

CORONAVIRUS

(COVID-19)

CHAMBERLAINE CLEANING SERVICES Ltd.

PREPAREDNESS & RESPONSE

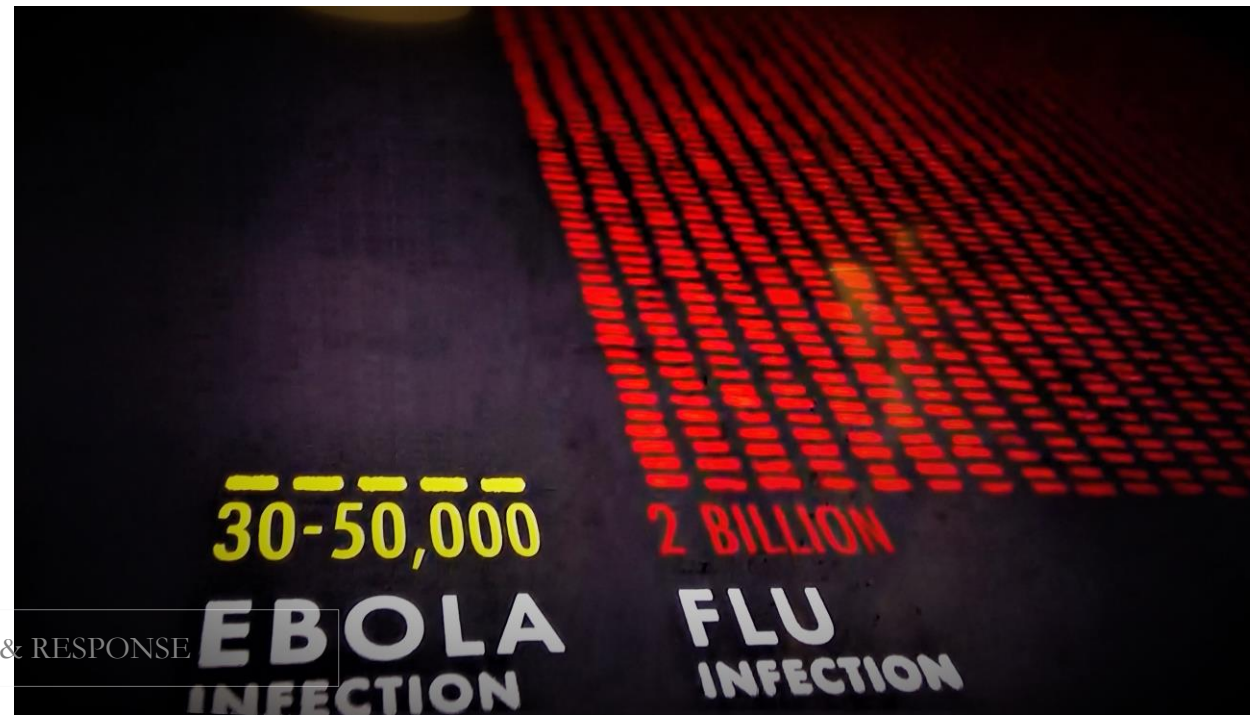
Viruses emerge or re-emerge (Pandemic level)



UNDERSTANDING NOVEL CORONAVIRUS (COVID-19) IDENTIFIED IN WUHAN, CHINA 2019.



PREVIOUS INFECTIOUS DISEASES AND OTHER PUBLIC HEALTH HAZARDS



LOGISTIC OPERATION:

Logistic Operation : – Chamberlaine Cleaning Services recognise that arrangements, coordination, prioritisation and acquisition of supplies is paramount for the effective delivery of our service and we should provide special attention to the management of those supplies already at hand or in the pipeline. This will be crucial to support the business continuity of our clients and the ability to meet their specific requirements in the event of exceptional circumstances.

Chamberlaine Cleaning Services Logistic Support Cells are plan, implemented and supported through the combined effort of top and senior management

The Logistic Support planning aim to:

- ✓ Conduct advance risk based planning, based on each specific Building /site and those of the neighbouring (**near by contracts or small sites**) requirements.
- ✓ Allocate key central sites and essential items.
- ✓ Oversee planning process including methods of acquisition, distribution and replenishment;
- ✓ Map local logistic capability
- ✓ Supervise any logistic support arrangements;
- ✓ Coordinate the activation of the arrangements in the event of an emergency



PRIORITISING AND ACQUISITION OF SUPPLIES

For exceptional events and emergencies Chamberlaine has classified supplies into two groups.

Supplies classification in exceptional events :

1. Common supplies used in a number of daily operations e.g. microfiber cloths, core cleaning products, hand towels, etc;
2. Items that are unusual or of a unique nature specific to the type of incident

Our strategic objectives is to prioritise the requirement for particular items.

- For the support of business continuity of our clients.
- Meet our clients specific requirements
- For the avoidance of injury or ill health;
- To mitigate the worst effects of the denial of essential services and
- To deal with consequences of those emergencies.



CONSIDERATIONS:

When prioritising the acquisition of supplies.

Consideration of logistic operations has been appraised under Chamberlains risk based approach and we will prioritise according to information from Government and professional sources. Planning and projections will be done based on this information and previous case studies as a framework for deciding what supplies might be required.

This will be supported by robust financing arrangements, which have been pre-agreed with our partners.

