

I would like to share with you information from Bausch & Lomb. In this e-mail, you'll find valuable, timely information on improvements in safety eyewear anti-fog coatings and on choosing the right anti-fog lens cleaner.

--Randy Green, Publisher, [ISHN Magazine](#)

Expert advice on safety eyewear care

1. What improvements have occurred in safety eyewear anti-fog coatings in the past 2-3 years?

There have been some very significant improvements in anti-fog coatings over the past 2-3 years. Developments include topical coatings applied to the surface of the lenses during the manufacturing process. These coatings can be of two types:

Hydrophilic- causes moisture to be absorbed while simultaneously releasing it back into the environment. The moisture flattens out and spreads out to form a flat sheet on the surface, known as sheeting.

Hydrophobic- reacts to moisture and repels it, forming tiny droplets of water. These coatings can actually be applied to lens material to allow the water to collect until it eventually drops off the lens and removes any dirt along with it to create a self cleaning surface.

Fogging occurs when water forms tiny droplets on the surface of a lens resulting in obscured vision. Products are available that consists of a unique combination of hydrophobic and hydrophilic components that cause the tiny water droplets to sheet out invisibly on the coated surface, providing for clear, unobstructed vision. As the moisture continues to build on the lens it is simply released back into the environment leaving your lenses clean and fog free.

Eyewear manufactures have improved their ability to apply these coatings directly to the lens materials. They have also been able to improve the coatings so that they last longer and stand up to repeated cleanings.

Also, through the use of nanotechnology, researchers have actually developed a technique using silica nanoparticle coatings for the actual lens that cause water droplets to thin out into a uniform sheet rather than forming a random bead pattern that causes fogging and obstructs your vision. This technology also reduces the amount of reflection from the lens material and allows more light to pass through.

2. What types of anti-fog coatings should safety and health pros consider before selecting safety eyewear?

Users first need to make sure the safety eyewear they choose meets the application. They need to make sure it meets all safety standards for eye protection. There are generally two types of anti-fog coatings available in the market, mentioned above - Hydrophilic and Hydrophobic.

End users should ask the manufacturer for precise instructions on cleaning and caring for these coats. Some may be delicate and susceptible to damage while cleaning your eyewear. Nearly all manufacturers of safety eyewear and eyewear cleaner products make claims of anti-fog on their products, but it is important to understand what conditions these products are intended to be used in. For general-purpose applications, the standard anti-fog properties are fine; yet in cold storage or heat-treating facilities you will need more active anti-fog protection than often found in standard products.

3. Regarding eyewear cleaning products, what are the critical factors safety pros should consider before making a purchase?

Fog Shield XP®

WHAT MAKES IT WORK SO WELL

Bausch & Lomb has raised the bar for anti-fog protection in a lens cleaner. From hot and humid to cold and dry environments, Fog Shield XP provides our proven lens cleaning formulation along with extreme anti-fog protection.

Fogging occurs when water forms tiny droplets on the surface of a lens resulting in obscured vision. Our Fog Shield XP® product consists of a unique combination of hydrophobic and hydrophilic components that cause the tiny water droplets to sheet out invisibly on the coated surface, providing for clear, unobstructed vision. As the moisture continues to build on the lens it is simply released back into the environment leaving your lenses clean and fog free. Fog Shield XP's proprietary formulation provides maximum anti-fog protection.

Remember that Fog Shield XP contains our Sight Savers® lens cleaning fluid as well as providing anti-fog protection.

Safety pros should always refer to the eyewear manufactures instructions for cleaning their eyewear. It is important to find a cleaner that is has a neutral pH so it does not attack the anti-reflective or anti-fog coatings that may be on the lenses. They should also look for products that include a mild detergent for cleaning and alcohol to wick away the solution so that the lenses dry clear. Some anti-fog products do not provide any cleaning agents. When using these types of products, first you have to clean the lenses and then apply the anti-fog product. Each time you clean the lenses you have to re-apply the anti-fog product. For convenience it is best to select a lens cleaner with true anti-fog protection in one.

4. What factors might cause a safety pro to purchase silicone eyewear cleaning products? Or, why purchase eyewear cleaners without silicone?

Lens cleaning products that contain silicone provide a much higher level of anti-fog protection then those without silicone. Silicone is the active ingredient that provides the anti-fog protection. Products containing silicone should not be used for applications where the silicone might contaminate the surrounding surfaces --- such as automotive painting and electronic assembly areas. The silicone may leech onto other surfaces, which might cause the paint to not adhere or the solder not to stick to the pcb.

5. What applications are appropriate for the use of pre-moistened tissues?

Today you can find just about any product in a pre-moistened tissue form from furniture polish to sunscreen to automotive wipes. These products are ideal for people who are away on travel or away from the factory floor. They offer the same performance as the liquid cleaners with the convenience of self-contained packets. There is a wide range of performance and quality within this type of product --- from low-cost paper-based tissues to higher end polyester-based tissues. It is important to take into account the quality of the tissue and the cleaning liquid when choosing a product to make sure you have a product that will stand up to the abuse of wiping down your dirty face protection devices.

6. What factors or applications go into determining whether to purchase a permanent or disposable eyewear cleaning station?

Key factors in determining to use a permanent or disposable eyewear cleaning station include the size of the facility and your decision to either maintain the permanent stations or simply replace them when you are done. For high-traffic manufacturing facilities it is best to select a permanent station; it will reduce your overall cost since you can purchase the liquid cleaners in gallon-sized refills and the tissues are purchased in larger case packs. Disposable stations are ideal for light traffic areas and for facilities that do not have the staff to maintain the permanent stations.

Advice provided by [Bausch & Lomb Vision Accessories](#), Rochester, NY.