



INTERNATIONAL HOLDINGS LTD



# aerogene

NEXT GENERATION DISINFECTANT



# HOW DOES AEROGENE 1-03 WORK?

The 1-03 sanitiser formulation is based on a molecular matrix that incorporates 5 acticides.

These acticides are well known antimicrobials that act synergistically together to kill organisms.

This synergy and ability to bring the 5 acticides together into one matrix formulation means that they can be used in low concentrations that are safe to handle.

In addition, the nature of the matrix itself weakens and predisposes microbial cells to attack by the acticides.

The six-fold attack ensures an efficient kill of all microorganisms. The combined cidal effect also ensures cells cannot develop resistance.

Aerogene 1-03 has also been shown to be effective against spore forming organisms and their spores. Viral agents are also inactivated as their vectors are effectively destroyed by the sanitiser matrix and acticides.



In addition to its antimicrobial property the 1-03 matrix also has the ability to bind the treated surface. This results in a residual sanitiser effect ensuring a long-term protection against microbial contamination.

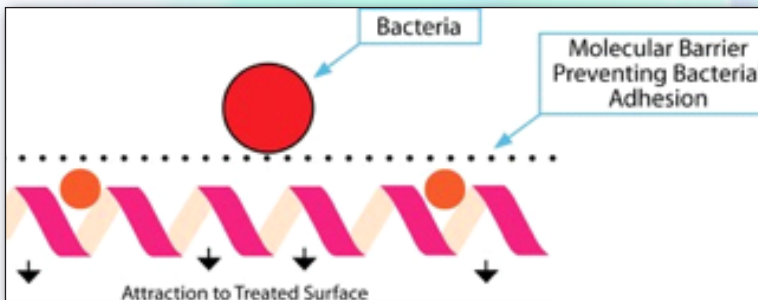
The matrix also attaches to the treated surface itself by establishing an enhanced barrier against further attachment of micro organisms.



## MODE OF ACTION 1: Providing protective barrier

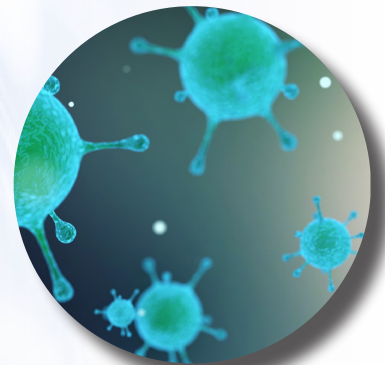
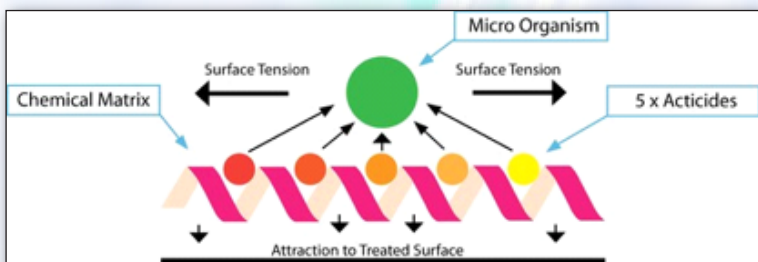
A one molecular thick layer of 1-O3 fluid bonds to surface creating a protective barrier preventing microbes (bacteria, mould, fungi) from attaching to surfaces and colonising (biofilm).

This action provides active surface tension plus a combination of 5 acticides to kill / deactivate micro organisms.



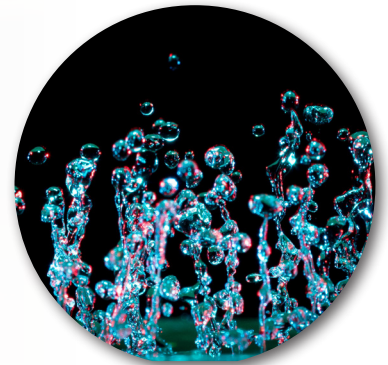
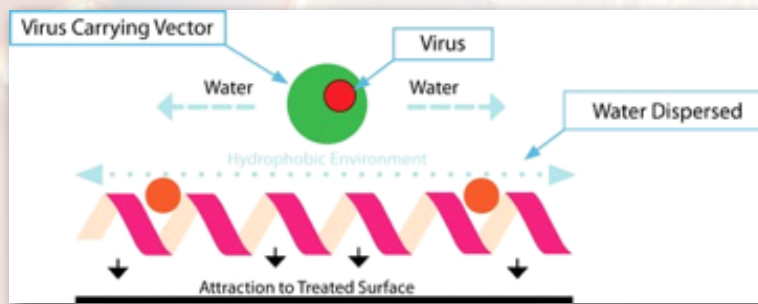
## MODE OF ACTION 2: 5 articles working in harmony

