

INNOVATIVE - INFECTION - PROTECTION



GermCure



COVID-19 Disinfection

www.germcure.co.za

COVID-19 DISINFECTION OF PREMISES DURING AND POST LOCKDOWN

Dear Client

RE: GERMICURE INTERNATIONAL (PTY) LTD for disinfection of your retail

stores Thank you for the opportunity to present our services and products to

you. **WHY GermCure?**

- * We have more than 8 years experience in the Disinfection of Premises, High Touch Surfaces and High Foot Traffic Areas.
- * We have done International Training in the USA.
- * We are the Pioneers in South Africa, since 2012, offering SAFE Total Room Disinfections to our clients.
- * We work closely with The Health Departments.
- * We also offer Very Detailed FOOD SAFETY Training
- * Our ESS DISINFECTING SOLUTIONS are 100% NATURAL and do not contain Any **Hazardous Or Toxic** Chemicals like Alcohol, QUATS (QAC's) or Chlorine as Confirmed by our MSDS sheets. (MSDS - Raw Material Data Sheet)
- * **The CDC does NOT support the Fogging of ANY Chemical Product for Disinfection of Premises due to possible Health Risks and Research that still needs to be done– FACT See CDC website**
- * Our Products have Various SA as well as International Certifications and Accreditations i.e SABS, EPA, NRCS etc.
- * You can NOW make use of our services

OR

- * Opt to Buy or Rent our World Class VICTORY ELECTROSTATIC BATTERY OPERATED Sprayers which are used Across the Globe.
- * **With this option You Can Disinfect Daily.**
- * We are associated with World Renowned International Companies like Victory Innovations, Kersia & Medentech which are established in 90 Countries and also Clift Industries from the USA.
- * [Visit Our Website or FB Page for more information.](http://www.germcure.co.za)
www.germcure.co.za

Important Aspects of Area/Room/Building Disinfections for Viral Pathogens Like COVID-19

Ensure you use a Disinfectant that is effective against Viruses, Classified and Registered as a VIRUCIDAL
Ensure the Disinfectant Used is Registered with the NRCS and the EPA or SABS

Ensure the Disinfectant used is Food Safe and Registered for the type of application i.e an Alcohol Disinfectant should never be atomised/fogged as it can create a health, safety and/or fire hazard due to the flammability and gases produced. Ensure appropriate method of application is used, ESS Spray, ESS Fogging or Smoke Disinfection. Ensure that the disinfectant used on a daily basis inside your store premises is effective against Enveloped Viruses and more specifically against the HUMAN CORONA VIRUS of which COVID-19 is a new strain of this Virus Family. **Familiarize yourself with the differences between cleaning, sanitizing as well as the differences between viruses and bacteria.**

Francois Viljoen
CEO - GERMICURE INTERNATIONAL (PTY) LTD

WE CAN HELP!

GermCure's Advanced Disinfection System is of world class standard. A 100% Natural Disinfection Solution is applied with the use of Electrostatic Sprayers.

Each ml of the Disinfection Solution gets broken down into more than **2 000 000**, 40 Micron droplets, each loaded with the same Electrostatic Charge. These Electrostatic charged droplets acts like little magnets, they are attracted to all surface areas and objects like toys, door knobs, key boards, railings, remote controls etc. at up to 75 times the force of gravity and forms a 40 Micron, 360 degree wrap-around Disinfection layer.

With this technology all harmful micro-organisms (Viruses, Bacteria & Fungi) are reached and this prevents surfaces and objects from becoming breeding grounds for Germs that increase cross contamination and infections, which results in absenteeism.

The GermCure ESS Disinfection System provides the Ideal Disinfection Combination, a complete disinfection without missing any surface area combined with a Safe, 100% Natural Disinfection Solution.

The GermCure ESS Disinfection System is Safe, Effective and Natural, eliminates 99.999% of all germs, minimizes the spreading of infections and reduces the chances of cross contamination. By implementing the GermCure ESS Disinfection System you can create healthier environments by controlling the levels and presence of infection causing micro-organisms.

If you are interested in implementing this Cost Effective, World Class Disinfection System at your School, Organisation or Business, contact us for a Free Demonstration and Quotation.

ONS KAN HELP!

GermCure se Gevorderde Ontsmettings Stelsel is van wêreldklas gehalte. 'n Natuurlike (Groen) ontsmettingsmiddel word toegedien in persele deur gebruik te maak van Elektrostatiese Sproeiers.

Elke ml van die ontsmettingsmiddel word opgebreek in meer as **2 000 000**, 40 Mikron druppeltjies, elkeen met dieselfde Elektrostatiese Lading. Hierdie Elektrostatiese gelaai druppeltjies reageer soos klein magnete en word aangetrek na alle oppervlaktes en voorwerpe teen tot 75 keer gravitasiekrag. Die druppeltjies kleef aan alle oppervlaktes vas, aan alle kante en vorm 'n 40 Mikron, 360 grade ontsmettings laag.

Op hierdie manier word alle skadelike mikro-organismes (Virusse, Bakterië en Fungi) op alle oppervlaktes bereik en word voorkom dat vertrekke en voorwerpe soos speelgoed, stoele, tafels ens. 'n broeiplek word vir kieme. Hierdie kieme kan vir maande op oppervlaktes oorleef en bevorder so kruiskontaminasie en infeksies wat afwesighede tot gevolg het.

Die GermCure ESS Ontsmettings Stelsel verskaf dus die Perfekte Ontsmettings Kombinasie, 'n algehele ontsmetting sonder om enige areas of voorwerpe in 'n vertrek te mis, gekombineer met 'n Veilige, Natuurlike ontsmettingsmiddel.

Die GermCure ESS Ontsmettings Stelsel is Veilig, Effektief en Natuurlik, elimineer 99.999% van alle kieme, verminder die verspreiding van infeksies en beperk kruiskontaminasie. Deur gebruik te maak van die GermCure ESS Ontsmettings Stelsel kan jy dus gesonder omgewings skep waar die vlakke en verspreiding van skadelike mikro-organismes onder beheer gehou word.

Indien jy belangstel om hierdie Koste-Effektiewe, Wêreldklas Ontsmettings Stelsel by jou Skool, Organisasie of Besigheid te implimenteer, kontak ons gerus vir 'n Gratis Demonstrasie en Kwotasie.

