

Ozone

# What Exactly Is Ozone

- A molecule composed of three atoms of “oxygen”
- Two atoms of oxygen form the basic molecule which is the oxygen we breathe
- The third one can detach and join with other substances .....some safe ..... some toxic

# Can Ozone Be Harmful

Ozone reacts with some common substances and produces water vapor.

Ozone reacts with some chemicals such as formaldehyde and forms an acid.

# What Can Produce Ozone

- Ultraviolet light can produce ozone
- Produced by copy machines & laser printers
- Produced by electronic air cleaners
- Produced by negative-ion generators
- Produced by dedicated ozone generators

# What Are Potential Risks

- Decrease in lung capacity
- Aggravation of asthma
- Throat irritation
- Chest pain and shortness of breath
- Inflammation of lung tissue
- Destruction of olfactory senses
- Higher susceptibility to respiratory infection

# Most Serious Documented Problem

In a study done by the *American Lung Association* to look at decreased lung capacity it was found that high levels of Ozone caused chromosomal aberrations.

Rena Corman

American Lung Association. USA

# Other Issues With Ozone

- Ozone actually increases total VOC concentration levels in air
- If styrene is present in the air formaldehyde is produced
- Ozone will react with rubber compounds and cause deterioration

# What Are Ozone Limits

Most people develop symptoms within one hour of exposure at levels exceeding:

**0.3 ppm**

# WARNING !!!!

“People should avoid using indoor air cleaning devices that produce ozone because they can quickly produce enough ozone in a confined space to exceed California Stage 2 and 3 smog alert levels as well as worker health and safety standards.”

California Department Of Health Services

# WARNING !!!

“The public should not use ozone generators in their homes”

Health Canada

Do Ozone Generators Help  
Control Indoor Air Pollution

**No!**

# Why Not

At concentration levels high enough to destroy viable airborne contaminants, “Ozone” is toxic to humans.

OSHA limit for safety is:

***< 0.04 parts per million in standard air***

# Ozone Does Not

- Remove airborne dust particles
- Remove pollen
- Biological contaminants

# Ozone + Ionization

The addition of an “ionizer” is intended to help non-viable airborne particulates attach to stable surfaces.

Ionizers have been found to be less effective

than HEPA or other high efficiency filters

# Effects Of Ionization

The addition of excess ions to the air can:

- Increase serotonin in the body
- Cause irritability
- Cause insomnia
- Cause tension
- Cause stomach distress