Considerations as to whether to acquire an item/service might include:

- ✓ The assessment of the likelihood and impact of an emergency;
- ✓ The need for reducing the time spent on acquiring the item during an emergency;

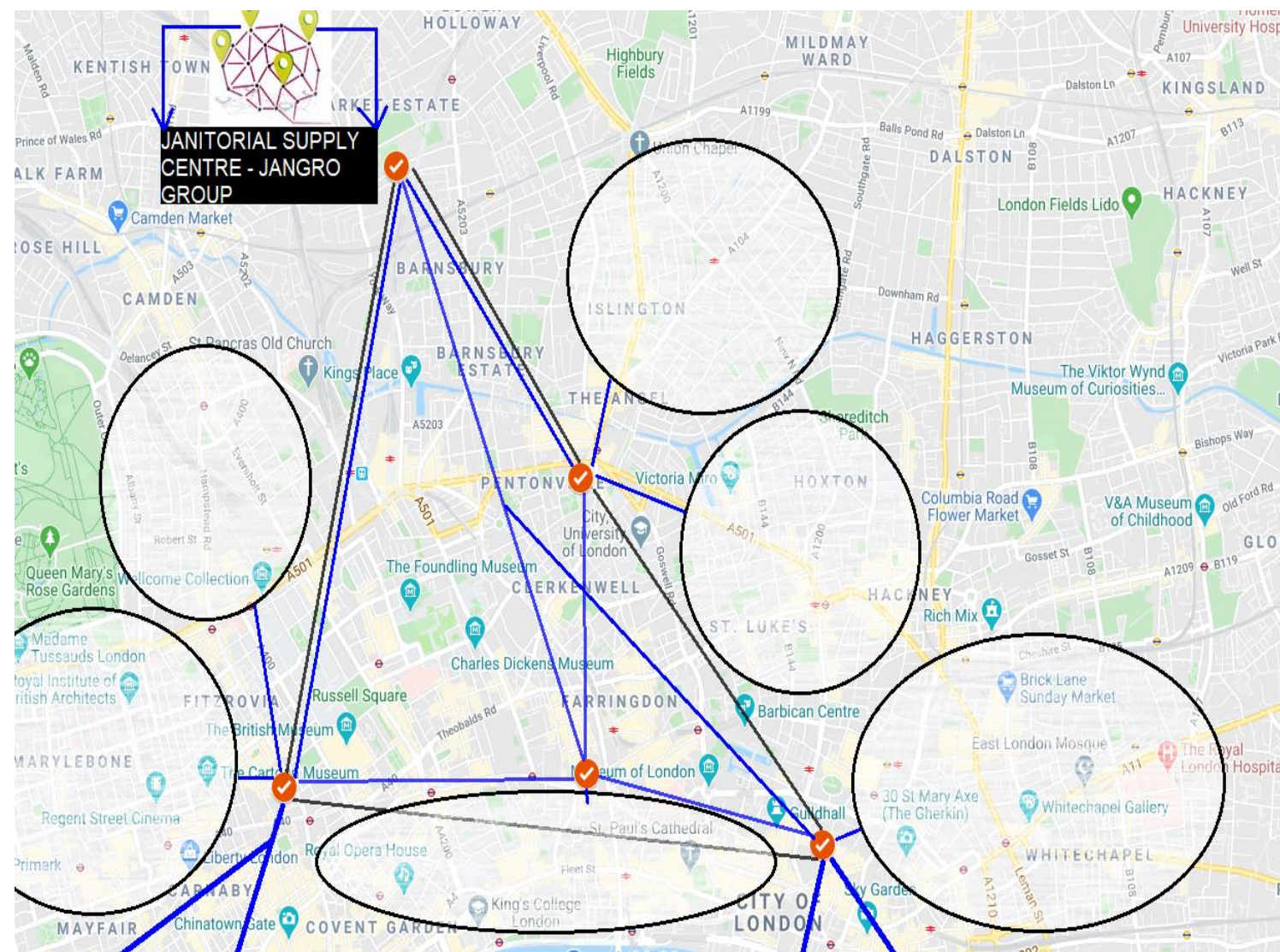
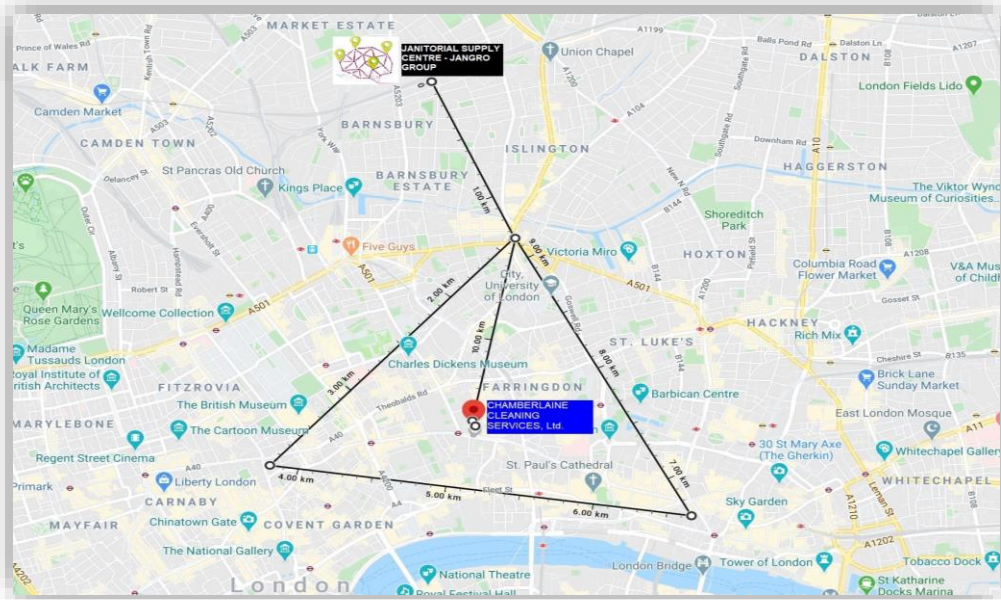
The spectrum of options across our partners and supply chain includes:

