

To whom it may concern,

The novel human coronavirus (SARS-CoV-2) has become a global health concern affecting your employees, customers, and company liability. Safety programs cause logistic issues including social distancing, temperature monitoring, sanitation process, etc., all of which are difficult to implement. Sanitation processes that include surface wipe down are impossible to do effectively during business operation. Surfaces can then be re-contaminated immediately and the sanitation needs to be perpetually repeated to be moderately effective.

Our proprietary ROS (Reactive Oxygen Species) technology sanitizes all surfaces & air safely and continuously 24/7 with an intelligent control system. Our ROS system is fully organic, requires no added chemicals, and is ultra-low in energy consumption. This technology has been applied through various industries including food processing, horticulture, & transportation since 2005 and has a well proven operation history.

The attached Research Brief regarding AURA test results confirms our effectiveness in eradicating HCoV (Coronavirus) on various surface types at our normally low ozone level of 30ppb with full reduction in 45min (36,000,000 CFU to <1 CFU). In 15min, we had a 99.98% reduction (36,000,00CFU down to 5,200CFU) and in 30min, we had a 99.99997% reduction (down to 10CFU). This test further confirms the previous testing of our proprietary technologies ability to destroy the following:

- Bacteria
 - Staph aureus (mRSA)
 - Citrobacter
 - Pseudomonas
- Yeast
 - Candida (Fungus)
- Viruses
 - Corona Virus (CoVid-19)
 - Influenza A (including Bird Flu)
 - Norovirus (stomach flu)
 - Rhinovirus (colds)

In summary, if you have a plastic or stainless-steel surface, studies show that the virus is detectable for up to three days. With our system alone, the virus is undetectable in 45min without using any other mitigation process on all things the air touches. However, as with all sanitation processes, we suggest a multi-layered approach and you should follow all CDC and related guidelines to protect the spread of the virus.

Our purification systems can be applied from 500 cubic feet to multi million cubic feet areas with our full range of products including world-power options.

Feel free to email chris@aurahygienic.com with information regarding your application to have a more extensive discussion on how our product can meet your specific needs.

For more information, visit our website at www.aurahygienic.com.

Three different controls were prepared in each treatment. For a positive control, a 5 cm x 5 cm area of the three coupons were inoculated with virus cells and dried for 1-hour but not exposed to the treatment. There were three negative controls, in which the 5 cm x 5 cm coupons were inoculated with 100 µl droplet of sterile water and dried for 1 hour.

One negative control was treated with AURA ROS and the other was not subjected to the treatment. Each treatment sample and the 3 controls were prepared in triplicate.

E. Recovery of *virus* from the surface samples

After the treatment, each of the 5 cm x 5 cm coupons were transferred into a 400 ml stomacher bag (Fisher Scientific Inc., PA., USA) combined with 50 ml sterile 0.1% peptone solution, and then blended with a AES Easy Mix Stomacher (AES Laboratories, Princeton, NJ., USA) for 2-min at normal speed. Wash fluid was serially diluted, followed by surface plating for enumeration.

A centrifugation method was used to recover low populations of injured virus. The centrifugation method (Mossel and others 1991) was modified and used to concentrate the virus populations in the wash fluid so that less than 250 CFU/ml of bacteria can be enumerated by the surface plating.

F. Study Results and Discussion Following treatment with the AURA ROS unit, the average reductions of the Human Coronavirus OC43 was 3.85- \log_{10} on floor tile, 3.84- \log_{10} on stainless steel and 3.85- \log_{10} on plastic following 15-minute treatments, based on the infectious virus recovery.

Following treatment times of 0, 15, 30, 45-minutes, 1, 2, 4, 8 and 12-hours on the

inactivation of the virus on a selection of surface samples is noticeable from the Table attached.

1. Overall log reduction

- The 15-minute treatment results show an average reduction on Human Coronavirus OC43 at 3.84- \log_{10} .
- The 30-minute treatment results again shows a further average reduction of 6.57- \log_{10} .

2. Impact on the organism

- The largest reduction 3.85- \log_{10} was seen after the first 15-minute exposure on stainless steel, a 99.99% decrease.
- The second largest reduction 6.65- \log_{10} was seen after 30-minute exposure on stainless steel, a 99.9999% reduction.

3. Impact on surfaces

- 15-minute exposure on all coupons showed the greatest reduction of 3.84- \log_{10}
- 30-minute exposure on the stainless-steel and plastic coupons showed the greatest reduction of 6.65- \log_{10} followed by the floor tile coupons at 6.51- \log_{10} .
- 45-minute exposure showed all coupons to be completely reduced, showing a 7.56- \log_{10} reduction.

