Can I put UV fixtures in my home?
Yes. UV fixtures have been used in hospitals and clinics for many years. Now the same kind of germicidal UV can be used for residential homes. Air lab Werks models are mounted in the air-duct system of your air conditioning unit to sterilize the air coming into your home. Utility fixtures also are mounted at the coil area of your system. We have portable air-sterilization units which can be places anywhere in the room to sterilize the air as it circulates.

Do the germicidal lamps kill viruses?
Yes. Germicidal UV lamps kill up to 99.9% of most viruses, airborne bacteria and mold spores.

How often do the lamps need to be replaced?
Germicidal UV lamps are good for approximately 10,000 hours of continuous use. Generally, lamps should be replaced at least once per year. Remember, the lamp will continue to stay lit for many years. However, the UV effectiveness needed to kill organisms diminishes after about 9,000 to 10,000 hours. You should not wait until the lamp goes out to replace it, as you would with a regular light bulb.

Should UV lamps be cleaned?
Yes. Depending on the surrounding environment, UV lamps should be checked periodically (approximately every three months) and cleaned with a dry cotton cloth or paper towel. Wear rubber gloves and clean with alcohol only. This will also help maximize the lamp life.

How much intensity do I need to kill certain organisms?
The exposure of germicial ultraviolent is the product of time and intensity. High intensities for a short period and low intensities for a long period are fundamentally equal in lethal action on bacteria. The inverse square law applies to germicidal ultraviolent as it does to light. The killing power decreases as the distance from the lamps increases. The average bacterium will be killed in ten seconds at a distance of six inches from the lamp.

Can the germicidal lamps be turned on and off continuously?
There are three types of germicidal UV lamps:

1. "Cold Cathode" maps are instant-start, using a large cylindrical cathode instead of a coil filament so the lamps have a very long life unaffected by frequency of starting.
2. "Slimline" lamps are also instant-start and available by low-, high-, and very high *ozone* types. Their lamp life is governed by the electrode life and number of starts. Because of their high initial UV emission and good maintenance, Slimline UV Germicidal Lamps are well adapted for applications such as air cooling and heating systems, conveyor lines, water sterilization, and other applications that require around-the-clock use.
3. "Hot Cathode," or preheat/hot cathode, lamps generally use standard, off-the-shelf fluorescent ballasts, providing advantages in economy and space. Preheat lamps have four electric connections per lamp and require more wiring that instart-start lamps. Frequent starts/stops will reduce the lamp life of Hot Cathode lamps.

How do germicidal lamps kill?
Ultraviolent light is the germicidal wavelength - 185-254 nanometers - renders the organisms sterile. When organisms can no longer reproduce, they die.

How hot do the lamps get?
Germicidal UV lamps do not produce too much heat. They could be considered similar to fluorescent lamp.

To be effective, how close to the surface do the lamps need to be?
The intensity chart previously mentioned can be used to determine the distance needed.

Do I need ozone or not?
It depends on your particular need. Most of the time you do not need ozone, unless there are shaded areas that the UV light cannot reach. Ozone helps to "carry" the UV radiation in the air to where it normally cannot reach directly.

Where do I need ozone-producing lamps?
Germicidal UV lamps generate energy at 185 nanometers as well as 254nm. This UV emission produces abundant amounts of ozone in air. Ozone is an extremely active oxidizer and destroys microorganisms on contact. Ozone also acts as a deodorizer. Another advantage is that it can be carries by air into places that UV radiation cannot be reached directly.

What damage will the lamps do to me?
The can be harmful in what's called "surface damage." If you are exposed to direct germicidal light, it can burn the top surface of your skin. If you eyes are exposed, it would be similar to "welder's flash," and your eyes can feel dry or gritty. At no time do germicidal lamps cause any permanant damage.

What effects does UV light have on surrounding materials?
Long-term exposure of germicidal UV light to plastics will shorten the shelf life of the plastic by approximately 10%. Example: If the plastic would normally last about ten years, and it's exposed to germicidal light the entire time, it would probably need to be replaced in 9 years. Plant life may be damaged by direct or reflected germicidal ultraviolent rays. Transient dyes and colors may be faded from prolonged exposure to ultraviolent rays.

Can germicidal UV penetrate surfaces or substances?
No. Germicidal UV sterilizes only what it comes in contact with.

Do the lamps need a ballast to work?
A germicidal lamp is but one part of a system and, in fact, the system cannot be fully defined and optimized unless the lamp AND ballast combination is determined. It is the interaction of the lamp and ballast that is the true determinant of system performance.

How are UV lamps used to disinfect the air?
Germicidal UV lamps can be used in ceiling fixtures suspended above the people in a room or within air ducts of recirculating systems. The first method is called Upper Air Irradiation. The fixtures are shielded on the bottom so that the radiation if directed only up toward the ceiling and out the sides. These fixtures are mounted at least 7ft. above the floor so that people will not bump into them or look directly at the lamps.

The second method of air disinfection uses UV lamps placed inside the ventilation system ducts. If a ceiling is too low for an upper-air irradiation fixture, this type can be used. Also, because people are not exposed to the UV radiation, very high levels can be used inside the ducts.

Why don't the government or insurance companies reimburse for UV fixtures?
Germicidal lamps were not placed on the Medicare of Medicaid list when the government requested it in the early 60's, because tuberculosis was not a major issue at that time. Because it's not on these lists, the government and insurance companies will not reimburse individuals for purchasing a UV system.

What safety precautions should be taken when using germicidal UV?
In person protection (the use of lamps for room irradiation in homes, schools, offices, etc.) indirect fixtures are mounted above eye level or in air cooling ducts. Only the upper air or the air passing through a duct is irradiated and persons or animals occupying the area receive no direct exposure.