HPA CEPR Biosafety Unit
Porton Down

Project No. 37/09 Issue date 9th September 2009

Commercial in Confidence

INTRODUCTION

1) Airborne and Surface Micro-organisms can cause health risks in many different environments particularly in healthcare, washrooms, offices and gymnasiums, in fact any indoor environment where a volume of people are present.

2) Airsteril (UK) Ltd has developed an air and surface purification device, designed to control bacteria, viruses, mould and fungi in the air and on exposed surfaces.

3) Utilizing Titanium Dioxide Nano Technology (UV/Ti02), air is drawn into a purification chamber at the rate of 300 litres per minute where internal mechanisms, triatomic oxygen, super oxide ions, hydroxyl radicals and heterogeneous catalysis, remove contaminates from the air.

4) The purified air with added Ions and triatomic oxygen is propelled back into the room again at 300 litres per minute and continues to purify the air and exposed surfaces.

5) The units are designed for continual operation as a control device, air is circulated through each unit many times every 24 hours in a cumulative purification process continually controlling air and surface contamination

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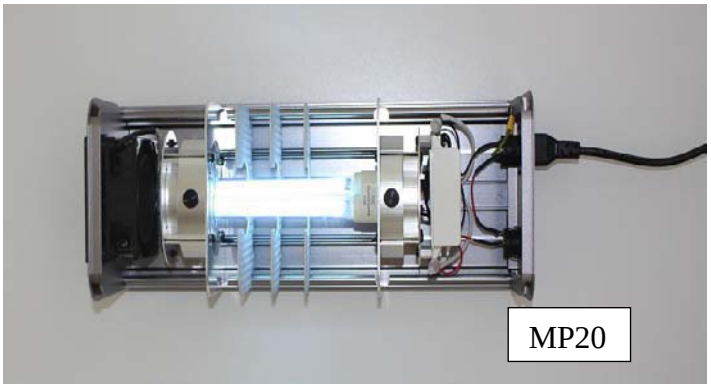
The device tested was an Airsteril MP 20, suitable for continuously occupied areas of approximately 20 to 30 sq mtrs, (44 to 66 cub mtrs).



PROTOCOL

The tests were designed to test the unit's ability to control airborne and surface bacteria and viruses

Airborne tests

- **Staphylocossus epidermidis NCIMB 12721 (a gram positive, cocci)**
- **MS2 coliphage NCIMB 10108 (an enveloped single stranded RNA coliphage)**

Surface tests

- **Methicillin Resistant Staphylococcus aureus MRSA NCIMB 13162 (gram positive, cocci)**
- **MS2 coliphage NCIMB 10108 (an enveloped single stranded RNA coliphage)**

Airborne Test Result

Micro-organism	*Percentage Efficiency*
▪ *MS-2 coliphage*	**92.17%**
▪ *Staph. epidermidis*	**98.11%**

Surface Test Results

Micro-organism	*Percentage Efficiency*
▪ *MS-2 coliphage*	**59.47%**
▪ *MRSA*	**51.81%**

CONCLUSION

The tests were carried out for a "one hour" period and it is concluded that 92.17% to 98.11% for airborne contamination and 51.81% to 59.47% for surface contamination, demonstrates the effectiveness of the technology. Please refer to paragraph 5 in the introduction.