

## What is O<sub>3</sub> and How Does It Work with Air?

O<sub>3</sub> is made in two ways:

- 1) When ultra-violet rays collide with a contaminant such as carbon monoxide (CO) and nitrogen oxides (NO<sub>2</sub> and N<sub>2</sub>O) in the presence of oxygen (O<sub>2</sub>);
- 2) By a high voltage discharge (corona) and lightening.

Lightning makes an abundance of O<sub>3</sub> to purify the Earth's surface Nature's way. You've probably noticed the clean, fresh smell after a thunderstorm, or dried clothing on a clothesline in the warm sun.

High voltage breaks the two atoms of oxygen apart. These quickly regroup in three's (O<sub>3</sub>). Confused, these atoms do not like this new arrangement and want desperately to undo the trio. When the O<sub>3</sub> molecule floats into the atmosphere, one of its atoms spots a contaminant to attach itself to breaking away from the other two atoms. To its' surprise, the attack on the contaminant creates an explosion and both the contaminant and the single oxygen atom are destroyed. What remains is pure oxygen (O<sub>2</sub>) without the presence of the contaminant. The explosion changes the contaminant into carbon dioxide and hydrogen which we can breathe.

Should the O<sub>3</sub> molecule not find a contaminant in its' environment, it will attack itself to change the molecule's configuration back to O<sub>2</sub> within 20 to 30 minutes at room temperature.

This tells us five important things about  $O_3$ :

- 1) We have only 20 to 30 minutes to use the  $O_3$  molecule for the attack on a contaminant.
- 2) It is a suicidal molecule. It looks for a contaminant to attack thereby destroying itself.
- 3) It has a one-to-one kill ratio with the attack.
- 4) It is made of oxygen rearranged into concentrated oxygen for a short time.
- 5) It is **not ozone**. Some say it is activated oxygen. Others call it tri-atomic oxygen - or better understood - concentrated oxygen. When enough concentrated oxygen is grouped together to approximately 50.0 parts per million, it is then classified as ozone.

It is the basic molecular components combined into great quantities that makes ozone. The word 'ozone' is used when the concentrated oxygen ( $O_3$ ) reaches very high levels - over 50.0 parts per million or higher. Ozone compared to  $O_3$  is like a tree in comparison to a seed. There is little or no information written in encyclopaedias, dictionaries, or other texts that explains concentrated oxygen ( $O_3$ ) and its' incredible assets in small amounts ('seeds').

$O_3$  should be completely separated from the word ozone - 'concentrated oxygen' or ' $O_3$ ' would be the most appropriate terminology.

Think about this: when you are in a restaurant you do not order the ocean, just a glass of water. Even though they are both water, the quantity alone changes their name and meaning.