4. Conclusion

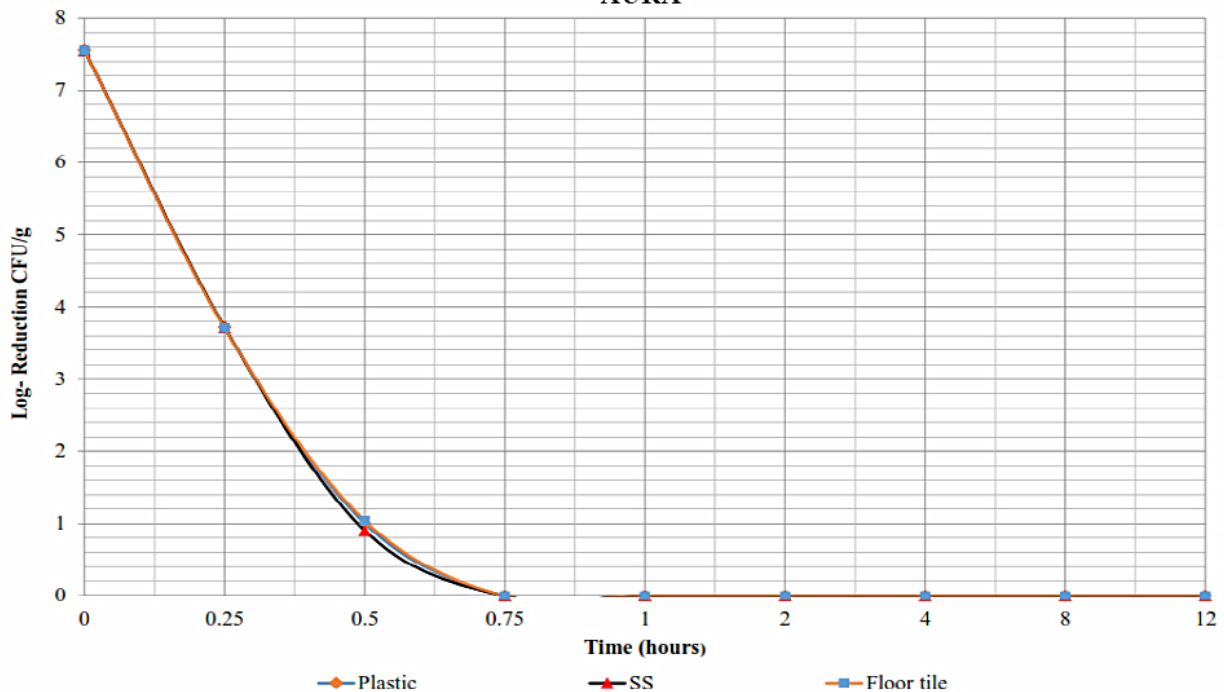
This study shows the substantial effect of the AURA ROS treatment in reducing HCoV OC43 viral cultures on three specific surfaces. The process carried out by this proprietary technology which inactivates viruses by breaking the protein envelope and inactivating the RNA strand. These results are explicit and indicate a strong correlation between AURA treatment at the indicated concentrations and the stated log reductions of the virus on all surfaces tested.

TABLE 1. Human Coronavirus *OC43* populations following treatment with AURA system.

Time	Plastic			Stainless Steel			Floor Tile		
	CFU/g Log ₁₀ CFU	Standard Deviation	Reduction	CFU/g Log ₁₀ CFU	Standard Deviation	Reduction	CFU/g Log ₁₀ CFU	Standard Deviation	Reduction
0	36,000,000 7.56	0.3	-	36,000,000 7.56	0.3	-	36,000,000 7.56	0.2	-
15-m	5,200 3.72	0.1	3.84	5,000 3.70	0.2	3.84	5,100 3.71	0.1	3.85
30-m	10 1.00	0.1	6.56	8 0.90	0.1	6.65	11 1.04	0.1	6.51
45-m	<1 0	0.1	7.56	<1 0	0.1	7.56	<1 0	0.1	7.56
1-h	<1 0	0.1	7.56	<1 0	0.1	7.56	<1 0	0.1	7.56
2-h	<1 0	0.1	7.56	<1 0	0.1	7.56	<1 0	0.1	7.56
4-h	<1 0	0.1	7.56	<1 0	0.1	7.56	<1 0	0.1	7.56
8-h	<1 0	0.1	7.56	<1 0	0.1	7.56	<1 0	0.1	7.56
12-h	<1 0	0.1	7.56	<1 0	0.1	7.56	<1 0	0.1	7.56

GRAPHIC REPRESENTATION OF RESULTS

Human Coronavirus OC43
On Various Coupons Over Time
AURA



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