Unlike standard sanitising products 1-O3 does not rely on high concentrations of a limited number of acticides (1 x biocide) as we use a unique chemical matrix of 5 common acticides at very low concentration working in harmony with 1-O3 surface tension to kill / deactivate a wide spectrum of microbes.



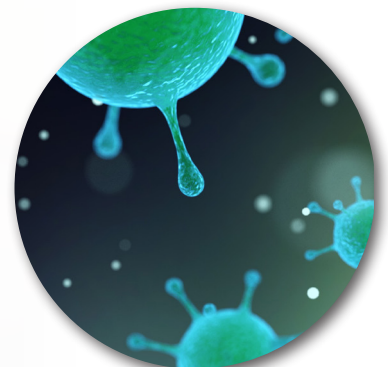
## MODE OF ACTION 3: Active Surface Tension

1-03 uses active surface tension to remove any carrying / protective vectors such as bodily fluids, water etc and then physically disrupts the microbial cell wall, de-activating viruses and killing bacteria, fungi, moulds and spores. This action prevents the microbes from becoming physically resistant to the chemicals'.



## BENEFITS

- The products are based on a unique cleaner sanitiser formulation.
- It has a number of key benefits and advantages over traditional cleaner sanitisers.
- 1-03 sanitiser has extremely low hazard levels so handling issues are minimal.
- It is Environmentally friendly.
- It is non corrosive and safe to use on all surface types.
- It has a High level of antimicrobial activity against all bacteria and viruses.
- It binds to treated surface preventing surface attachment of bacteria.
- The Acticides formulation prevents the development of resistant organisms.



## Efficiency Against Other Sanitiser / Disinfectant

	Residual	Broad Spectrum	Damages Surfaces	Hazardous to users	Flammable	Obnoxious Odours	Unstable	Slow Kill Time
Alcohol	NO	NO	YES	YES	YES	YES	NO	YES
Chlorine	NO	YES	YES	YES	NO	YES	YES	NO
Glutaraldehyde	NO	YES	YES	YES	NO	YES	YES	NO
Peroxygen	NO	YES	YES	YES	NO	NO	YES	NO
Iodine	NO	YES	YES	YES	NO	NO	YES	YES
Phenol	NO	YES	YES	YES	YES	YES	YES	NO
QAC	NO	YES	NO	YES	NO	NO	NO	NO
1-03	YES	YES	NO	NO	NO	NO	NO	NO

## Also Available

We also supply a range of equipment (e.g. dosing pumps, air sterilisation machines, High Level airborne disinfectant aerosol, and fogging devices) to assist and maximise the delivery of aerogene, in any given application. Please contact the team should you have any questions or an enquiry as to how to best to implement aerogene in a specific application.





#### A: Identification of the test laboratory

Conclusion  
Cheshire Scientific Limited  
7 Brunel Road  
Bromborough Wirral Merseyside CH62 3NY

#### B: Identification of the sample

Name of the product  
Batch Number  
Manufacturer  
Date of delivery  
Storage Conditions  
Product Diluent recommended by the manufacturer for use  
Active substance (s) and its (their) concentrations(s)

285931  
  
1-03N  
N /A  
AEROCARE  
30/09/2014  
Room Temperature and darkness  
5% solution strength  
  
Not specified

#### C: Test method and its validation

Method Based on  
Neutraliser

BS EN 1276:1997  
Lecithin 3g/l, polysorbate 80 30g/l, sodium thiosulphate 5g/l, L-histadine 1g/l, saponin 30g/l.