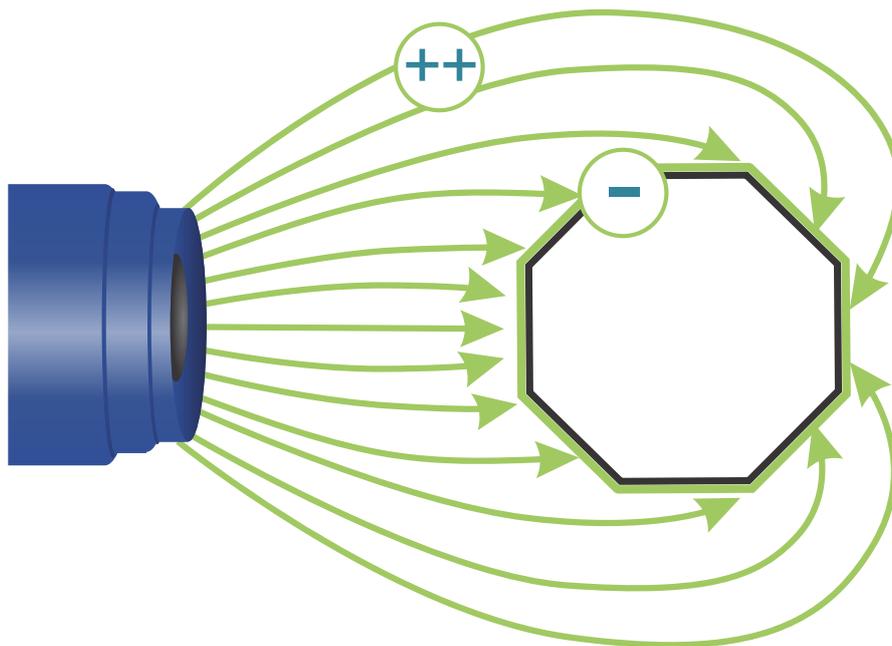




GermCure

The GermCure Electrostatic Spraying System

But just what is “electrostatic” technology? At the tip of the ESS nozzle is a tiny electrode which applies an electrical charge to the spray. This electrical charging causes a natural force of attraction between the sprayed droplets and the targeted surfaces, similar to the attraction between items of clothing created by the tumbling of a tumble dryer. The charge on the droplets is small, but the force pulling the spray towards the target is 40 to 75 times greater than the force of gravity. Droplets literally reverse direction and are attracted towards the targeted surfaces. This remarkable phenomenon by which the spray coats the undersides and the backsides of the sprayed target is known as electrostatic “wrap-around.” In practical terms, this means that spray reaches the underside, the back side, the nooks and crevasses of the target surfaces.

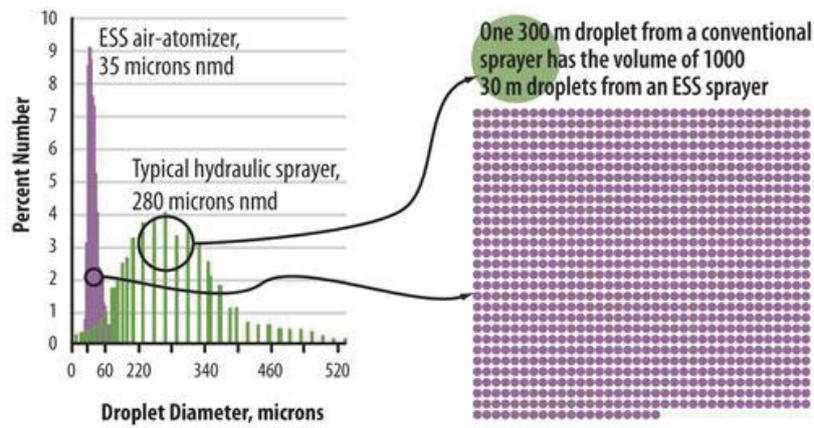


What is “electrostatic” technology?

- **Size Matters**

None of this would be possible if the droplets were the size of those produced by conventional sprayers. Our Air-Assisted Electrostatic Sprayers produce spray droplets which are 900 times smaller. The tiny droplets are blown towards the sprayed target in a highspeed air stream (the “air-assist”). The result is more than twice the deposition efficiency of non-electrostatic air-assisted sprayers.





Spray coverage is the uniformity of spray droplets on target surfaces. Our Electrostatic Sprayers achieve greater spray coverage by combining air turbulence with tiny, evenly-sized spray droplets. Dense coverage on the back and underneath results from electrostatic wraparound. The goal is to achieve an even coating with our disinfectant. If the coverage is spotty or incomplete, chances are increased that dangerous infective micro organisms will survive. With our electrostatic sprayer, the benefits are clear: Disease control is better because the chance of contact with our disinfecting solution is far greater.



Coverage With Electrostatic Charge



Coverage Without Electrostatic Charge

See The Difference For Yourself!

Take a look at the two test targets above, each were sprayed under the same conditions with the exception of one thing...electrostatic technology of our sprayers. The black knob on the left was sprayed with fluorescent dye and with the electrostatic system turned on. However, the knob on the right was sprayed with the electrostatic system off. The spray coverage is so uneven that the back side of the knob remains untouched/uncovered and is actually able to reflect the evenly-coated electrostatic knob.

- **Disinfecting facilities:**

- Using our GermCure ESS disinfection system to sanitize/disinfect against HFMD, MRSA, E.coli, mold, bacteria, and viruses in schools, hospitals, hotels, offices and restaurants is ideal because it gives a complete treatment.
- Our Electrostatic Sprayers allow our disinfectant to completely cover complex shapes and penetrate into cracks

- Facility owners and managers can be confident that they are doing everything possible to provide a clean, safe environment.
- Our Air-assisted Electrostatic Sprayer is a portable unit ideal for spraying small and large areas, which gives us the ability to move in and out of rooms/areas with ease.

• How does it work?

• Electrostatic Spraying

Our Electrostatic Sprayers produce electrically charged spray droplets which are carried to the targets in a high-speed air stream. The result is more than twice the deposition efficiency of hydraulic and regular air-assisted sprayers. The spray nozzle uses compressed air to atomize a spray and carry droplets onto the target surfaces in a turbulent cloud. Electrostatic means the droplets are electrically charged. Because of that, they are attracted to surfaces instead of drifting away or falling to the floor area. By using air assistance in combination with electrostatics, the amount of spray material reaching the surfaces is increased significantly. In fact, coverage to tops, sides and bottoms are increased to 70 times more than with conventional sprayers.

• Electrostatic Wrap-Around

Electrical charging causes an attraction force between the sprayed droplets and the targeted surfaces. The electrical charge on the sprayed droplets is small, but the force of attraction to the surface is strong since the sprayed droplets/particles are lightweight.

- The electrical force which pulls the sprayed droplets towards the surfaces is 40 to 75 times greater than the force of gravity.
- This means when the droplets approach the target surface, they will reverse direction and move upwards against gravity.
- The electrostatic wrap-around phenomenon occurs as droplets move quickly towards the target. The level of charge is important for the electrostatic effect.

