



Personal Protective Equipment

Cleaning and Sanitizing Eye Protection: What to Know

Holly B. Martin | Mar 17, 2022

Each day, about 2,000 U.S. workers sustain a job-related eye injury that requires medical treatment, according to the Centers for Disease Control and Prevention. Wearing safety glasses or goggles is the best way to eliminate eye hazards on the job. But the effectiveness of their protection can be greatly reduced by dirty, greasy or fogged lenses.

To maintain optical clarity, the *CDC recommends* using a safety glasses cleaning solution or washing with water and wiping with a soft, clean cloth that is uncontaminated with dust or grit.

“If there’s any sediment on an optical surface, and you try wiping it when it’s dry, you’re basically grinding the grit into the lens and scratching it,” says Alec Buchness, national product sales manager for eyewear at *Honeywell Industrial Safety*. “You always need to rinse the lens off first, either with water or with a cleaning fluid.”

Adds Gina Shaw, *MCR Safety’s* national account manager for MSC, “For cleaning safety eyewear, you could use water and a mild soap. If soap and water are not present at the job site, we also recommend portable moistened *lens cleaning towelettes* or a spray bottle of a lens cleaning solution with a soft cloth.”

Maintaining Fog-Free Safety Eyewear

“Fogging, even more so than dirty lenses, is a major safety risk,” says Alec Buchness, national product sales manager for eyewear at Honeywell Industrial Safety. “Certainly, over the last two years, people have been experiencing the pain of wearing a mask and having their glasses, whether personal glasses or safety glasses, fog up almost continuously, depending on environmental conditions.”

He continues: “You can walk into a different environment and your glasses instantly fog, and you’re basically blinded for as long as it takes for the glasses to adjust to those temperatures. And when you take your glasses off to wipe them, that’s potentially the instant that something happens to damage your eyes.”

There are several *methods for avoiding the problem of fogging*. One option that’s become popular is a wipe product that can be used on any optical surface to help keep it fog-free.

When applied to clean glasses at the beginning of the day, the wipe leaves a film that repels moisture for up to eight hours or until it’s rinsed off.

“The cloth feels like a paper wipe, and when you apply it to clean glasses, it leaves a nanofilm on the lens itself that is hydrophobic,” Buchness explains. “The film basically repels water molecules from sticking onto the lens.”

He adds, “For anyone wearing safety glasses that may not come with a built-in anti-fog coating, this is a great option.”

Be careful about wiping the lenses with a shirt or an old rag not designed for the purpose. “Though you can use any soft cloth to wipe down the glasses, lens cleaning tissues are designed to absorb the moisture without scratching the optics,” Buchness says. “You wouldn’t want to use a hard abrasive material like a bathroom paper towel, and some facial tissues have a scented oil added, which might leave a film on the lens that could potentially fog your vision.”

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With *COVID-19 safety precautions* still top of mind, safety eyewear that will be shared should be sanitized after each use. Methods for sanitization include antimicrobial ultraviolet (UV) light boxes,

autoclaving and disinfectant chemicals.

UV Light Sanitizers

Since the pandemic began, UV light sanitizers have become popular for sterilizing—from rooms in hospitals to cellphones and baby bottles in homes. Pathogens such as bacteria and viruses absorb the UV light, which then disrupts their ability to reproduce and spread. But UV rays also can degrade certain plastics, breaking the chemical bonds within the material and causing cracking or discoloration.

“Most safety glasses lenses are made of virgin polycarbonate, and using a UV antimicrobial disinfection box for these safety glasses will tinge the polycarbonate yellow,” Shaw says.

To make sure the plastic won't yellow in a UV light sanitizer, Shaw recommends having glasses tested to validate they still meet the *International Safety Equipment Association (ANSI) standards* and are not affected by the antimicrobial system.

Autoclaving

Autoclaving is a process of pressurized steam sterilization that kills microorganisms such as bacteria and viruses. This treatment is not fit for most safety glasses used in manufacturing industries other than pharmaceutical fields.

“We don't recommend using an autoclave on polycarbonate safety lenses, because the process not only can yellow the lens, but also can cause them to become brittle over time,” Shaw says.

Safety glasses made of a plastic polymer called Columbia Resin #39, or CR-39, which are designed for specialized applications such as clean rooms, can be autoclaved.

Disinfectant Chemicals

Many of the disinfectants recommended by the Environmental Protection Agency, such as those on *List N for COVID-19*, could degrade the polycarbonate lens material. Use care when applying any chemical to safety glasses other than chemicals approved by the manufacturer, Shaw says.

“We always recommend following the guidelines associated with the specific safety eyewear you are using, so that you don't introduce some unknown agent or chemical that may harm the surface,” she says. “For example, a higher percentage of alcohol than listed could possibly degrade the virgin polycarbonate.”

Silicone is another ingredient found in some lens cleaning solutions that may cause problems, so be sure to check the manufacturer's instructions for cleaning a particular safety lens. “In some work environments, there's a concern about silicone because when it dries, it can flake, and if you have a painting operation, the flakes can get into the paint and affect it,” Buchness says.

To Share Reusable Glasses or Not

Most facilities will issue individual safety glasses to each employee, and it's rare to ask visitors to wear previously used eyewear, Shaw says. During an outbreak of a contagious pathogen, such as COVID-19, the safest course would be to issue safety glasses for visitors as single-use items.

Even when not shared with others, safety eyewear should be kept clean and free of dust, grease and grime, and ***clear and fog-free***. Your workers' eyesight may depend on it.

Does your company have a program in place to encourage cleaning and sanitizing protective eyewear? Let us know about it in the comments below.

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