

Shock Ozone Treatment FAQ's

1. **What is ozone?** Ozone is a natural form of activated oxygen and is formed when oxygen is exposed to a high-energy field. It is a triatomic molecule (O_3), consisting of three oxygen atoms.¹ The ozone molecule is very unstable and has a short half-life. Therefore, it will decay after some time into its original form: Oxygen (O_2). Ozone occurs naturally in the atmosphere and is produced during lightning storms and that is why some people say they can smell a storm coming or lightening, and many say it smells like chlorine.
2. **How does ozone disinfect my vehicle?** As a sterilant, ozone is classed as an oxidizing agent, which means that it breaks down into oxygen molecules and oxygen atoms, which have high oxidation potential. First, ozone acts on the microbial cell membrane and damages the membrane structure to cause metabolism disruption. Second, the ozone infiltrates the cell membrane and destroys lipoprotein and lipopolysaccharide, changes permeability and causes cytolysis and cell death.¹ Being a gas, ozone can saturate hard to reach places and leaves no chemical residue. The extra oxygen atom will quickly combine with or 'oxidize' microorganisms such as mold spores, bacteria, and viruses, causing them to break down, thus destroying them. Ozone naturally decays back into ordinary oxygen within a few hours.
3. **Is it safe?** Ozone used in high enough concentrations to kill mold spores, odors, bacteria, and viruses can cause damage to respiratory tissues in humans, animals and plants. That is why it can only be used in unoccupied areas where animals and plants have been removed. Our team uses a respirator when working with the ozone equipment. Once the ozone has dissipated and returned to oxygen it is once again safe.
4. **Does it kill COVID-19?** Testing is currently being done to determine if ozone generation will kill this specific virus. While it is still too early to know for certain, multiple studies have shown ozone to kill other corona-type viruses, such as MERS and SARS which are thought to be similar to COVID-19. Ozone had a 99.22% kill rate during the 2003 SARS coronavirus pandemic.²
5. **Is ozone used in other applications?** Ozone disinfection has been used for years in wastewater and water treatment plants. It is also used in the food processing industry, restorative construction, aviation and the paper and textile industry for its disinfecting properties.
6. **Is training/certification required to perform this service?** While not required, we have taken a 32-hour comprehensive Certified Ozone and Hydroxyl Remediator course to ensure safety and proper use of the equipment.



References:

1. www.sciencedirect.com/topics/pharmacology-toxicology-and-pharmaceutical-science/ozone
2. Dr. Kenneth K. K. LAM PhD, Ozone Disinfection of SARS-Contaminated Areas, Page 5 OzoneTech (2004)