• Low-Volume Spraying

Our Electrostatic Sprayer is low-volume, meaning it uses 10 to 50 times less water-carrier than standard hydraulic sprayers, and large areas can be covered with less product.

• Induction Charging Process.

The heart of our Air-assisted Electrostatic Sprayer is the patented Air-atomizing induction charging nozzle.

- Air and liquid enter separately at the rear of the nozzle. The air moves at a high speed through the nozzle and intersects the liquid at the nozzle tip, causing the formation of spray droplets.
- As the spray is atomized, the droplets pass a unique embedded induction electrode that induces a charge on each droplet.
- The charged droplets are propelled onto the target surfaces by the force of the turbulent air stream.
- The electrostatic charge on the spray droplets is negative. Positive electrical charges on the target surface pull the spray droplets to the tops, bottoms and sides of the surface, providing 360 degree wrap-around coverage.





GermCure
INNOVATIVE - INFECTION - PROTECTION

NATURAL DISINFECTING

100% All-Natural SAN-A-SAFE MEDICAL

- Effective - Ready-to-use broad spectrum virucidal, bactericidal, fungicidal and tuberculocidal
- Heavy-Duty - One-step hospital disinfectant, cleaner and deodorizer with short contact times
- Low Toxicity - Category IV with no cautions or warnings
- Deodorizes - Eliminates foul odours and leaves a pleasant, fresh, clean scent
- Multi-Surface Friendly - Leaves no residue and requires no rinsing or wiping
- Effective, safe hand sanitizer

What is San-A-Safe Medical?

San-A-Safe Medical - provides excellent cleaning performance on tough soils and leaves surfaces residue-free and streak-free with a sparkling shine. Ideal for disinfecting and cleaning frequently-touched and high-contact surfaces where germs quickly spread.

Provides 18 kill claims in 3 minutes or less.

Bacteria 2 minutes

Staphylococcus aureus
Salmonella choleraesuis
Pseudomonas aeruginosa
Listeria monocytogenes
Escherichia coli ATCC 11229
Escherichia coli O157:H7
Streptococcus suis
VRE
MRSA
Klebsiella pneumonia NDM-1+

Mycobacteria 3 minutes
Mycobacterium bovis BCG

Viruses 1 minute
Influenza A including H1N1
HIV-1
Human Coronavirus

Fungi 3 minutes
Trichophyton
mentagrophytes
Candida albicans

Sanitizing (30 seconds)
S. aureus
E. aerogenes

How to Apply?

Hard Surfaces: (aluminum, stainless steel, plastic, PVC, ceramic tile, porcelain, fiberglass, glass, marble and floors)

Spray a light mist on hard surface. Allow to stand for 3 minutes. Then wipe excess from surfaces with a clean, absorbent cloth.

Where to use?

Restrooms, Hospitals & Health Care Facilities, Dental Offices, Nursing Homes, Veterinary Facilities, Hotels, Restaurants, Food Processing Plants, Institutional Kitchens, Convenience Stores, Beauty & Tanning Salons, Schools and Day Care Centers, Correctional Facilities, Athletic Facilities



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Reg No: Act5GNR529/292929/140/1085





MATERIAL SAFETY DATA SHEET (MSDS)

GERMCURE - Natural Disinfecting - RED

1. IDENTIFICATION OF THE PRODUCT AND SUPPLIER	
Trade Name	GermCure - Natural Disinfecting - San-A-Safe Medical
Supplier	Georgia Avenue Investments 54 (Pty) Ltd
	P.O. BOX 1097, Menlyn Central, 0077
	South Africa
Telephone	082 805 0405
Email and Website Address	mariaan@germcure.co.za / www.germcure.co.za
2. COMPOSITION / INFORMATION ON THE COMPONENTS	
Chemical Name / Trade Mark	Function: CAS - Number EINECS No. Weight - % Classification
Ingredients	DOES NOT CONTAIN ANY HAZARDOUS INGREDIENTS
Aqua	7732-18-5 ~
Thymol	89-83-8 ~
Sodium Citrate	68-04-2 ~
3. HAZARDS IDENTIFICATION	
Slightly irritating to the eyes	
4. FIRST AID MEASURES	
Inhalation	Not relevant
Consumption	Rinse the mouth thoroughly with water. Drink plenty of water if continuing discomfort seek medical attention, take data sheet
Skin Contact	Wash with water.
Eye Contact	Rinse opened eye immediately with plenty of water for minimum of 15 minutes. If continuing irritation seek medical attention, take data sheet.
5. FIRE FIGHTING MEASURES	
Extinguishing media	The product is not flammable. Choose extinguishing media according to surroundings
Measures	No special demands
6. ACCIDENTAL RELEASE MEASURES	
Person-related safety precautions	Spillage on hard surfaces may be slippery
Measures for environmental protection	No special dispose required, always follow federal, state and local regulations
Measures for cleaning / collecting	No special dispose required, always follow federal, state and local regulations
7. HANDLING AND STORAGE	
Handling precautions	No special demands
Storage precautions / conditions	Keep in original packaging. Should not be exposed to frost
8. EXPOSURE CONTROLS AND PERSONAL PROTECTION	
Arrangement of the workplace	No special demands
Threshold limits	None
Personal protective	None
Additional information	Follow good chemical hygiene



GermCure
INNOVATIVE - INFECTION - PROTECTION

NATURAL DISINFECTING

100% All-Natural SAN-A-SAFE

- Extremely powerful blend of plant extracts which uses a revolutionary technology
- Results in only 60 seconds of contact time, kills a broad spectrum of bacteria, fungi and viruses
- Non-toxic, non-corrosive, non-hazardous
- Powerful cleaning, deodorizing and sanitizing product called "Phytology" that creates a synergistic reaction
- Strong residual effect
- Effective, safe hand sanitizer
- Water based, non-flammable, odourless

San-A-Safe provides a "beyond green" alternative to conventional cleaning programs. Beyond Green San-A-Safe is a recently-developed cleaning program for cleaning markets containing all-natural ingredients. Beyond Green San-A-Safe provides viable alternatives to traditional cleaning products while solving general issues across a broad spectrum of tasks. The highly effective cleaning properties of these products provide a multitude of safe and efficient solutions for cleaning tasks.

AOAC non-food sanitizer tests have demonstrated kill efficacy on: Staphylococcus aureus, Salmonella choleraesuis and Klebsiella pneumoniae. Viral testing demonstrates kill efficacy on Avian Influenza virus and Norwalk virus. Results of these tests are summarized in the following tables.

