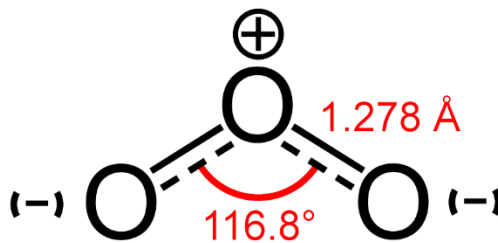


Ozone: What is it, Where is it in Wash and how is it Dangerous?

What is Ozone?: Ozone(O₃) is a gas composed of 3 oxygen atoms. It is both a natural and man-made product that occurs in Earth's upper atmosphere



Ozone can be used for many purposes, including purifying air and drinking water, Treating dirty water, industrial waste treatment, and making other chemicals.

Ozone is a colorless to a blue gas with a very pungent odor, sometimes described as like chlorine bleach

Ozone can be harmful to your health.

Where is Ozone used in a Tommy Express Car Wash: Ozone is used to treat the Reclaim Water to help remove the smell of dirty and stale water and prevent bacterial growth in the underground Reclaim Tanks.

Ozone is used to kill the bacteria (models ending in 5M040, 5M12O or 5M24O). Ozone is a contact-killing agent, similar to chlorine used in city water. Ozone (O₃) is generated by concentrating the oxygen (O₂) in ambient air and passing the concentrated oxygen through a high-voltage electric current to produce ozone. The ozone-laden gas is then inducted into the recirculation water stream and into the reclaim tank to kill the bacteria. The ozone line is terminated in a "T" as in the underground Reclaim tanks.



Ozone is produced in the Ozone Cells in the Purclean Reclaim system located in the Dry Back Room.

How is Ozone Dangerous?: Breathing ground level Ozone can result in a number of health effects including:

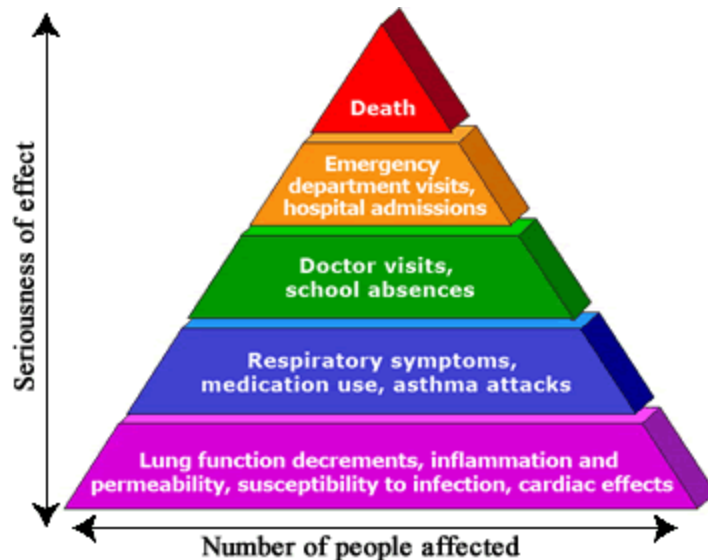
- induction of respiratory symptoms
- Decrements in lung function
- Inflammation of airways

Respiratory symptoms can include:

- Coughing
- Throat irritation
- Pain, burning, or discomfort in the chest when taking a deep breath
- Chest tightness, wheezing, or shortness of breath

In addition to these effects, evidence from observational studies strongly indicates that higher daily ozone concentrations are associated with increased asthma attacks, increased hospital admissions, increased daily mortality, and other markers of morbidity. The consistency and coherence of the evidence for effects upon asthmatics suggest that

ozone can make asthma symptoms worse and can increase sensitivity to asthma triggers.



The relationship between the severity of the effect and the proportion of the population experiencing the effect can be presented as a pyramid. Many individuals experience the least serious, most common effects shown at the bottom of the pyramid. Fewer individuals experience the more severe effects such as hospitalization or death.

In case of OZONE exposure, please contact your local first responder or medical provider.

What Personal Protection Equipment do you need to work around Ozone?: When working with either Gas or liquefied Ozone, it is recommended to wear protective gloves and clothing like long-sleeve shirts and pants. All exposed clothing should be cleaned after each exposure to ozone.

Non-vented, impact-resistance goggles should be worn while working with Ozone along with a face shield.



A Respirator should be used when there is a potential exposure of Ozone that is above 0.05 parts per million (ppm). Use a NIOSH-approved full face-piece respirator that is specifically for Ozone.

Exposure to 5 ppm or higher is extremely dangerous to your life and health. In the possibility of exposure to ozone about 5ppm exists, use a NIOSH-approved self-contained breathing apparatus with a full facepiece operated in a pressure-demanded or other positive pressure mode.



Sources:

Health Effects of Ozone in the General Population / US EPA,

www.epa.gov/ozone-pollution-and-your-patients-health/health-effects-ozone-general-population. Accessed 27 Sept. 2023.

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New Jersey Department of Health and Senior Services (June 2003)

Hazards Substance Face Sheet – Ozone [Face Sheet] [Microsoft Word - OZONE.doc \(nj.gov\)](#)