- a. **Supply Chain resources** – Businesses, and organisations.
 - a. 'Just in time': i) **ad hoc sourcing** – Direct main Supplier provides reassurance that the items will be provided on demand.
- b. **Virtual stockpiles** - Prearranged "call off" for specific supplies.
- c. **Physical stockpiles** – We use those for custom-made items, or those with long lead times.



SUPPLY CHAIN & SUPPORT CELLS

- ✓ Chamberlaine cleaning Services logistic support cells have been mapped to take into account strategic routes and enhance the availability to communicate, transport and delivered resources across all our sites
- ✓ Our cells are resilient to weaknesses on national transport infrastructure and bottlenecks
- ✓ Full coverage of our portfolio will be guarantee (Zone 1&2).



WORK FORCE & TEAM DEPLOYMENT



Our specialist service team APC have the experience and equipment to support and carry reactive emergency operations (within hours), they have their own mean of transport including a Van and can deploy **40 skill** and experienced operatives who are highly flexible and can operate in crucial areas across central London using state of the art equipment and products.

To support our containment effort, team members from our (part-time) division can get involve at different stages and at different levels to provide and effective response to any of our client's preventive requirements. A well trained workforce of **(60 +)** operatives (London based) can be deploy within **24hrs** to support our containment efforts (High touch point areas disinfection and detail cleaning) *after office hours*.

Members of the APC team will provide highly valuable technical assistance to these operatives and assist in areas such as best practices, product knowledge, application, supervision, needs assessment, procedures, transfer knowledge etc.



ASSESSMENT:

The focus is the collection and analysis of detailed epidemiological information.



- ✓ **Containment Action:** – Preventative arrangements will be activated to ensure all the necessary detailed and targeted cleaning, will be delivered. This will be decided and customised on the specific surveillance delivered at each client premises. This will be according to the recommendations of The Worldwide Cleaning Industry Association (ISSA), WHO, .GOV .
 - ✓ **Incident site risk assessment: assess what equipment is needed and what cleaning and disinfection solutions to use.**
- ✓ **Cleaning Disinfection & Sterilization:** Where there is a confirmed contamination (**Person testing Positive**), a Decontamination stage will be carried out with Biocides meeting BS EN1276 or Quantitative suspension test for the evaluation of bactericidal activity of chemical disinfectants and antiseptics

Decontamination Stages

1. **Disinfection:** Use of selected chemicals and physical means to reduce the number of microbes including transmissible agents (such as fungi, bacteria, viruses, and all bacterial spore forms), to such levels that they will not cause infection.
2. **Sterilization:** Use of state of the art equipment and products to reach in “*deep and remote*” areas to eliminate all remaining forms of microbial life,

Products Such as:

- ✓ **Formula 429**
- ✓ Jangro foaming bactericidal cleaner
- ✓ Jangro virucidal cleaner
- ✓ This will aim at " knocks down the viral or bacterial contamination".



CONTAINMENT ACTION

High Touch Point Areas Disinfection

Preventive cyclical cleaning across communal areas such as:

- ✓ Stair cases hand rails
- ✓ Lifts panels & hand rails,
- ✓ Call buttons,
- ✓ Door hand plates,
- ✓ Toilet entrance doors
- ✓ Toilet cubicles doors
- ✓ Etc..

PRODUCTS

Lacto Des

Jangro foaming bactericidal Cleaner

Jangro Virucidal Cleaner



The following shows the significant tests relevant to our Industries involvement in the Formula 429 technology. We have listed these as a guide to the quality and performance this product offers to all professionals in the antimicrobial industry i.e. Healthcare, Bio hazard, Deodorisation, Restoration etc.

EN Standards

Significant EN Tests of the Formula 429 Technology Include:

Test Method	Test Virus	Independent Testing Centre
EN1276:1997 5442.	Bactericidal: Suspension Test Paeruginosa ATCC E.coli, S.aureus, Enterococcus hirae, E.Coli, Mycobacterium smegmatis(TB stitulent), Staphylococcus aureus(MRSA)	BluScientific, Glasgow, UK (2005) CCFRA, Camden, UK (2002) Institut For Microbiology Uni. Erlangen

See sepearate pdf. for full details on dilutions of different specific tests etc.

EN1500 Hand sanitising non pathogenic E.coli According to Bush et al (1986)
Pseudomonas aeruginosa, Enterococcus hirae, aureus, MRSA
(This refers to the hand sanitising Formula 429 technology only and is not the same as the Formula 429 antimicrobial surface and fogging product)

A different test was also carried out to test efficacy of pathogenic micro organisms.