Sanitizer: The product was challenged in triplicate for efficacy as a sanitizer on inanimate, non-food contact surfaces (EPA Guidelines DIS/TSS-10). An organic soil load of 5% blood serum was utilized. The product dilution with water was 32:1 or 4 ounces per gallon of water.

Bacteria	Kill rate in 3 minutes
MRSA NCIMB 50143	99.9%
P. aeruginosa	99.9%
S. aureus	99.9%
Listeria	99.9%
Salmonella	99.9%
E. coli 0157	99.9%



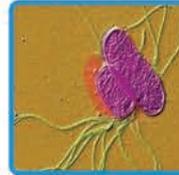
Listeria is a Gram-positive bacterium. Infection by *L. monocytogenes* causes the disease listeriosis. The manifestations of listeriosis include septicemia, meningitis and Pneumonia.



Salmonella enterica is a Gram-negative bacterium. Most cases of salmonellosis are caused by infected food. Investigations of vacuum cleaner bags have shown it can act as a reservoir of the bacterium.



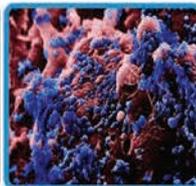
Escherichia coli is a leading cause of food borne illness. E.coli is contracted by eating contaminated ground beef and leafy vegetables. Person-to-person contact is also a known mode of transmission.



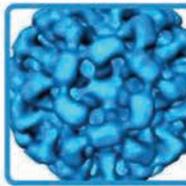
Staphylococcus aureus, a Gram-positive coccus, causes a range of illnesses from skin infections, such as pimples and boils, to life-threatening diseases, such as pneumonia, meningitis and endocarditis.

Virucide: The tests were designed to conform with EPA Guidelines DIS/TSS-7 and ASTM test method E 1053-91. An organic soil load of 5% blood serum was utilized. A cytotoxicity control was performed. The product was diluted with water at 32:1.

Virus	Log ₁₀ Reduction
Avian Influenza virus	>6.00
Norwalk virus	3.99998



Avian flu means "flu from viruses adapted to birds." It refers to an illness caused by any of many different strains of flu viruses such that the strain in question has adapted to the host.



Norovirus is a virus that causes 50% of all gastroenteritis. Common names of the illness caused by Noroviruses are viral gastroenteritis, food poisoning, and stomach flu.

Germicidal: Results are presented in the Table. The challenge fungus was confirmed by wet mount identification and colony morphology to be consistent with *S. chartarum*. The carrier counts averaged 5.2 x 10⁵CFU/carrier. The inoculum counts averaged 6.5 x 10⁴ FU/mL. The pre-test inoculum counts averaged 9.0 x 10⁶ CFU/mL.

Challenge microorganism	Lot No. 31406D	Lot No. 31406E
<i>S. chartarum</i>	0/10	0/10



Stachybotrys chartarum is a common slimy, black mold. It may cause health problems from volatile gases or toxicity from inhalation or skin contact. Toxic effects include rashes, headache, nausea, muscle aches and pains, and fatigue.

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Reg No: Act5GNR529/292929/140/1051





MATERIAL SAFETY DATA SHEET (MSDS)

GermCure - Natural Disinfecting - Yellow

1. IDENTIFICATION OF THE PRODUCT AND SUPPLIER					
Trade Name	GermCure - Natural Disinfectant - San-A-Safe				
Supplier	Georgia Avenue Investments 54 (PTY) Ltd				
	P.O. BOX 1097, Menlyn Central, 0077				
	South Africa				
Telephone	082 805 0405				
Email and Website Address	mariaan@germcure.co.za / www.germcure.co.za				
2. COMPOSITION / INFORMATION ON THE COMPONENTS					
Chemical Name / Trade Mark	Function:	CAS - Number	EINECS No.	Weight - %	Classification
Ingredients	DOES NOT CONTAIN ANY HAZARDOUS INGREDIENTS				
Aqua		7732-18-5			~
Sodium Citrate		68-04-2			~
Orange Extract		8008-57-9			~
3. HAZARDS IDENTIFICATION					
Slightly irritating to the eyes					
4. FIRST AID MEASURES					
Inhalation	Not relevant				
Consumption	Rinse the mouth thoroughly with water. Drink plenty of water if continuing discomfort seek medical attention, take data sheet				
Skin Contact	Wash with water.				
Eye Contact	Rinse opened eye immediately with plenty of water for minimum of 15 minutes. If continuing irritation seek medical attention, take data sheet.				
5. FIRE FIGHTING MEASURES					
Extinguishing media	The product is not flammable. Choose extinguishing media according to surroundings				
Measures	No special demands				
6. ACCIDENTIAL RELEASE MEASURES					
Person-related safety precautions	Spillage on hard surfaces may be slippery				
Measures for environmental protection	No special dispose required, always follow federal, state and local regulations				
Measures for cleaning / collecting	No special dispose required, always follow federal, state and local regulations				
7. HANDLING AND STORAGE					
Handling precautions	No special demands				
Storage precautions / conditions	Keep in original packaging. Should not be exposed to frost				
8. EXPOSURE CONTROLS AND PERSONAL PROTECTION					
Arrangement of the workplace	No special demands				
Threshold limits	None				
Personal protective	None				
Additional information	Follow good chemical hygiene				

NATURAL FOOD-PREP DISINFECTING

FRESH WASH / SAN-A-WASH / SAN-A-RINSE



GermCure
INNOVATIVE - INFECTION - PROTECTION

- Extends shelf-life of fresh fruits, vegetables and seafood up to double the normal shelf-life.
- Less shrinkage, increasing sales and profits.
- Eliminates pathogens such as Listeria, Salmonella and E. Coll.
- Improves organoleptic qualities such as flavour, appearance and aroma.
- Increases food quality.
- Made of 100% all-natural ingredients.

Research

The Centre for Disease Control and Prevention (CDC) estimates that 76 million Americans become sick, from food-borne illnesses each year. Bacteria outbreaks in fresh produce are bigger and more frequent than they were even 10 years ago. Recent studies have confirmed that 25% of all tested produce shows detectable pathogens. It is estimated that as much as twenty people handle the produce in the course of packing, transporting and preparation for sale. Eating fresh produce has doubled over the last 20 years. The CDC recommends washing produce even if you plan on peeling it because a knife can transfer bacteria from the surface to the inside.

What is Fresh Wash / San-A-Wash / San-A-Rinse?

Fresh Wash / San-A-Wash / San-A-Rinse is an anti-microbial treatment designed for fresh fruits and vegetables that significantly reduces pathogens. Extends the shelf-life of fruit and vegetables by 2 to 3 times - naturally. An all-natural, produce wash agent for standard and organic produce. Enhances overall visual appeal, aroma, texture and flavour. Breaks down biofilm removing all contaminants. Highly effective in the presence of organic matter. 100% all-natural, bio-based ingredients and all ingredients are GRAS-Listed.

