sent home immediately.

Install engineering controls. Engineering controls are physical changes you can make to the work environment to help employees safely return to work. This can include configuring workstations and break areas to be at least 6ft apart (in all directions) and providing physical barriers, such as strip curtains or clear acrylic dividers.

It can also include managing facility temperature so that personal cooling fans (which can distribute droplets from a cough or sneeze) are not needed. Additionally, increase ventilation and place hand-sanitizing stations that meet OSHA's Sanitation standard (29 CFR 1910.141) in multiple areas.

Implement appropriate sanitation, cleaning and disinfection. Make sure employees can safely clean and disinfect frequently touched surfaces—first cleaning with soap and water, then disinfecting to kill germs. Provide disposable gloves; ensure adequate ventilation; and make sure cleaning chemicals are properly labeled, even when secondary containers are used.

Administrative controls to help keep workers safe include implementing germ-prevention protocols for social distancing, hand washing and using PPE, such as disposable face masks. *(photo courtesy Avery Industrial)*

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Options for coronavirus screening solutions range from color-coded visual identification to barcode-capable wristbands for digitally tracking access in and throughout your facility. *(photo courtesy Avery Industrial)*

3) Use Administrative Controls to Reduce Germ Spread

While engineering controls are changes to the environment where people work, administrative controls are changes to how people work.

Administrative controls that promote coronavirus safety include limiting access to essential workers only; getting rid of non-essential meeting; and re-arranging schedules for shifts and break times to reduce crowding. It can also include implementing germ-prevention protocols for social distancing, hand washing and using PPE, as well as distributing disposable face masks.

How to successfully implement administrative controls for coronavirus safety

Facility-wide protocols for germ-prevention are imperative for helping employees safely return to work and require effective communication to be successful. Visual cues, such as floor signs, help employees maintain 6ft spacing in aisles, lines, work spaces and break areas.

Floor stop signs show employees and visitors alike where to stop and wait for assistance and can also be used to inform personnel of face mask requirements before entering

a building. Signage can also be used to direct personnel through COVID-19 screening and communicate effective handwashing techniques.

4) Screen and Monitor Workers for COVID-19

Under normal circumstances, the American Disabilities Act (ADA) prevents employers from conducting health screening for workers. However, the Equal Employment Opportunity Commission (EEOC) has stated that the ADA and Rehabilitation Act do not interfere with CDC recommendations during the pandemic.

Screen before entry to the facility. All personnel, including employees, contractors, vendors and other visitors should be screened before entering the facility. Make sure you have a station set up outside the entrance with signage clearly communicating coronavirus screening protocol.

Provide verbal screening. Ask about specific COVID-19 symptoms, as outlined by the CDC, which include (but are not limited to) cough, shortness of breath, and new loss of taste or smell in the past 24 hours. Ask whether the person has been in close quarters with someone who has COVID-19 or recently traveled to a high-risk area, as defined by the CDC.

Make sure questions during COVID-19 screening are limited to symptoms outlined by the CDC and CDC travel information regarding the coronavirus.

Check temperatures. Be alert for temperatures of 100.4°F or higher or reports of feverish feelings, such as chills. Screeners performing temperature checks should always wear appropriate PPE; be trained to use temperature monitors; and know how to accurately adjust to conditions, such as cold weather, which could affect temperature accuracy.

Identify screened employees. Having a system in place to quickly identify employees who have been screened and do not show any signs of COVID-19 symptoms is a vital component of administrative controls that help reduce the spread of germs. Options for coronavirus screening solutions range from color-coded visual identification to barcode-capable wristbands for digitally tracking access in and throughout your facility.

What do you do if screening results indicate a worker may have COVID-19?

If coronavirus screening results indicate someone may have COVID-19, they should be separated from others and denied entrance to the facility. Employees should be sent home and encouraged to contact their doctor or other healthcare provider.

You should also supply your COVID-19 screening station with copies of your return-to-work policy, so workers who are sent home can be provided with that information. Human resources and the employee's supervisors should be alerted, so arrangements for re-assigning duties can be made, if needed.

IN SUMMARY

Manufacturing employees face a high risk of exposure to the novel coronavirus when returning to work during the pandemic. Virus protection at work must center on CDC and OSHA recommendations, as well as state and county guidelines.

A robust, germ-prevention program should include a plan for assessing COVID-19 hazards and implementing controls. This includes eliminating hazards and installing engineering controls, as well as implementing appropriate sanitation, cleaning and disinfection.

Administrative controls that change the way people work and coronavirus screening are also crucial for helping employees safely return to work. This includes meeting OSHA's PPE standards; effectively communicating protocols; and having a method in place to identify screened employees. ∎

About the Authors:
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Avery Products Corporation – Avery Industrial

Avery Industrial is a division of Avery Products Corporation, one of the world's leading manufacturers of self-adhesive labels, labeling software, binders, dividers and other products, and markets under the well-known Avery® brand.