EN13704	Bactillus subtilis ATCC, Bacillus stearothermophilus	Alcontrol Lab
EN1650	Candida albicans, Aspergillus niger	Alcontrol Lab
EN13696	Blue Scientific Specific Feline Coronavirus, Feline Calicivirus (human norovirus Surrogate)	

EN14476: 2007-02 influenza A virus H1N1 (Swine) CCFR, Camden, UK

MRSA Study Formula 429 Technology established a protective shield against MRSA. Independent Study
(EMRSA15) The shield showed long lasting effect over several 6 mths. @ Glasgow
(EMRSA16) Weeks. Royal Infirmary.
(EMRSA = Epidemic MRSA)

Regular use showed significant reduction in incidents.

See separate document for European Conformity.

CLEANING DISINFECTION & STERILIZATION: (Confirm Positive cases)

When a person has tested positive for Corona Virus at any of our client locations. We will immediately escalate our cleaning process into the decontamination phase.

1. **Decontamination** – The focus in this phase would be special management arrangements with our specialist team (APC). This will have as a main aim to maintain essential services for our clients, on a robust contingency plans.

- a. **Load reduction:** Items may need to be removed altogether because of bio contamination.
- b. **Disinfection:** This will be done with EN1276 Biocides products, (wet cloth, bucket) and finish wit clean dry towel
 - Jangro foaming bactericidal Cleaner or.....
 - Jangro Virucidal Cleaner

2. **Sterilization:** This will be done with **FORMULA 429** Biocidal Product Directive 98/8/EC through Fogging or Electrostatic process

- Formula 429 standards: EN1500, EN13704, EN13696 EN1650, EN14476.
- **Fogging Machine or Electrostatic Sprayer**
- Post site assessment / ATP test: (at client request)

3. **Post site assessment / ATP test (at client request):** ATP bioluminescence meters, measure the concentration of ATP as relative light units (RTU) in organic material and living cells, making it a perfect indicator when trying to determine if a surface is clean or not.

4. **Containment stage:** Introduce extra cleaning activities of high touch areas to interrupt any possible reoccurrence or transmission.

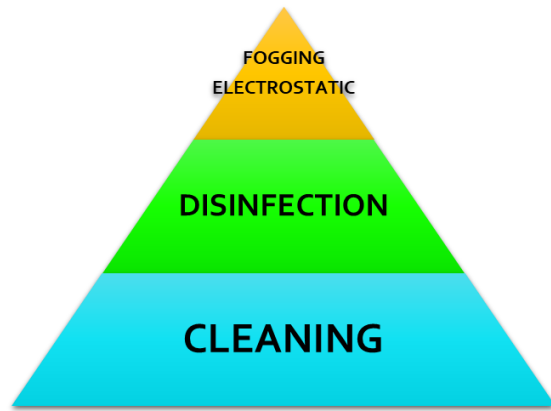
- ❑ If the situation is judged to have worsen such as (wide community transmission) by lead Government data expert, Departments and Agencies. Chamberlaine will follow Government Emergencies protocols.





EQUIPMENT & PROCESS

- ✓ Use of dedicated equipment in the area such a Fogging machine or Electrostatic Sprayers
- ✓ Dispose of single use equipment as per waste category
- ✓ If using Fogging Machine or Electrostatic Sprayers Isolate Smoke detectors if possible. Alternatively cover detectors with plastic cup.
- ✓ We recommend more frequent cleaning of commonly used hand-touched surfaces and of anteroom/lobby areas (at least twice daily)
- ✓ To ensure appropriate use of PPE and that an adequate level of cleaning is undertaken. Our team(s) "when possible" will approach the cleaning of washrooms and toilet area as a separate regime, to that of common areas
- ✓ If the same cleaner/cleaning team is responsible for cleaning the communal area and wash room area, the communal areas will be decontaminated first
- ✓ Disposable equipment will be used for Sterilization process. This equipment will be disposed according to waste category B.



FOGGING STERILISATION TECHNIQUE

Fogging of disinfectants has proven to be an additional control measure following a successful cleaning and disinfection regime. Fogging should be regarded as the top level of the pyramid and never as a replacement for cleaning or disinfection regimes.

Fogging is effective at reducing air-borne contaminants as well as reaching high levels and other difficult to access ledges and equipment tops.

However, a key limitation is the inability of fog to adhere to vertical surfaces therefore these surfaces will receive limited contact with the disinfectant fogged as gravity will intervene and cause run off.

Therefore **Electrostatic operations** help to overcome this limitation by causing the biocide to “cling” to surfaces.

Anticipated Reductions in Micro-flora Populations:

Extensive research has been conducted into the pros and cons of fogging, the following are some of the main points identified: -

- Fogging is found to have a good disinfecting effect on horizontal surfaces reported as **up to 6 log reductions after 60 minutes**.
- Fogging is not an effective method for disinfection of vertical surfaces, because of the lack of chemical coverage on such surfaces.
- Airborne microbiological contamination can be reduced by fogging - **2 log reductions after 30 minutes; 3 log reductions after 60 minutes**.
- Fogging is most effective with particle sizes in the range **10 - 20 microns (µm)**
- Under normal conditions, fogging needs to be carried out for a minimum 15 - 30 minutes to enable the fog to disperse and the chemical action to occur. After fogging an additional period of 45 - 60 minutes is required to allow the droplets to settle and reduce the risk of people inhaling the chemical droplets.

Log Reduction	Reduction Factor	Percent Reduced
1	10	90%
2	100	99%
3	1,000	99.9%
4	10,000	99.99%
5	100,000	99.999%
6	1,000,000	99.9999%

Log Reduction

Measures how thoroughly a decontamination process reduces the concentration of a contaminant number of **colony forming units (CFUs)**.