PROPERTIES	Fresh Wash Produce	Hypo-Chlorite	Chlorine Dioxide	Peracetic Acid	Ozone
Sanitizing Action	Yes	Yes	Yes	Yes	Yes
Gentle Cleaning Action	Yes	No	No	No	No
Shelf Stability	Excellent	Good	Poor	Good	Poor
Environmental Safety	Yes	No	No	Yes	Yes
Can destroy Antioxidants, Vitamins	No	Yes	Yes	Yes	Yes
Can alter Organic Nutrients	No	Yes	Yes	Yes	Yes
Can produce Free Radicals	No	Yes	Yes	Yes	Yes
Depletion on Use	Minimal	High	High	High	High
Odourless	Yes	No	No	No	?
Noxious Fumes	None	Yes	Yes	Yes	?
Corrosive	No	Yes	Yes	Yes	Yes
Risk in Handling	Low	High	High	High	?
Storage and Transport Hazard	Low	High	High	High	?



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Reg No: Act5GNR529/292929/140/1132





MATERIAL SAFETY DATA SHEET (MSDS)

GermCure - Natural Food-Prep Disinfecting - Green

1. IDENTIFICATION OF THE PRODUCT AND SUPPLIER	
Trade Name	Natural Food-Prep Disinfectant - GREEN Fresh Wash / San-A-Wash / San-A-Rinse Georgia Avenue Investments 54 (PTY) Ltd
Supplier	P.O. BOX 1097, Menlyn Central, 0077 South Africa
Telephone	082 805 0405
Email and Website Address	mariaan@germcure.co.za / www.germcure.co.za
2. COMPOSITION / INFORMATION ON THE COMPONENTS	
Chemical Name / Trade Mark	Function: CAS - Number EINECS No. Weight - % Classification
Ingredients	DOES NOT CONTAIN ANY HAZARDOUS INGREDIENTS
Orange Extract	977130-92-9
Ascorbic Acid	50-81-7
Citric Acid	77-92-9
Vitamin P	1340-08-5
3. HAZARDS IDENTIFICATION	
Slightly irritating to the eyes	
4. FIRST AID MEASURES	
Inhalation	Not relevant
Consumption	Rinse the mouth thoroughly with water. Drink plenty of water if continuing discomfort seek medical attention, take data sheet
Skin Contact	Wash with water.
Eye Contact	Rinse opened eye immediately with plenty of water for minimum of 15 minutes. If continuing irritation seek medical attention, take data sheet.
5. FIRE FIGHTING MEASURES	
Extinguishing media	The product is not flammable. Choose extinguishing media according to surroundings
Measures	No special demands
6. ACCIDENTAL RELEASE MEASURES	
Person-related safety precautions	Spillage on hard surfaces may be slippery
Measures for environmental protection	No special dispose required, always follow federal, state and local regulations
Measures for cleaning / collecting	No special dispose required, always follow federal, state and local regulations
7. HANDLING AND STORAGE	
Handling precautions	No special demands
Storage precautions / conditions	Keep in original packaging. Should not be exposed to frost
8. EXPOSURE CONTROLS AND PERSONAL PROTECTION	



**These Premises are regularly treated with the GermCure
ESS Disinfection System to protect the
occupants and visitors from harmful and contagious
VIRUSES, BACTERIA AND FUNGI**

**Our Advanced Disinfection System utilises Electrostatic
Technology and provides the best possible,
Safest and Hygienic Environments.**

**Our 100% NATURAL ESS Disinfectants are
Effective, Scientifically Proven Virucidals,
Bacteriacidals and Fungicidals**

Natural - Effective - Safe

GermCure International
info@germcure.co.za
www.germcure.co.za



THE PREMISES

STARTING DATE

**We only use NRCS and EPA approved and registered
disinfectants**

Regulatory information can be obtained from info@germcure.co.za

Mariaan Viljoen
082 907 7494
mariaan@germcure.co.za

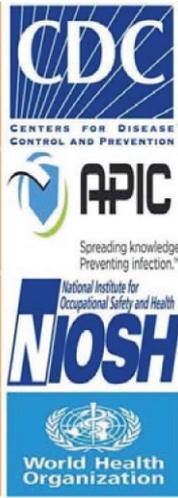


Francois Viljoen
082 805 0405
cois@germcure.co.za

www.germcure.co.za

PLEASE READ

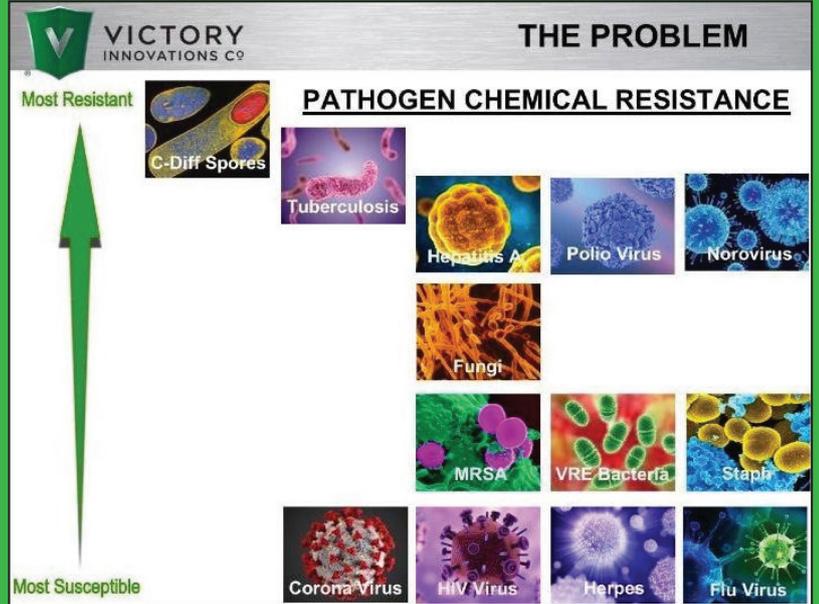
THIS DOCUMENT CONTAINS INFORMATION ON PROTOCOLS DEALING WITH EXPOSURE TO ANY TYPE OF VIRUS OR MICRO-ORGANISM (LEVEL I-IV). IT WAS DEVELOPED FROM INFORMATION FROM THE CDC, WHO, APIC AND NIOSH.



