# Technical Note # 02.01

# Chemtronics<sup>®</sup>

## **Cigarette Odor Elimination:**

### **Elimination of cigarette odor using ozone gas:**

To eliminate cigarette odor in air people use many temporary solutions, but all are practically useless. When controlled dose of ozone is used, cigarette smoke odor is immensely reduced to comfort levels. Ozone oxidizes the odor causing substances & permanently removes the odor from the indoor environment.



As cigarette odor is gaseous in nature, it gets propagated in the entire hotel or office rooms or smoking lounges. Best effective solution to destroy the strong residual cigarette odor is to release ozone gas in the odor affected area, which quickly gets in all the areas the smoke has travelled & embedded. Then the Ozone gas quickly reacts with odor causing chemicals & oxidizes them to destroy odor & leaved no harmful residuals.

Effect of tobacco smoke can be very fatal for asthmatic & allergic persons. Smoke & odor of cigarette can damage the respiratory system. Even healthy people often suffer from

nasal irritation, eye watering & burning, sneezing, headache, coughing & breathlessness. This is mainly due to the presence of many toxic compounds like tar, nicotine, ammonia, formaldehydes, Carbon monoxide, hydrogen sulfides, nitrogen dioxide, benzene & more.

It is important to oxidize most of these residual embedded gases from the indoor atmosphere. High rate of air changes only partially reduces the ill effects of cigarette smoke. Unlike dedicated smoking lounges, hotel rooms, offices, theaters, casino, pubs are not designed for high rate of air changes. For these it is quite essential to purify the air to eliminate odor & toxicity to give freshness.

#### How to produce & introduce Ozone:

Ozone gas is very unstable & cannot be stored for more than few minutes. Due to this ozone gas cannot be transported & has to be produced on site. There are few ways to produce ozone, out of which corona discharge method of producing gaseous ozone is most effective & economical. Reaction of ozone is a product of ozone concentration & contact time. Now for ozone to work fast, it has to be produced with higher concentration. Corona discharge technique uses oxygen from ambient air to produce ozone gas of higher concentration.

Introduction of ozone gas to indoor atmosphere is specialized field of engineering. Ozone gas is uniformly blended in room to effectively oxidize the toxic & odor causing molecules from tobacco smoke. This slowly penetrates the every part of the room eliminating cigarette odor. There are different techniques to integrate ozonator for closed re-circulating air & ventilated air. Ozone injection in indoor air is a specialized job, which restricts the ozone build up. Also ozone leakage gas sensors can be integrated with auto feedback cut off mechanism for safety. Automatic continuous timer & onetime timer control should be used to avoid ozone built-up with simultaneous effectiveness.

<u>Portable air ozone generators</u> are effectively used to eliminate the cigarette odor in small offices & hotel rooms. For higher ozone dose pure oxygen can also be used for high capacity ozone gas production at lower operating cost & much higher ozone concentration.

For more information please visit : <u>http://www.chemtronicsindia.com/</u>