As it is the common logarithm of the ratio of levels of contamination before and after, so an **increment of 1** corresponds to a reduction in concentration by a **factor of 10 or**, to put it another way, moving down one decimal place or a **90% reduction**. An **n-log reduction** means that the concentration of remaining contaminants is only **10-n times** that of the original.



ELECTROSTATIC SPRAYER STERILISATION TECHNIQUE

What is electrostatic cleaning & disinfection?

Electrostatic is the word used to describe the process of incorporating an electrical charge into a liquid. Why is this done? When electrostatic technology is applied to a liquid, the droplets created when sprayed become positively charged, enabling them to **"stick to a surface"**.

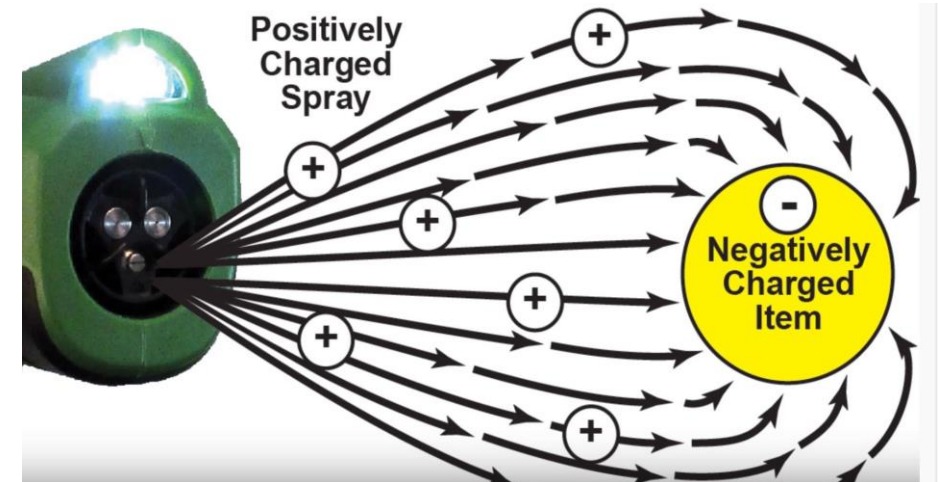
This unique technology enables to disinfect awkwardly shaped objects or hard to reach places, the nature of the mist allows it to coat surfaces evenly, and envelope objects—even if the mist is only sprayed from one side. After the spray is applied, the sanitizing agent works to disinfect the covered surfaces. For this reason, electrostatic spray is an excellent solution for germ and contaminant ridden areas.

Liquid Adhesion & Coverage

Using the electrostatic sprayers will enable a **quick and effective Chemical or Biocide application**. As fully-charged droplets hit the surface they create an even spread. Particles hold their cationic charge for approx. 2-3 seconds – preventing drips. This allows the solution to cover hidden and shadowed areas, and also enables to cover a large area in a small amount of time.



Effectively against viruses, fungi, spores and bacteria such as Influenza, MRSA, C.difficile, Norovirus



WASTE

Large volumes of waste may be generated by frequent use of PPE; advice from the HESEQ Dept should be sought if in doubt on how to manage this

From Areas of Confirm or positive cases of Corona Virus (COVID-19) **were the waste needs to be removed before 72 hours** all waste will be treated as Category B infectious waste:

- The waste will be kept separate from other waste while the collection is arranged through Chamberlaine's specialist contractors
- Your operations or Area Manager will generate the cost for this service

Personal waste from individuals with symptoms of COVID-19 and waste from cleaning of areas where they have been (including PPE, disposable cloths and used tissues, etc):

1. Will be placed into a plastic rubbish bag and tied when full
2. The plastic bag will then be placed in a second bin bag and tied
3. This will be put in a suitable and secure place and marked for storage until the individual's test results are known
4. This waste should be stored safely and kept away from other waste. It should not be placed in communal waste areas until **negative test results are known, or the waste has been stored for at least 72 hours.**
5. If the individual tests **negative**, this can be disposed immediately with the normal waste.
6. If COVID-19 is confirmed **Positive this waste should be stored for at least 72 hours before disposal with normal waste.**



EVIDENCE OF ENVIRONMENTAL PERSISTENCE

SURFACE	LIFESPAN OF COVID-19 VIRUS
 Paper and tissue paper**	3 hours
 Copper*	4 hours
 Cardboard*	24 hours ■
 Wood**	2 days ■■
 Cloth**	2 days ■■
 Stainless steel*	2–3 days ■■■
 Polypropylene plastic*	3 days ■■■■

Recent publications have evaluated the survival of SARS-CoV-2 on different surfaces. According to van Doremalen et al., the environmental stability of SARS-CoV-2 is up to three hours in the air post-aerosolisation, up to four hours on copper, up to 24 hours on cardboard and up to two to three days on plastic and stainless steel, although with significantly decreased titres *[dilution factor that still yields a positive reading]*.