GermCure

INNOVATIVE - INFECTION - PROTECTION

Image: Courtesy of Victory Innovations Co



BIOSAFETY LEVELS I-IV PATHOGEN PREPAREDNESS PROTOCOL APRIL 2020

V_R_S

Only "I" & "U" Can Break The Chain

#StayHome

GERMCURE PROTOCOLS FOR CLEANING IN A BIOTOXIC ENVIRONMENT

BACKGROUND INFORMATION

SA EMERGENCY HOTLINE
0800 029 999

In the last several months Covid-19 has been working its way across the world, with a high fatality rate. In several countries across the globe the virus has left death and destruction in its wake. Most recently, the virus has also spread to South Africa. Visit www.worldometers.info/coronavirus for updated figures.

PURPOSE

This bulletin establishes methods to properly handle cleaning of biotoxic situations. The intention of this document is to establish protocols for dealing safely with any pathogens including Covid-19.

Although Covid-19 is currently in the news, there are several pathogens that are equally as virulent. This article addresses the proper technique for dealing with prophylactic or preventative cleaning as well as post exposure cleaning.

These cleaning practices can be used to safely address situations involving biosafety level I-IV Pathogenic species. The use of the words "biosafety level" refer to the level of the biocontainment precautions that are required to isolate dangerous biological agents in an enclosed building.

What is COVID-19?
On 31 December 2019, the World Health Organization (WHO) reported a cluster of pneumonia cases in Wuhan City, China. 'Severe Acute Respiratory Syndrome Coronavirus 2' (SARS-CoV-2) was confirmed as the causative agent of what we now know as 'Coronavirus Disease 2019' (COVID-19). Since then, the virus has spread to more than 100 countries, including South Africa.

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Some examples of the different types of pathogens and their corresponding Biosafety levels include: Biosafety Level I - non-infectious E. coli, Level 2-Influenza and Mumps, Level 3 - Tuberculosis and SARS, Level 4 - Haemorrhagic fevers and Lassa Virus.

Later in the bulletin we will also discuss changes that must be made in Exposure Control Plans. The intent, of these changes, are to include techniques, for dealing with Level I-IV pathogens.

It is not our purpose to seek out areas that are in need of sanitization from extremely virulent pathogens. Rather, these protocols have been developed as preventative measures. These protocols are in place for two reasons:

1. A Known Exposure Incident.
If employees, or contractors are asked to perform disinfection from, or sanitization after or during a known biosafety level III or IV exposure incident; or
2. As a Prophylactic Measure.
If a customer deems it appropriate for disinfection or sanitization when no documented biosafety level III or IV exposure exists.

METHODOLOGY

Methods for proper cleaning have been established by GermCure International. When no determination is made as to the biosafety level of a pathogen, prophylactic and post exposure cleaning is performed using biosafety level IV precaution protocols. For purposes of developing working safety protocols for all pathogenic species, biosafety level=biosafety precaution protocol level.

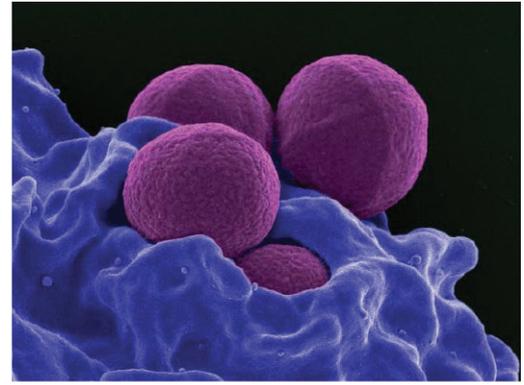
TRAINING

Appropriate training is vital to prepare employees and contractors to deal with ANY level of pathogenic contamination. All personnel should be competent in:

1. Proper donning (fitting) and doffing (removing) of PPE's.

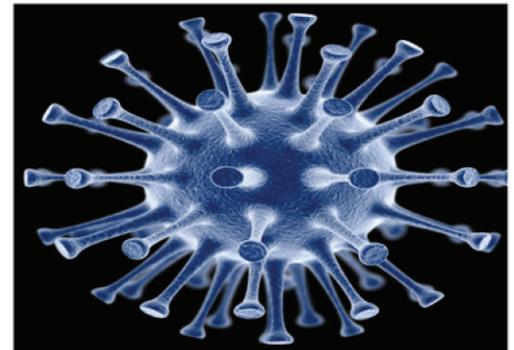
All personnel should have properly put on and taken off PPE's several times while being watched by a Trained Observer. Personnel should also know exactly what PPE's to wear based on biosafety level. When preparing to enter a level IV contaminated area the following PPE's shall be worn:

- Surgical Gown
- Face Shield
- Standard Patient Gloves
- Fitted N95 Respirator
- Duct Tape
- Scrubs
- Surgical Cap/Hair Cover
- Doffing Pad
- Surgical Boot Covers
- Long Cuff Nitrile Gloves
- Apron
- Plastic Washable Foot ware



Methicillin-Resistant Staphylococcus Aureus (MRSA) – How it Works

MRSA is a form of Staph infection that is resistant to almost all antibiotics and in severe cases can result in toxic shock, flesh eating pneumonia and open deep pus-filled boils.



Severe Adult Respiratory Syndrome (SARS) – How it Works

SARS is caused by the SARS Coronavirus. In its early stages, the symptoms of SARS are similar to the Flu. SARS can cause high fever and pneumonia. It is common during the aftermath of SARS Infection to experience bone collapse (Osteoporosis), destruction of joints and scarring of lungs.



Mycobacterium Tuberculosis - How it Works

TB is spread through the cough or sneeze of those who are infected with the disease. Symptoms of tuberculosis are varied as the disease can affect virtually every part of the body. The most common symptoms include chronic cough, blood tinged sputum, night sweats and weight loss.



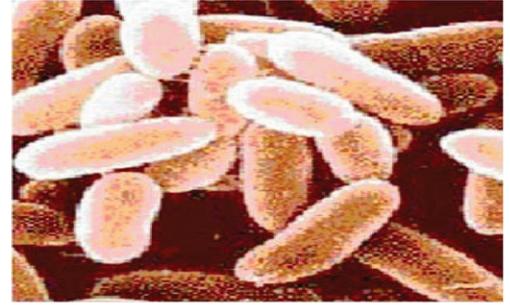
2. Proper use of chemicals for disinfection and sanitization.

All personnel who will clean any contaminated area must first be certified/trained. These personnel should also be able to demonstrate an understanding of the proper use of hospital grade disinfectants when cleaning. This demonstration should entail a verifiable understanding of proper dwell time as well as the correct method for applying the disinfectant.

