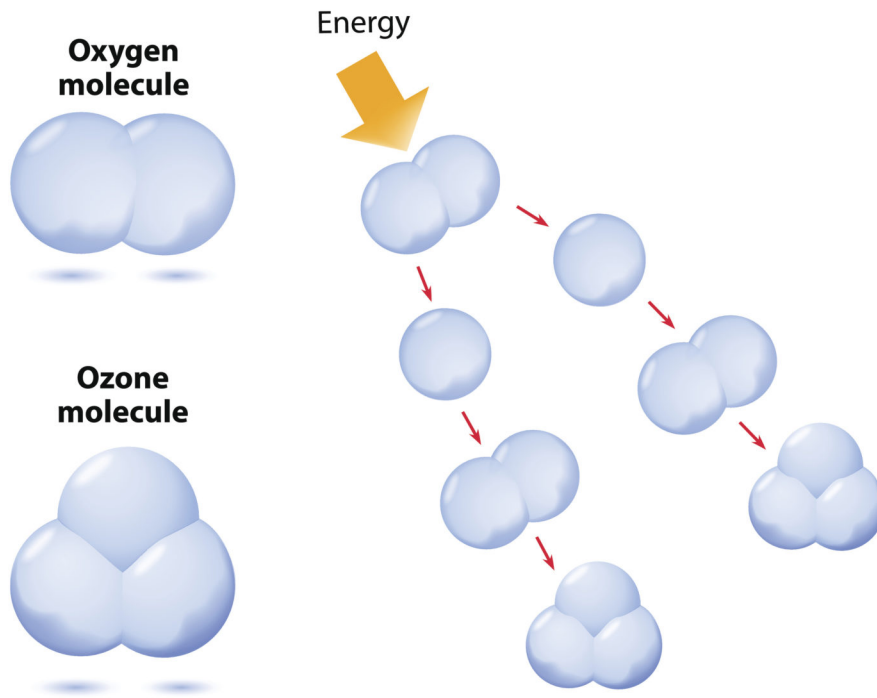


# All About Ozone

## What is ozone?

Ozone (O<sub>3</sub>) is both a naturally occurring and man-made unstable gas, also known as “activated oxygen”. Man-made ozone is formed when an electrical charge is applied to dry, ambient air. By doing so, the air is broken down into separate molecules and atoms. When the separated oxygen molecules re-connect with each other, they combine into O<sub>3</sub> or ozone.



## How does ozone disinfection work?

The utilization of ozone as a disinfectant is a common practice in hospital disinfection, public water purification, food process and hotel/office housekeeping industries. The third oxygen atom present in ozone makes it extremely reactive. As such, ozone will readily attach itself to other molecules, like those found in bacteria and viruses. When the bacteria/virus binds with ozone, the chemical structure of the virus is altered – in essence the introduction of ozone to these compounds breaks down their cellular walls, eliminating the ability of the bacteria or virus to survive. This process is called oxidation.

## How long does ozone last?

As soon as ozone is formed by the Purify O<sub>3</sub>, it naturally begins to revert back to oxygen. The residual ozone remaining after the disinfection process will begin to return to oxygen within 30 minutes, and be fully dissipated after 1 ½ hours.

## Is ozone safe?

Yes, ozone is safe when utilized properly in a well-ventilated room. In 2003, the FDA cleared devices using Ozone (activated oxygen) for sanitizing use. The plastic tote or travel/sanitizing case should always be fully zippered shut when using Purify O<sub>3</sub> and allowed to sit, undisturbed for 90 minutes after the sanitizing cycle is completed to allow for the residual ozone to dissipate. Direct exposure to ozone is not recommended, as ozone is a known airway irritant and prolonged exposure can cause damage to the lungs. Accidental inhalation may lead to minor symptoms including a mild headache, coughing, or burning of eyes in very sensitive individuals.

## How does Purify O3 turn oxygen into ozone?

1. Ambient air is pulled into the Purify O3
2. The internal fan accelerates the air.
3. High voltage is applied converting oxygen ( $O_2$ ) into ozone ( $O_3$ ).
4. Ozone then exits where it can oxidize (break down) harmful germs and bacteria.