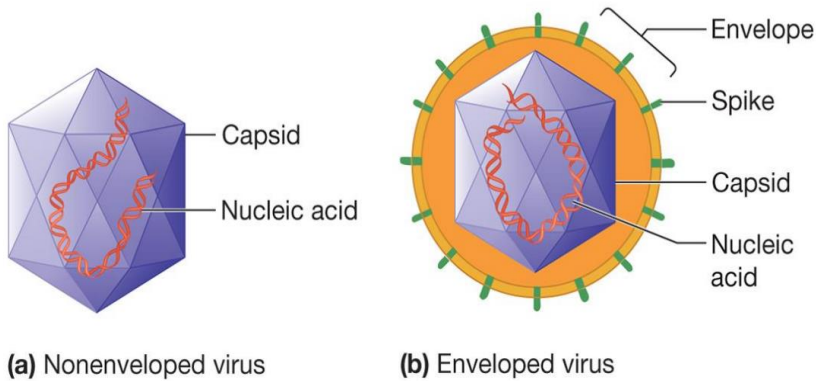
These findings resulted from experiments in a controlled environment and can vary in real life setting.

CHEMICAL AND VIRUSES

When considering viruses, we face a challenge as these infective agents do not behave or respond in the same way that bacteria do – fundamentally this is because they are not strictly “alive”

A virus is a microscopic parasite which can infect living organisms and cause disease. It can make copies of itself inside another organism’s cells.

On that basis, we cannot rely on the traditional disinfection method of getting a chemical into a cell and either breaking apart the cell membrane (bacteria dies) or interfering with the reproduction process (bacterial population reduces and eventually dies out) as viruses do not respire or consume nutrients. It is for this reason that this class has their own Euro Norm for chemicals (**BS EN 14476**) and isn’t included in bacterial tests such as **BS EN 1276** or **13697**.



Even within the virus class we have two types: -Enveloped & Non-enveloped viruses-

It may seem counter-intuitive. However **enveloped (or encapsulated viruses) such a COVID-19 are easier to inactivate than non-enveloped** simply because the former rely heavily on the matrix of the envelope as the primary “defence” whereas the non-enveloped have to be made of sterner stuff to survive without the benefit of this lipid-protein layer.

OUR CHEMICALS

Formula 429 Chemspech Europe underwent successful trials following a 12 week hospital environment test for cold fogging for infection control at St Barts and the Royal London Trust.

Effective micro control of A/H1N1 swine, P.aeruginosa, E.coli, S.aureus, Enterococcus hirae, Bacillus subtilis, MRSA, C.difficile, Aspergillus niger, Listeria, Salmonella and Legionella pneumophila.

NHS Evaluation Report at Barts and The London NHS Trust

Principal investigators: Dr Arthur Tucker, Principal Clinical Scientist and Senior Lecturer, and Martina Cummins, Nurse Consultant Infection Control, at Barts and The London NHS Trust - Ayliffe, G.A.J.; Collins, B.J. and Lowbury, E.J.L.; 'Cleaning and Disinfection of Hospital Floors'. British Medical Journal, 1966, 2, 442-445



EN1276:1997 5442.	<ul style="list-style-type: none"> ○ Bactericida; Suspension Test P.aeruginosa ATCC ○ E.coli, S.aureus, Enterococcus hirae. ○ E.Coli, Mycobacterium smegmatis(TB stinulent), ○ Staphylococcus aureus(MRSA)
EN1500	<ul style="list-style-type: none"> ○ Hand sanitising non pathogenic E.coli ○ Pseudomonas aeruginosa, Enterococcus hirae, aureus , MRSA
EN13704	<ul style="list-style-type: none"> ○ Bactillus subtilis ATCC, Bacillus stearothermophilus ○ Clostridium difficile
EN1650	<ul style="list-style-type: none"> ○ Candida albicans, Aspergillus niger
EN14476	<ul style="list-style-type: none"> ○ influenza A virus H1N1 (Swine)
EN13696	<ul style="list-style-type: none"> ○ Blue Scientific Specific Feline Coronavirus, Feline Calicivirus (human norovirus Surrogate)
MRSA Study Independent Study Gemmell et al 2006 6 mths. @ Glasgow Royal Infirmary (EMRSA15) (EMRSA16) (EMRSA = Epidemic MRSA)	<ul style="list-style-type: none"> ○ Protective shield against MRSA. ○ The shield showed long lasting effect over several Weeks. ○ Regular use showed significant reduction in incidents.

Our Disinfectants and Biocides passes EN standards for Quantitative suspension test for the evaluation of bactericidal activity of chemical disinfectants and antiseptics BS-EN

- **EN1276**
- **EN1650**
- **EN13704**
- **EN14675**
- **EN14476**

Jangro Virucidal Cleaner is a powerful multi-purpose bactericidal cleaner and sanitiser. Kills Norovirus, E-coli, Salmonella typhimurium, Listeria monocytogenes, H1N1 Influenza virus, HIV, Hepatitis C, MRSA & [I]C. difficile[I].



EN1276	Quantitative microbiological evaluation to determine the antimicrobial efficacy of chemical disinfectants and antiseptics - Bactericida; Suspension Test P.aeruginosa ATCC
EN1650	Candida albicans, Aspergillus niger
EN13704	Suspension test for disinfectants intended for use in the food, industrial, domestic and institutional areas. The test evaluates the efficacy of the product against bacterial and fungal spores.
EN14675	Testmethod on minimum requirements for virucidal activity of chemical disinfectant and antiseptic products that form a homogeneous, physically stable preparation when diluted with hard water
EN14476	Influenza A virus H1N1 (Swine)



OUR TEAM

Over the years our specialist **APC team** have accumulate vast amount of knowledge through the different challenges of hundred of decontamination jobs and accumulating thousand of hours of practical skills. *Chamberlain's emergency reactive service will ensure a 24/7, 365 cover* for all our clients, should an incident occur and we will have a specialist team assembled same day to control the situation.