3. Proper flow into and out of the contaminated area.

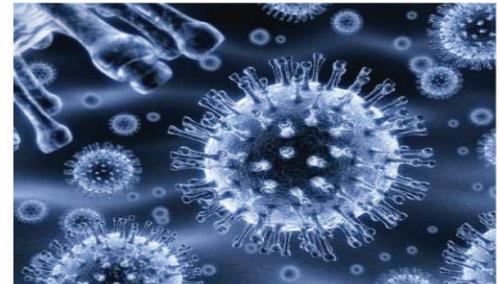
All personnel who will enter any level III - IV contaminated area must understand the flow of traffic into and out of the area being cleaned. In most cases, isolation areas will be set up by the healthcare facility where the work is performed. If this is not the scenario, set-up and corresponding dismantling of containment areas becomes the responsibility of the contractor. In accordance with protocols in place by Emory University, The World Health Organization and the Centre for Disease Control in Atlanta, the flow into and out of the contaminated area should follow these three steps:

- Reporting worker should enter the designated changing area, remove street clothes and put on scrubs.
- Worker should then proceed to an anteroom that is set up as an enclosed area separate from the area being cleaned. Standing outside of the anteroom, a trained observer should watch as the worker puts on (Dons) PPE's. As the PPE's are donned, the trained observer will check off each item as it is completed in accordance with a Donning PPE's checklist. This will help to ensure that PPE's have been put on correctly. Once all PPE's have been put on correctly, the worker can enter the area to perform duties.
- After cleaning, disinfection, sanitization or other duties are completed, the worker will remove shoe covers and dispose of them while standing on a disinfectant mat at the door to the anteroom. After the outside pair of gloves has been sanitized, the worker will remove and discard them. Having completed this task, the worker will then sanitize gloves and step into the anteroom removing PPE's (doffing) while the trained observer watches. The trained observer will check off each item as it is removed. All items removed will be placed in a regulated biohazard trash receptacle. Once this process has been confirmed, the worker will sanitize hands, exit the anteroom, change out of scrubs, bag scrubs as biohazard, wash and sanitise hands again, and change into street clothes.



Bacillus Anthracis
Anthrax-How it Works

Anthrax initially causes Flu-like symptoms which ultimately result in Pneumonia and respiratory collapse in humans. Other symptoms of Anthrax are vomiting of blood and necrotic ulcers of the skin. Anthrax is treatable only when it forms on skin, once in the human body, anthrax wields a powerful punch with three deadly toxins.



Marburg Virus-How it Works

Marburg Virus is a Haemorrhagic Fever similar to Ebola. Symptoms include nausea and vomiting, bloody diarrhoea, red eyes, raised rash, chest pain and cough, stomach pain, severe weight loss bleeding, usually from the eyes, and bruising (people near death may bleed from other orifices, such as ears, nose and rectum).



Hantavirus-How it works

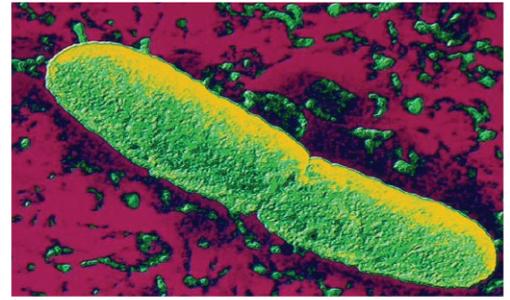
Hantavirus or in the US, Sin Nombre Virus is carried by deer mice. In rodents it poses no health threat. In humans, there are two ways that Hanta proves fatal, with kidney failure brought on by Haemorrhagic fever or by build-up of fluid in the air sacs of the lung (Pulmonary Edema)



PROTOCOLS

The following seven protocols describe the methods to properly clean up or dispose of items or fluids. These protocols were developed based on information from the CDC, WHO and Emory Healthcare.

- A. Contaminated Bodily Fluids and Spills
- B. Collection of Disposable Items
- C. Decontamination of Reusable Items
- D. Decontamination of Cleaning Personnel and Reusable Supplies
- E. Regulated Waste and Disposable Item Removal
- F. Decontamination Mat Change Procedure
- G. Biosafety / Infection Control Protocols



Yersinia Pestis Bubonic Plague - How it Works

An infectious disease that is transmitted to humans from infected rats by the oriental rat flea. Bubonic plague is named for the characteristic feature of buboes or painfully enlarged lymph nodes) in the groin, armpits, neck, and elsewhere.

I. DECONTAMINATION PROTOCOLS

PROTOCOLS A - G

PROTOCOL A. CONTAMINATED BODILY FLUIDS AND SPILLS

It is possible that patients with productive cough, severe vomiting, diarrhoea or haemorrhaging may contaminate the environment. Personnel must make every attempt to contain this contaminated material and treat it with an EPA-registered environmental disinfectant. The disinfectant used should have a 1 minute or less required contact time for standard bacteria and viruses.

PROTOCOL B. COLLECTION OF DISPOSABLE ITEMS

When an area being cleaned requires Level II-Level IV precautions to be implemented during clean-up, all disposable supplies will be collected in leak proof regulated waste biohazard bags or puncture proof, colour-coded containers labelled with biohazard stickers. Items that are collected should be immediately autoclaved, incinerated or disposed of with other infectious waste. Items included are PPE's: masks, gloves, boot and head covers and suits, mop heads, towels that are used to clean, etc.

PROTOCOL C. DECONTAMINATION OF REUSABLE SUPPLIES

All supplies that are not meant for disposal, such as mop handles, mop buckets, pails, dustpans, etc. will be properly labelled and immediately collected for disinfection or sterilization. All equipment contaminated with blood or other body fluids shall be decontaminated, if possible, or labelled as contaminated, prior to internal or external disposal/repair/maintenance or sanitization.

PROTOCOL D. DECONTAMINATION OF CLEANING PERSONNEL AND REUSABLE SUPPLIES

If any surface of personal protective equipment is soiled, it will be treated with an EPA-registered hospital disinfectant. The crew will then proceed to disinfect the reusable supplies with an EPA-registered hospital disinfectant. Upon completion of proper disinfection of all reusable supplies, team members will doff their protective equipment as prescribed. Disposable protective equipment will be managed as noted under protocol b: Collection of Disposable items.



PROTOCOL E. REGULATED WASTE AND DISPOSABLE ITEM REMOVAL

Following the cleaning of any area where any individual is required to use Level II- Level IV Precautions, all disposables will be placed in red biological contamination bags to be autoclaved, incinerated or disposed of with other biohazard regulated waste. Contamination bags are to be filled to, at most, half of their volume. If the individual was potentially infected with a Level IV pathogen, the red biological contamination bags will, in turn, be placed in specially designated, clear plastic biohazard bags in such a way as to avoid contamination of the outside of the clear plastic bags. The clear plastic bags will then be processed in the isolation unit at the healthcare facility. The disinfectant should preferentially have a 1 minute or less required contact time for standard bacteria and viruses.

