Ultra Mist Application Theory and logic

It is often that we believe that the air we breathe while in an air conditioned room is cleaner or healthier than that outside of the room. The air conditioner gives a false impression on fresh and clean air however it is quite the opposite when the air conditioning system harbours and breeds nasty bacteria and fungus that we cannot see with the eye. The bacteria and fungus cannot be killer by conventional cleaning and it is often that people suffer from respiratory problems or illnesses are spread via the air conditioning system. This is the same for cars or buses.

Excelsia Technologies's Anti bacteria treatment comprises of two well researched solutions that offer extensive anti-bacteria, anti-viral and anti-fungal properties.

Ultra Mist Fumigation using a combination of powerful herbal extracts which have been regularly used in many industries ranging from cosmetics to pharmaceutical applications to kill bacteria.

- Based on 21st century technology, we use a uniquely designed fumigation device to atomize our proprietary anti bacteria solution into ultra fine mist containing millions of "nano scale" sized cleaning particles.
  Due to the microscopic size of the cleaning particles, germs and bacteria can no longer hide. The ultra fine mist is able to penetrate virtually all areas of the ventilation system. It is especially effective in cars where the ultra fine mist will penetrate all the hard to reach places such as under the dashboard, the carpet, headliner and foam backing of the seats, killing the germs and bacteria hiding there.

Working principle of the solution

- Bacteria, fungi and the larger viruses are dissolved from the outside inwards, whereas small viruses are dissolved from the inside outwards. The starting point in the manufacture of our chemical is natural plant oil. A small detergent moiety is first added to one end of the plant molecules and that end is then given a positive charge. The last manufacturing phase is to combine these trilogy molecules with acidity modifiers and a glycol carrier. The positive charge on the trilogy molecules attracts them to the negative charge on bacteria and, once in contact, the detergent aspect dissolves holes in the outside wall of the bacterium and proceeds inwards to destroy the nucleic acid. The detergent aspect also dissolves into and kills fungi, yeasts and "membrane bound" viruses like Herpes, the families of Hepatitis B and C viruses and many others viruses. Small viruses like Calici viruses have tough outer coats constructed from tightly coiled proteins held together by ionic forces. The chemical's technology kills these viruses in seconds. The acidity modifiers inactivate the ionic forces, causing the coiled proteins to slightly separate thus allowing the detergent aspect to enter the virus and destroy the nucleic acid. In essence, our chemical's properties make it one of the most effective and safest anti bacteria treatment systems on the market

- The Ultra Mist solution is meant for use only for killing bacteria, virus and fungus in the air conditioning system, not on humans. The treatment is done when the owner of the car is out of the car and once the treatment is over and the mist has subsided the owner will then be able to drive his or her car again.
- There is no exposure for humans and is not for consumption or application on the skin of humans. It is 100% only for the use to kill and remove the bacteria and fungus spores in the air conditioning system.

Effective against:

BACTERICIDAL

EN 1276 Salmonella Typhimurium, Salmonella enterica subsp. enterica serotype Typhimurium, Pseudomonas Aeruginosa, E.Coli, S.Aureus, Enterococcus Hirae surrogated for Enterobacterias
EN 1040 Pseudomonas aeruginosa, Staphylococcus aureus
EN 1656 Pseudomonas Aeruginosa, Staphylococcus aureus,Proteus vulgaris
EN 13727 Pseudomonas Aeruginosa, E.Coli, Enterococcus Hirae
NF T72-170 E.Coli, S.Aureus, Pseudomonas Aeruginosa, Enterococcus Hirae
NF T72-300 E.Coli, S.Aureus, Pseudomonas Aeruginosa, Enterococcus Hirae
NF T72-301 Absidia corymbifera, Cladosporium cladosporioides, Aspergillus versicolor var. Niger
EN 1275 Candida Albicans surrogated for Aspergillus Niger
EN 1650 Candida Albicans surrogated for Aspergillus Niger
EN 13624 Candida Albicans, Aspergillus Niger
FUNGICIDAL
EN 1275 Candida albicans, surrogated fungus for Aspergillus Niger

VIRUCIDAL
EN14476 Influenza A (H1N1) surrogated virus for lipophilic viruses (Ebola, Coronavirus, Flu, Hepatitis, HIV).
EN 14675 Bovin enterovirus
NFT 72-181 Bacteriophage T2, MS 2, n° 66 et Ø X 174

CHEMSIL AIR & WATER SDN BHD (515400-V)
33, Jalan Kota Raja H27/H, Taman Alam Megah, Seksyen 27, 40400 Shah Alam, Selangor Darul Ehsan, Malaysia.
Tel: +6(03) 5192 3500 / +6(03) 5192 5300 Fax: +6(03) 5192 4600 email: info@chemsil.net
TESTING
SAMM NO. 244

CERTIFICATE OF ANALYSIS

Table 6: Holding Time Between Sample and Cultures suspension is 3hours

ORGANISM USED	INOCULUM USED (cfu/ml)	INOCULUM RECOVERED (cfu/ml)	*PRECENTAGE KILLED (%)
a) *Escherichia coli*	1.2×10^6	2.1×10^2	99.98
b) *Staphylococcus aureus*	1.7×10^6	4.0×10^2	99.97
c) *Pseudomonas aeruginosa*	1.6×10^6	1.1×10^3	99.93
d) *Candida albicans*	2.0×10^6	2.5×10^3	99.88
e) *Aspergillus niger*	1.1×10^6	1.6×10^3	99.85

cfu- colony forming units
NG - No Growth

*** Precentage Killed = $\frac{\text{Inoculum used - Inoculum Recovered}}{\text{Inoculum Used}}$**

*Opinion and Interpretation expressed herein are outside the scope of SAMM accreditation The above results relate only to the items tested as received sample. This reports shall not be reproduced, without the written approval of Chemsil (Air & Water) Sdn. Bhd.

Ganesan Gunasagaran
Microbiologist