Through the developed of our core strategies and processes we have successfully implemented plans to deal with the COVID-19 outbreak. Our team is trained to seal off the infected area and carry out cleaning of all surfaces, including the air in the room, to effectively bring the risk of the epidemic under control.

Evaluation and Elimination of the risk

Once the type and the extent of the contamination has been evaluated the cleaning and decontamination process will be outlined. Generally process will include the following steps.

1. Once on site our operatives will ensure full PPE is used
2. The contaminated area will be isolated and sealed (if internal), and the APC team will remove any contaminated items and collect any excess fluid if any. Sealing those in clinical waste sacks.
3. We will ensure appropriate ventilation of the area before starting the decontamination of all surfaces
4. Once contaminated objects and excess fluid is removed the area will be treated with a **medical grade biocides for (Envelop & Non-Envelop viruses)** which will completely eliminate the bacteria and viruses.



ARTICLES, FIXTURES & FURNITURE FROM SITES WITH POSITIVE CONFIRMED CASES

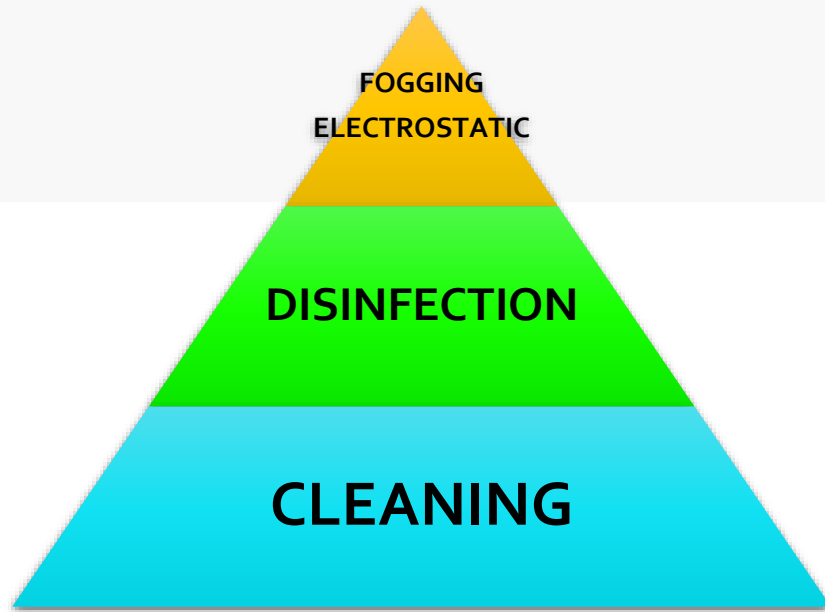
INSTRUCTIONS TO OPERATIVES

IF requested by the client to disposed items or furniture

- ✓ All articles must be treated as waste class B
- ✓ Label with biohazard label
- ✓ Wearing recommended PPE, **with the additional measure of use of double-gloves**
- ✓ The article(s) should be double-bagged inside the office or area of work by staff member(s). Tie the first bag, spray disinfectant and put the first layer of outer gloves inside the second bag or outer bag and close tie the bag.
 - ✓ Once taken to the specially designated waste room, the operative(s) should then wipe or spray the bag with disinfectant and....
 - ✓ On a separate bag the Operative(s) should remove their remaining gloves and PPE. Close bag and then wipe or spray with disinfectant
 - ✓ Use hand gel sanitiser once you have placed all the items inside the Class B bin
- ✓ Any equipment taken in to the room which must be subsequently removed, needs to be disinfected prior to leaving the site, in a similar approach to Articles (as described above). This can be achieved by removing the outer layer of gloves and then using appropriate disinfectant to clean its surfaces including wheels.
- ✓ Bagged Articles for waste should be hand delivered to the waste room by someone who understands the nature of the hazard. Chutes **MUST NOT** be used
- ✓ Transport of articles or furniture between site and process plant will be in accordance with Category B transportation regulations.



CLEANING AND DECONTAMINATION FROM SITES WITH SUSPECTED OR POSITIVE CONFIRMED CASES



1. Rooms and areas where the positive case(s) has or have interacted should be ventilated with fresh air for 1–3 hours, before cleaning
2. After ventilation, the areas will be carefully cleaned with a neutral detergent. *Forensic cleaning technique (wet and dry cloth)* will be used to avoid splashes and spraying. This will guarantee absolute control and effective cleaning.
3. Detail decontamination of surfaces using professional -Hospital grade- Biocides disinfectants effective against enveloped and Non-Enveloped viruses will take place. *Forensic cleaning technique (wet and dry cloth)* will be used to avoid splashes and spraying. This will guarantee absolute control and effective disinfection. **Products used meet standards (EN14476)(EN1276) for bacteria and viruses (Cloride and Hydrochloride = 1-5% = 1,000ppm - 5,000ppm)**
4. Cleaning of toilets, bathroom sinks and sanitary facilities will be carefully performed, avoiding splashes and praying - Forensic cleaning technique (wet and dry cloth)-.
5. Disinfection using biocides will follow using Hospital grade- Biocides effective against viruses, products used meet standards (EN14476)(EN1276) for bacteria and viruses (Cloride and Hydrochloride = 1-5% = 1,000ppm - 5,000ppm)
6. All textiles surfaces / upholstery will be cleaned and disinfected though dry steam process cycles of (90°C - 150°C).
7. Following successful cleaning and disinfection operations. **Sterilization will take place trough the used of fogging and electrostatic sprayer in order to eliminate any air-borne contaminants as well as reaching high levels and other difficult to access ledges and equipment tops. The Target reduction of colony forming units (CFU) will be 5 to 6 log reductions after 60 minutes of each treatment.**
8. **Validation and quality assurance - measure the level of decontamination and cleanliness to a microscopic level through ATP test at (client request)**
9. We will adhere to the use of single-use disposable cleaning equipment (e.g. disposable towels)

