

## A New Advanced Air Purification Technology

*For Home and Business Owners  
Concerned With Germs, Mold and Particulates  
For Air and Surface Contamination*

**HISTORY:** In the early 1990's NASA developed a basic new technology that addressed the above environmental issues. It has been called many things in the marketplace but basically it was identified as a "photo catalytic ionization" technology.

This technology was promoted as one which "controlled" undesirable germs and other microbes via the use of various oxidizers that could be introduced into a living space - - i.e. ozone, hydrogen peroxide and hydroxyls.

This old technology has worked has fairly well but the medical community has been concerned about the use of these powerful oxidizers that could also be harmful to human breathing systems as well as other body systems. The medical market is particularly sensitive to all these oxidizers because of their history of using these gases from powerful machines used to sanitize rooms that require all occupants to be out of the room for some length of time.

The most important good thing about this old technology is that it is a pro-active technology that is blown directly into any enclosed living space and provides control - - without having to somehow deliver the pollutant into a box or filtering device (passive) technology.

### The New Technology - - 5 POINTS OF IMPORTANCE

- 1) This new (and patented pending) process increases the microbial killing power over the old technology by a factor of x5 to x10. The exact improvement level in this range depends upon air temperature, humidity, contamination and other factors within a given site.
- 2) This new discovery has a "lower cost per cubic foot" for a given air purification project since fewer or smaller units could be used for any given airspace compared to the older technology.
- 3) This new technology does not depend upon "oxidizers" mentioned in History above - - but rather provides microbe kill via the use of "clumps or clusters" of electrically charged ions that have sufficient energy to destroy germs upon contact. As mentioned, though use of oxidizers is certainly a part of this process, using excessive oxidizers can be a health concern. This new technology is called MCI - - Multi-Cluster Ionization.
- 4) MCI does not pose any danger to human health;
  - a. Because human cells are much larger than germs' cells
  - b. Because human cells have a smooth surface, compared to a germs rough outer surface.
  - c. Points a] and b] imply that the electrical discharge of the "cluster ions" onto human cells do not concentrate the discharge of stored energy into a small area - - as it does upon the much more delicate germs rough outer membrane surface.
  - d. Because the destruction of germs is an outer membrane surface effect (only) - - it does not affect the "innards" of the germ; i.e. its RNA or the DNA. This is important as the medical community is concerned that if these "innards" (of a human cell) could somehow be altered or survive the "microbial lightning bolt", the human cells could possibly become cancerous. However, no

evidence of damage to human cell structures by ionization has ever been observed in any scientific study of ionization known to date.

- 5) In addition, this kill method does not depend upon "random collision" of the ion cluster and the microbe. It turns out that a "cluster's charge" and the "germs own charge" mutually attract each other and destroy each upon contact - - like a "smart bomb". This is important because this means that the speed of sanitization is much faster than that of an uncharged oxidizer technology which depends upon random collision. It also implies that someone entering a hospital room could indeed be "cleaned" before he ever touched a patient - - and after he left.

In conclusion,

The new MCI technology provides - - compared to most older processes - - for microbe control;

- A very proactive (not passive) technology
- A much more potent and faster "microbial control" compared to older processes
- A lower cost per cubic foot and
- Does its "thing" without the need of potentially harmful "oxidizers".