#### D: Experimental conditions

Period of analysis  
Product diluent used during test  
Product test concentrations  
Appearance product dilutions  
Interfering substances  
Test temperature  
Temperature of incubation  
Identification of bacterial strains used

30/09/2014 - 25/10/2014  
Sterile Deionised Water  
Tested as a 5% solution strength  
Very pale yellow/straw colour, clear not turbid.  
Bovine Albumen 3g/L  
21.0°C  
37 +/- 1°C  
E.coli NCTC 9001, Pseudomonas aeruginosa ATCC 6538, Staphylococcus aureus ATCC 6538, Enterococcus hirae ATCC 10541

Tested by  
Report Authorised by  
Report dated

A. Griffiths  
A.Griffiths  
29/10/2014

Test Results - See page 2

The product gave a >log 5 reduction for all four cultures used.

## Test Method Principle

A test suspension of bacteria in a solution of interfering substances is added to a prepared sample of the product. The mixture is maintained at 20 °C for 5 minutes +/- 10 seconds. At this contact time an aliquot is taken the bactericidal and / or the bacteriostatic action in this portion is immediately neutralized or suppressed by a validated method. The numbers of surviving bacteria in each sample are determined and the reduction in viable counts is calculated.

Table 1: Results

Test Organism	Bacterial Suspension	Experimental Conditions	Neutraliser Toxicity Control	Neutraliser Validation	Bacterial Test Suspension		Efficacy Trial Numbers	Efficacy Trial Mean	Efficacy Trial Log Numbers
E.coli NCTC9001	Vc:191,215 Nv:2.03.x10 <sup>8</sup>	Vc:183,169 A:1.76.x10 <sup>2</sup>	Vc:144,172 B:1.58x10 <sup>2</sup>	Vc: 147,174 C: 1.61x10 <sup>2</sup>	10 <sup>6</sup> :201,284 N: 2.43x10 <sup>8</sup>	Nc	0,1	0.5=1	0 8.39-0=8.39 Reduction = >5.0
Pseudomonas aeruginosa ATCC 15442	Vc:255,226 Nv:2.41.x10 <sup>8</sup>	Vc:288,279 A:2.84.x10 <sup>2</sup>	Vc:258,256 B:2.57x10 <sup>2</sup>	Vc: 242,261 C: 2.52x10 <sup>2</sup>	10 <sup>6</sup> :270,256 N: 2.63x10 <sup>8</sup>	Nc	4,0	2	0.30 8.42-0.3 = 8.12 Reduction = >5.0
Enterococcus hirae ATCC 10541	Vc:178,252 Nv:2.15.x10 <sup>8</sup>	Vc:252,208 A:2.30.x10 <sup>2</sup>	Vc:198,224 B:2.11x10 <sup>2</sup>	Vc: 204,231 C: 2.18x10 <sup>2</sup>	10 <sup>6</sup> :211,249 N: 2.30x10 <sup>8</sup>	Nc	0,0	1 (log 0 error, so a count of 1 was used to obtain a log reduction)	0 8.22-0 = 8.22 Reduction = >5.0
Staphylococcus aureus ATCC 6538	Vc:232,190 Nv:2.11.x10 <sup>8</sup>	Vc:218,210 A:2.14.x10 <sup>2</sup>	Vc:184,162 B:1.73x10 <sup>2</sup>	Vc: 169,204 C: 1.87x10 <sup>2</sup>	10 <sup>6</sup> :215,202 N: 2.09x10 <sup>8</sup>	Nc	12,5	8.5=9	0.95 8.32-0.95 = 7.37 Reduction = >5.0

Test Organism	Loading Value Mean Cfu/ml	Loading Value Log	Post Exposure Mean Cfu/ml	Post Exposure Log	Efficacy Log Reduction	Total Log Reduction
E.coli NCTC9001	243000000	8.39	1	0	8.39-0	8.39
Pseudomonas aeruginosa ATCC 15442	263000000	8.42	2	0.30	8.42-0.3	8.12
Enterococcus hirae ATCC 10541	230000000	8.36	0	1 (log 0 error, so a count of 1 was used to obtain a log reduction)	8.22-0	8.22
Staphylococcus aureus ATCC 6538	209000000	8.32	9	0.95	8.32-0.95	7.37



INTERNATIONAL HOLDINGS LTD

**ASA INTERNATIONAL HOLDINGS LIMITED**

51 Victoria Road  
Ruislip Manor  
Middlesex, HA4 1BH

**Email:** [info@asa-international.org](mailto:info@asa-international.org)

**For Inquiries Contact:**

**Tel:** +44 (0) 7492 162824