SUGGESTED CHEMICAL COMPOSITION FOR HEALTHCARE SETTINGS

➤ ECDC EUROPEAN CENTRE FOR DISEASE PREVENTION AND CONTROL & UK GOVERNMENT

CLEANING / DESINFECTANT PRODUCTS COMPOSITION IN PPM AND PERCENTAGE%			
	(ECD) SUGGESTED PUBLIC HEALTH CARE SETTINGS	UK GOVERNMENT SUGGESTED PUBLIC HEALTH CARE SETTINGS	CHAMBERLAINE BIOCIDES COMPOSITION
SURFACES	<ul style="list-style-type: none"> Neutral detergent AND Virucidal disinfectant - Biocide OR <ul style="list-style-type: none"> 0.05% sodium hypochlorite OR <ul style="list-style-type: none"> 70% ethanol 	<ul style="list-style-type: none"> 70% ethyl alcohol OR <ul style="list-style-type: none"> 1,000ppm available chlorine = 1% chlorine 	<ul style="list-style-type: none"> Chloride (DDAC) CAS number: 7173-51-5 = 1% = 1,000ppm Ammonium chloride CAS number: 68424-85-1 = 1% = 1,000ppm Biguanide hydrochloride CAS number: 27083-27-8 = 1% = 1,000ppm Oxirane ether = 1-5% 1,000ppm = 5,000ppm ammonium,benzyl- chlorides (CAS No) 68424-85-1 = 1-5% = 1,000ppm = 5,000ppm didecyldimethylammonium chloride (CAS No) 7173-51-5 = 1-5% = 1,000ppm = 5,000ppm
TOILETS	<ul style="list-style-type: none"> Virucidal disinfectant OR <ul style="list-style-type: none"> 0.1% sodium hypochlorite 	<ul style="list-style-type: none"> A combined detergent/disinfectant solution at a dilution of 1,000 parts per million available chlorine (ppm available chlorine (av.cl.)), = 1% OR <ul style="list-style-type: none"> Neutral detergent in a solution water followed by a disinfectant solution of 1,000ppm av.cl=1% OR <ul style="list-style-type: none"> If cleaning agents/disinfectants are to be used, this must conform to EN standard 14476 for virucidal activity 	<ul style="list-style-type: none"> Chloride (DDAC) CAS number: 7173-51-5 = 1% 1,000ppm Ammonium chloride CAS number: 68424-85-1 = 1% = 1,000ppm Biguanide hydrochloride CAS number: 27083-27-8 = 1%=1,000ppm Oxirane ether = 1-5% = 1,000ppm = 5,000ppm ammonium,benzyl- chlorides (CAS No) 68424-85-1 = 1-5% = 1,000ppm = 5,000ppm didecyldimethylammonium chloride (CAS No) 7173-51-5 = 1-5% = 1,000ppm = 5,000ppm
TEXTILES	<ul style="list-style-type: none"> Hot-water cycle (90°C) AND Regular laundry detergent 	Laundered: <ul style="list-style-type: none"> Separately from other linen In a load of no more than half the machine capacity At the maximum temperature the fabric can tolerate. 	<ul style="list-style-type: none"> Hot dry steam machine: Heating water to a very high temperature (typically in the range of 90-150°C). When used this superheated water-steam can penetrate even stubborn materials like grease and biofilms.

PERSONAL PROTECTION EQUIPMENT



Putting on PPE

1. Overalls.
2. FFP2 or FFP3 respirator and fit check.
3. Eye protection, ie goggles or face shield.
4. Disposable gloves Vinyl & Black Rubber

The order given above is practical but the order for putting on is less critical than the order of removal given below.

Removal of PPE

PPE should be removed in an order that minimises the potential for cross-contamination. Before leaving the area or office gloves, Overalls and eye protection should be removed **(in that order, where worn)** and disposed of as category B waste (also known as infectious) waste. After leaving the area, the respirator can be removed and disposed of as clinical waste. The order of removal of PPE is suggested bellow, consistent with WHO guidance, as follows:

1. Peel off gloves and overall together and roll inside out. Dispose in clinical waste.
2. **Perform hand hygiene.**
3. Remove goggles from behind and place them inside container with virucidal or disinfectant for 5min.
4. Remove respirator from behind and dispose in clinical waste.
5. **Perform hand hygiene.**



1

- Avoid contamination of self, others and the environment.
- Remove the most heavily contaminated items first.

Remove gloves and gown:

- peel off gown and gloves and roll inside, out;
- dispose of gloves and gown safely.



2

Perform hand hygiene.



3

- Remove cap (if worn).
- Remove goggles from behind.
- Put goggles in a separate container for reprocessing.



4

Remove respirator from behind.



5

Perform hand hygiene.



HSEQ & APC Department

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Thank You

