

# PhotoCatalytic Oxidation (PCO) for Mold

## PCO Effectiveness?



### Effective PCO

Reduces mold toxins



### PCO Limitations

Requires careful monitoring

Photocatalytic Oxidation (PCO) technology is a promising method for mitigating mold mycotoxins in the air. PCO works by utilizing a photocatalyst, often titanium dioxide (TiO<sub>2</sub>), which is activated under ultraviolet (UV) light to produce reactive oxygen species such as hydroxyl radicals. These reactive species can potentially break down organic pollutants, including mold spores and mycotoxins, into harmless substances like carbon dioxide and water. The continuous action of PCO ensures that airborne mycotoxins are constantly being degraded, thereby improving indoor air quality and reducing the health risks associated with mold exposure, such as respiratory issues and allergic reactions.

However, there are important considerations when implementing PCO technology for this purpose. The effectiveness of PCO can be influenced by factors such as the intensity of the UV light, the surface area of the photocatalyst, and the airflow rate through the system. Additionally, while PCO can degrade many organic compounds, it may produce intermediate by-products that need to be monitored to ensure they do not pose additional health risks. Regular maintenance of PCO systems is also essential to maintain their efficiency over time. Overall, when properly designed and maintained, PCO technology offers a viable solution for controlling airborne mold mycotoxins in various environments.