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CHEMICAL ID & COMPANY INFO | **STATEMENTS & PICTOGRAMS** | REVIEW

Codes

Pre-selected Hazard Codes:
H302, H319
Edit Hazard Codes

Pre-selected Precautionary Codes:
P264, P270, P280, P301 + P312,
P305 + P351 + P338, P330, P337 +
P313, P501

Edit Precautionary Codes

Statements language: ☑ English ☐ Spanish

Ammonium Chloride
CAS RN: 12125-02-9
Warning

GHS Pictograms

GHS Pictograms will be added automatically based on Hazard Codes selected.

BACK

CONTINUE

Should Employers Require Covid-19 Vaccinations?

By: **Neal Langerman, Ph.D.**

Vaccines approved under Experimental Use Authorizations (EUAs) will be available soon. In theory, this should make re-opening businesses easier.

As immunity develops within the population, the case-count will drop, and the many restrictions will be eased. Realistically, individual immunity will require about 2-3 months following the initial vaccine dose to develop fully. At best, in the U.S., everyone who wants a vaccination should be able to get two doses by late second quarter 2021.

This will vary significantly in other parts of the world. But, one in three people polled in August said they would refuse to be vaccinated (Paulsen, 2020). The "anti-vax" presence on social media has grown significantly (Burki, 2020). In this environment, do you, as an employer, have a duty or moral responsibility to insist your employees be vaccinated—and can you do that?

The law makes it clear that a state government can mandate employee vaccinations. In the 1905 case of Jacobson v. Commonwealth of Massachusetts, the U.S. Supreme Court held that States have the authority to require vaccinations. The Americans with Disabilities Act (ADA) defines vaccinations and health screenings as "medical examinations" and, therefore, an employer-

Given the infectivity of SARS-CoV2, it is realistic for employers to protect their employees and their business by requiring all employees to be vaccinated. (Widener, 2020) *[photo courtesy Adobe Stock]*

mandated vaccination must be job-related and consistent with business necessity. In the opinion of Dorit Reiss (Weise, 2020) of the Hastings College of Law, "Legally, every employer can require it—you don't have to be a high-risk employer to require it. On one hand, employers will be concerned about pushback from employees. On the other hand, they'll also be concerned about COVID outbreaks that can be prevented." Other laws are addressed further by Widener (Widener, 2020).

While OSHA has been reticent dealing with the pandemic and has issued citations mainly addressing respirator use (Agency, 2020), the General Duty Clause of the Occupational Safety and Health Act makes it clear that the employer has a duty to take action to prevent illness from spreading in the workplace. There is clear precedent for vaccinations within the healthcare industry. Given the infectivity of SARS-CoV2, it is realistic for employers to protect their employees and their business by requiring all employees to be vaccinated. (Widener, 2020)

Carve-outs to the mandate for religious reasons, for medical reasons and, possibly, for personal/philosophical reasons should be provided. Large employers should consider offering onsite clinics, open to employees and their families for vaccination. Small employers can provide release time and compensation for employees to go to public-access vaccination locations.

Employees should be reassured that if side effects occur, they will be taken care of medically and financially. Recent reports from the phase III trials suggest that vaccine recipients may exhibit moderate flu-like symptoms during the 24-36 hours following the second dose. Employees knowing they will not be penalized for staying home under those circumstances will be reassured and more willing to be vaccinated.

There are down-sides to such a mandatory requirement. Pushback by employees is certainly possible. If a union is involved, pushback could be complicated, depending on the contract. Since a vaccine approved under an EUA is considered "investigational," the application of existing laws, regulations and precedents is a bit uncertain. On this last point, Stephen Hahn (Weise, 2020) FDA Commissioner, said, "It's possible that some employers or schools will have questions or concerns about an

investigational product issued an Emergency Use Authorization, which is why we will be as transparent as possible about the data and information we use to make our decision. This should help those organizations determine what is most appropriate for them." The message is clear: follow the FDA and CDC guidelines and recommendations.

What, then, should a business owner do? Legally, you can require employees to be vaccinated as long as you can make a credible argument of a business necessity. Protecting your production staff should be adequate. You must make the moral decision based on your beliefs and self-interests.

For me, I would urge all employees and their families to be vaccinated and provide incentives for them to do so. Certainly, a bonus of $100 per family member vaccinated is a small investment to assure a healthy employee base.

Stay safe and stay healthy. ∎

About the Author:

Dr. Neal Langerman provides litigation support and expert testimony for both defendants and plaintiffs in litigation involving a wide variety of chemical-related issues. [Advanced Chemical Safety, www.chemical-safety.com]

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