PROTOCOL F. DECONTAMINATION MAT CHANGE PROCEDURE

Mats for decontaminating shoes will be placed on floors in the anteroom where cleaning personnel will be required to perform Donning/Doffing routines of PPE's.

1. If cleaning is to remain ongoing in the facility, Mats will be changed every day at the beginning of the shift.
2. To change a mat, remove tape and discard both tape and mat in the trash.
3. Replace mat with a new donning mat and tape down with 2-inch duct tape.
4. Mix an **EPA registered hospital disinfectant** and pour onto mat.
5. The use of disinfectant can cause floors to become sticky. If this occurs, when infection has been eradicated, floors will need to be scrubbed and neutralized.

PROTOCOL G. BIOSAFETY / INFECTION CONTROL PROTOCOLS

LEVELS I-IV

This final section of protocols were developed to address infection control of Level I-IV biosafety level pathogens. Each precaution level corresponds to the classification level of a pathogen. (In other words a level I pathogen would require level I precautions, a Level IV pathogen would require Level IV precautions etc.) **In all cases of cleaning, prophylactic or documented level I-IV contamination, a determination will be made based on the type of pathogen as to what biosafety precaution protocol should be used.** In the event that there is no determination as to the type of infection that is being prophylactically addressed, safety dictates that the pathogen will be considered a level IV pathogen, and level IV precautions will apply. Biosafety protocols for levels I-IV are outlined below.

BIOSAFETY Level I: Standard or Universal Precautions Protocol

STANDARD PRECAUTIONS:

1. Hand hygiene after touching potentially contaminated materials, regardless of whether gloves were worn. Using soap and water, wash any skin area that has come into contact with blood or other potentially Infectious material.
2. Wear gloves when touching potentially contaminated materials. Remove soiled gloves after a task is completed.
3. Wear mask and eye protection or a face shield to protect mucous membranes of the eyes, nose, and mouth during procedures and patient care activities that are likely to produce potentially infectious splashes or sprays.
4. Wear a gown to prevent soiling of clothing during procedures and patient care activities that are likely to produce infectious splashes or sprays.
5. Handle patient care equipment soiled with potentially infectious material in a manner that prevents secondary transmission.
6. Routinely perform environmental surface cleaning and disinfecting with an **EPA-registered hospital disinfectant effective against bacteria and viruses.**



BIOSAFETY Level II: Contact Precautions Protocol

This level of protection will be used in addition to Standard Precautions for cleaning after individuals who are known to be or suspected of being infected with a pathogen that can be transmitted by contact with skin or other contaminated surfaces. For patients infected with a viral haemorrhagic fever pathogen, Contact Precautions will be combined with Droplet Precautions, Airborne Precautions, or both.

CONTACT PRECAUTIONS:

1. Standard precautions apply.
2. Double gloving is required.
3. Specialized footwear is required. The footwear will be capable of being disinfected or disposable. Footwear that is permeable, such as footwear made from canvas, will not be worn.
4. Patient care equipment will be disinfected or properly disposed of after use as specified in Protocols C and D.

BIOSAFETY Level III: Contact and Droplet Precaution Protocol

This level of protection will be used in addition to Standard Precautions for cleaning after individuals who are known to be, or suspected of being infected with a pathogen recognized to be transmitted by physical contact or by droplets generated during coughing, sneezing and talking, as well as during the performance of certain procedures. Transmission occurs when droplets containing micro-organisms generated from the infected person are propelled a short distance through the air and are deposited on the host's eyes, nose or mouth. This level of precaution will be utilized in all cleaning areas where patients with pneumonic plague and symptomatic viral haemorrhagic fevers, such as advanced EVD (EXTERNAL VENTRICULAR DRAIN) infection have been in the absence of respiratory symptoms.

DROPLET AND CONTACT PRECAUTIONS:

1. Standard precautions apply.
2. Double gloving is required.
3. Biohazard coverall is required.
4. Face shield or goggles and surgical mask or the equivalent are required.
5. Specialized footwear capable of being disinfected or disposed of is required. Footwear that is permeable, such as footwear made from canvas, will not be worn.
6. Patient care equipment will be disinfected or disposed of following transport as specified in Protocols C and D.

BIOSAFETY Level IV: Contact, Droplet and Airborne Precautions Protocol

This level of protection will be used in addition to Standard Precautions for cleaning after individuals who are known to be or suspected of being infected or colonized with a pathogen recognized to be transmitted by physical contact or by fine aerosols generated during coughing, sneezing and talking, vomiting or defecation. Airborne transmission occurs by dissemination of airborne evaporated droplets containing micro-organisms that are suspended in the air for long periods of time or dust particles containing the infectious agent. Micro-organisms carried in this manner can be widely dispersed by air currents and may be inhaled by a susceptible host within the same room or over a longer distance from the source patient depending on environmental factors. This level of precautions will be utilized for cleaning after patients with symptomatic smallpox, Severe Adult Respiratory Syndrome (SARS);



severe viral haemorrhagic fevers, such as advanced EVD or Marburg virus infection with respiratory symptoms; newly-isolated influenza viruses of unknown virulence; as well as the transport of personnel with illnesses or respiratory symptoms due to an undetermined pathogen.

CONTACT, DROPLET AND AIRBORNE PRECAUTIONS:

1. Standard precautions apply.
2. Double gloving is required.
3. Biohazard coverall is required.
4. Fitted N-95 respirator with face shield or hood assembly with Powered Air Purifying Respirator (PAPR) is required.
5. Specialized footwear capable of being disinfected or disposed of is required. Footwear that is permeable, such as footwear made from canvas, will not be worn.
6. The patient will wear a surgical mask if tolerated.
7. Patient care equipment will be disinfected or properly disposed of after use as specified in Protocols C and D.

II. CHANGES TO EXPOSURE CONTROL PLANS

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Exposure Control Plans (ECP) must be updated continuously to accommodate new protocols.

CHANGES TO EXPOSURE CONTROL PLANS (ECP) MUST INCLUDE:

1. Addition of verbiage to deal with all Biosafety Levels of Pathogens such as Covid-19.
2. Changes in verbiage to include definitions of technical terminology to allow the document to be more readable.
3. Addition of a Disclaimer.
4. Addition of several new sections of the document relating to exposure incidents.
5. Addition of several forms and check lists.

The following table lists specific items that must be added to the Exposure Control Plans (ECP).

EXPOSURE CONTROL PLAN ADDITIONS

- Disclaimer
- Sharps Injury Log.
- Possible Exposure List.
- Expected Exposure List.
- Post Exposure Evaluation.
- Initial Reporting of Exposure.
- Personal Protective Equipment/Task List.
- Cleaning and Decontamination Schedule.
- Donning and Doffing Biological PPE for Patients.



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