



AIR DISINFECTION BIOTECHNOLOGY CASE STUDY
MICK MULLEN’S IRISH BAR
 January 18, 2021

Mick Mullen’s Irish Bar is located at 3467 S Broadway, Englewood, CO 80113 in the City of Englewood and County of Arapahoe Colorado.



In response to the COVID Pandemic, the State of Colorado has issued a health order that restricts occupancy levels in bars and other public venues.

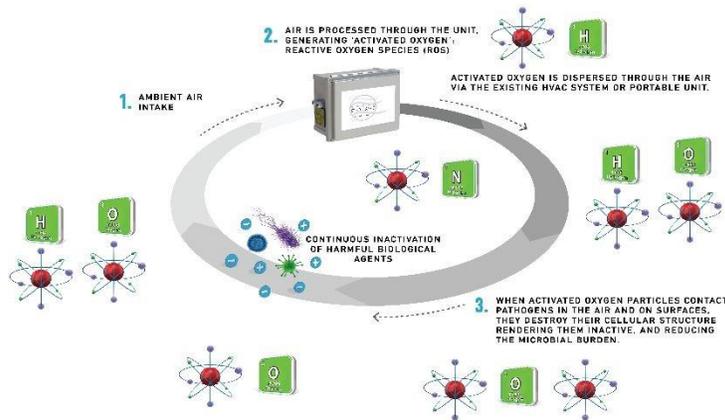
<https://covid19.colorado.gov/restaurants-food-services>

Effective date: 12/15/20

What are the capacity restrictions at each level?						
	LEVEL GREEN: PROTECT OUR NEIGHBORS	LEVEL BLUE: CAUTION	LEVEL YELLOW: CONCERN	LEVEL ORANGE: HIGH RISK	LEVEL RED: SEVERE RISK	LEVEL PURPLE: EXTREME RISK
BARS	50%* capacity or 500 people †	Closed	Closed	Closed	Closed	Closed

Arapahoe County is currently in Level Orange: High Risk. In compliance with the health order, the Bar is closed. However, other businesses and organizations that also sell alcohol are permitted to continue to operate based upon an unquantified perception of a lower health risk.

Mick Mullen’s Irish Bar was introduced to the Air Disinfection Biotechnology (ADB) by SterilSafe, a sales agent for disinfection and infection prevention products and services.



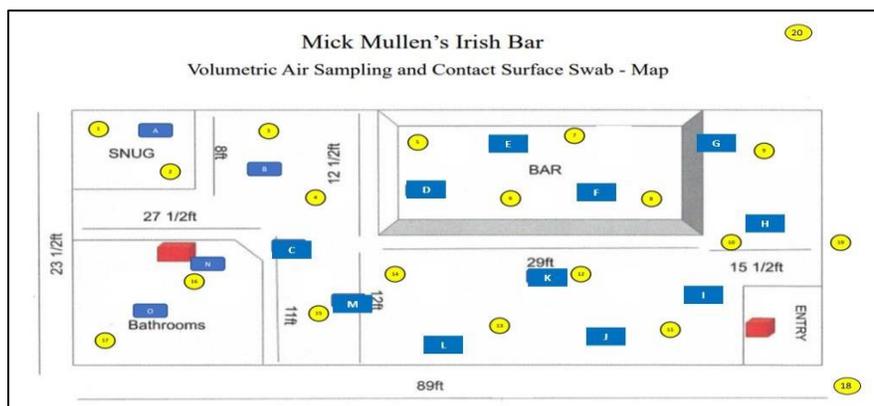
The ADB generator takes ambient air and fills it with electrically charged particles. These charged particles are dispersed in a room through the air. When a charged particle contacts a pathogen in the air or on a surface, it kills the pathogen by breaking down its protective jacket and inactivating it so that it is no longer contagious.

Third party laboratory studies show that the ADB can kill all viruses in the air within one minute. The ability to kill pathogens, between when one person exhales and when another person inhales, is critical to halting the transmission of COVID as an airborne pathogen.

The Bar submitted information to SterilSafe regarding room dimensions and the air flow of its HVAC system. Based upon this information, a recommendation was made to purchase two Model 5004 units. These products were purchased at a total price of \$13,000.



Prior to installation and operation, on December 12th, 2020, air and surface samples were collected by medical laboratory scientist David Howshar from 32 locations within the Bar as a baseline and three from outside the Bar as controls.



After operating for six days, a second set of samples was collected on December 18th, 2020. The Bar held an employee/vendor safety briefing on the ADB in which 16 people participated. Upon completion of the briefing, a third set of samples was collected. One day later, December 19th, 2020, a fourth set of samples was collected.



All samples were tested by Scientific Air Solutions and reported to Mick Mullen's Irish Bar [lab report attached].

Test results taken after the first week of the case study showed that during the continuous seven-day operation of the ADB, it reduced all pathogens in the air by 92.5% and on surfaces by 79.7%. The test results also showed that the ADB continued to improve air quality by killing pathogens while the safety briefing was in progress. As the sample pictures in the test report reflect, the indoor air quality of the Bar is far cleaner than the air outside.

At the conclusion of the month-long case study, results showed a 95.8% reduction in airborne pathogens and a 94.4% reduction in pathogens on surfaces.

The demonstration of the ADB shows that indoor air quality of any room, be it a bar, school, day care center, retail store or other public venue, can be managed to achieve a level of safety that greatly reduces the possibility of transmission of COVID. The possibility of transmission has been so reduced that it may be possible to return to normal occupancy levels where a business may earn a profit.

This level of safety can be measured and quantified for the purpose of setting a new safety standard based upon scientific data rather than unsubstantiated perceptions. It also demonstrates that it is possible for a bar, designated as non-essential business, to create a 'safe zone' that is superior to that of other businesses and organizations that have been permitted to continue operations and granted higher occupancy levels.

Mick Mullen's Irish Bar submitted an application and was granted 5 Star Certification by Arapahoe County. It was allowed to re-open with addition of food service as a restaurant under the State of Colorado's new program where individual counties have been granted limited authority to grant variances. <https://covid19.colorado.gov/five-star-certification> The operation of the ADB met the 'above and beyond' requirement of the program where a business is required to show it exceeded minimum health protocols.

However, when granted, the variance will only permit the Bar to open to Yellow Level - 50% occupancy level where the Bar still cannot earn a profit. The Bar plans to apply to the State of Colorado Department of Health for a greater variance that will authorize the Bar to open to 100% occupancy.

In a parallel effort, the Bar will seek passage of a law in the 2021 Colorado Legislative Session that will mandate that the Colorado Department of Health set a safety standard based upon achieving a percentage of pathogen reduction within a given timeframe. The Bar plans to enlist the support of Colorado businesses and business associations in this effort.

Mick Mullen's Irish Bar has not been able to identify any studies or actions taken by federal or state departments to measure pathogen levels and pathogen reduction for the purpose of setting a safety standard for re-opening businesses. Therefore, the Bar anticipates setting such a standard.

For more information on the Air Disinfection Biotechnology and the Mick Mullen's Irish Bar demonstration, please contact:

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