

AiroCide PPT™ Perishables Preservation Technology

AiroCide PPT™ contains the same NASA-developed photocatalytic oxidation technology that is used in a variety of *AiroCide* product lines. In addition to serving the floral and perishable preservation and food safety industry, the *AiroCide* technology is has been developed to kill/remove/eliminate airborne pathogenic and non-pathogenic microorganisms in vegetative and spore states (bacteria, mold & fungi, viruses and dust mites), allergens, odors and harmful volatile organic compounds (VOC's) in air in a variety of commercial, government, and residential market applications including the medical healthcare industry (*AiroCide* is listed as an FDA Class II Medical Device).

Summary:

A clinical study of the *AiroCide PPT* airborne pathogen killing technology was conducted in the wine barrel storage cave of Hartwell Vineyards, a boutique winery in the Stag's Leap district of Napa, CA. The data supports the hypothesis that airborne mold levels would be lowered after 21 days of continuous operation of the *AiroCide PPT* system. The results show an average airborne mold **reduction** inside the cave of 72.3% in 23 days.

Air samples were taken with a slit air sampler (similar to the Anderson N6 sampler) on 15 x 100 mm plastic petri dishes. All samples were cultured on Potato Dextrose Agar plate by Aerotech Laboratories in Phoenix, AZ, and the results were measured in colony forming units (CFU) per cubic meter of air. All agar plates were exposed to 28.3 l/m of air for 3 minutes.

Results:

The table below shows overall airborne **mold reduction** inside the cooler of 72.3% in 23 days.

Protocol

The cave used in this study was approximately 65,000 ft³ in volume. The *AiroCide PPT* system in the study consisted of three (3) ACS-100 units located throughout the caves.



The test period consisted of 21 days in July and August 2005. Baseline air samples were taken in the cave without the *AiroCide* units operating and were compared to Active On samples taken in the same locations after 48, 72 and 96 hours of *AiroCide* use as well as after 23 days of *AiroCide* use.

	7/18 Baseline	7/20 48 hrs	7/21 72 hrs	7/22 96 hrs	8/10 23 days
Inside Average	1,748 CFU/m ³	1,476 CFU/m ³	1,354 CFU/m ³	1,071 CFU/m ³	484 CFU/m ³
Reduction	NA	15.5%	22.5%	38.7%	72.3%