



## **COVID-19 Hydroxyl Treatment Outline**

The following is summary explaining the mechanisms by which Hydroxyl treatment works to actively and continuously sanitize an indoor environment along with data references supporting the efficacy of the approach.

### **Hydroxyl works in two ways to sanitize environments into which it is distributed:**

1. The Hydroxyl Generator treats the air circulating through the chamber of the machine by exposing it to massive quantities of hydroxyl radicals. This is the most powerful and rapid method of treatment for all pathogens and VOCs in the air to be treated.
2. Further, it creates and distributes hydroxyl, oxy and peroxy radicals through the use of forced air movement. These molecules exit the unit and are dispersed throughout the environment where they are able to contact and denature aerosolized pathogens including those that have settled on surfaces and/or adsorbed in porous materials like carpet, drapes, leather, clothing, etc.

Both mechanisms are extremely effective, however external contact sanitization is not achieved as rapidly due to the lower concentration of reactive molecules outside of the unit. For this reason it is advisable to maintain normal wipe-down procedures of high-risk items/areas such as bathrooms, door knobs, tables, counters, etc. The combination of a constantly operating hydroxyl generation system utilized in tandem with normal wipe-down procedures offers a significantly more robust and reliable overall sanitization protocol than either method can produce unilaterally.

The ability of Hydroxyl Radicals to neutralize virus strands comparable to that which has caused the current outbreak (COVID-19) has been tested extensively. While it is not currently possible to perform tests on the novel strand due to samples being unavailable, data supporting the neutralization of comparable recognized surrogate viruses is a proven alternative approach, one adopted by the FDA.

The testing that we believe to be most relevant is that which was conducted in 2014 by Aerosol Research & Engineering Laboratories which a 99.99%+ 2-hour kill rate against the "MS2" virus. This virus is considered to be an ideal surrogate to the COVID-19 virus, as both are positive-sense, single-stranded RNA viruses.

Data References (Hyperlinks):

[Aerosol Research and Engineering Laboratories \(2014\)](#)