

Awareness Session

Sanitation/Disinfection/Control

Against

Virus/Bacteria/Microbes

Organized by

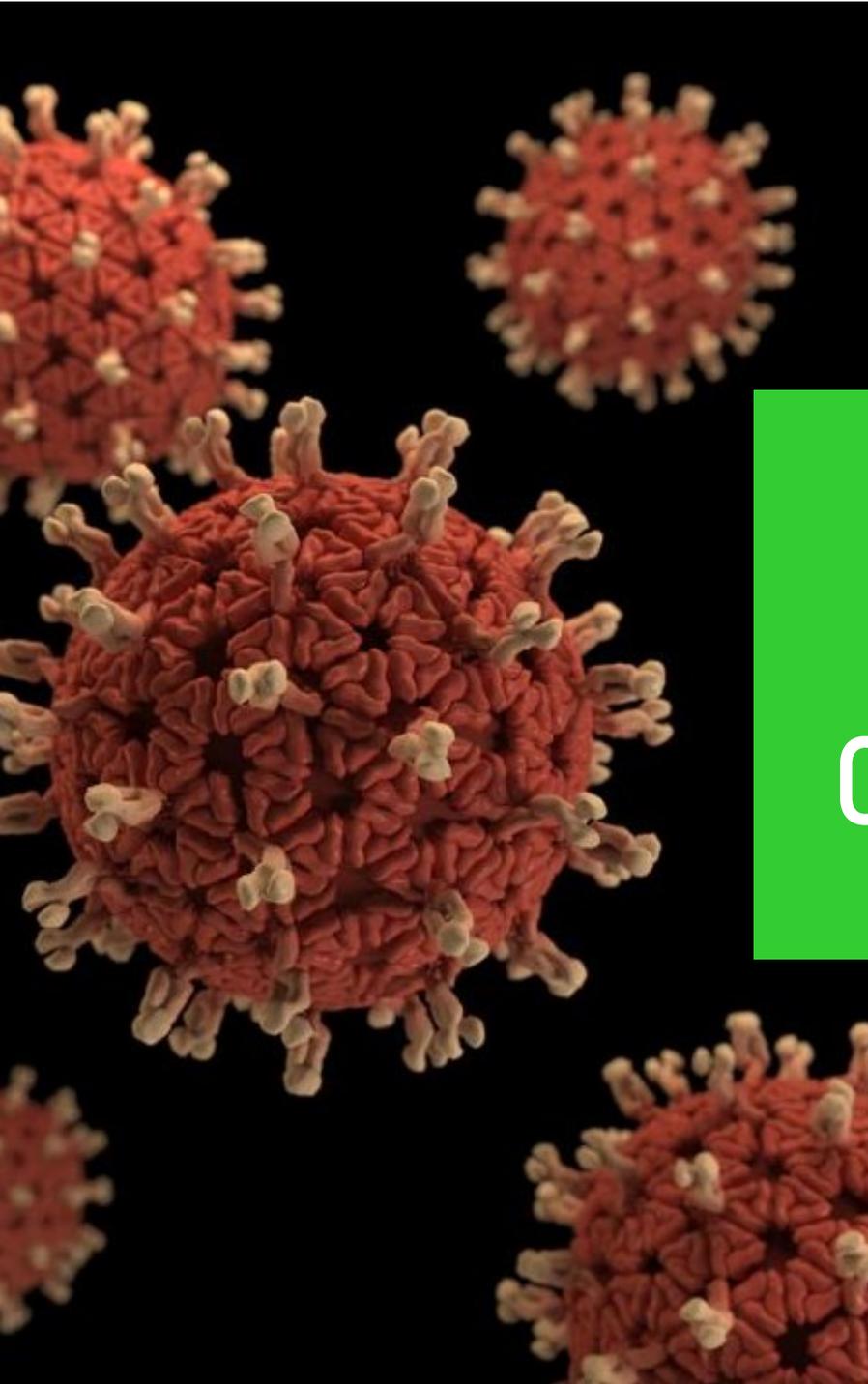


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Agenda

- Understanding Coronavirus & Covid-19 : Symptoms, Spread
- Cleaning & Sanitation
- Understanding Micro shield Technology for Disinfection
- Details of Disinfection used and recommended

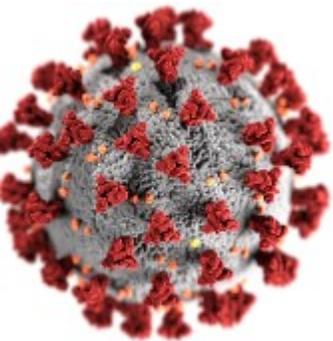


Understanding Coronavirus and COVID -

What is Corona virus and Covid-19?

Coronaviruses are a large family of viruses.

In humans, several Corona viruses are known to cause respiratory infections ranging from Common Cold to more severe diseases such as Middle East Respiratory Syndrome (MERS) and Severe Acute Respiratory Syndrome (SARS). The most recently discovered Corona virus causes COVID-19.



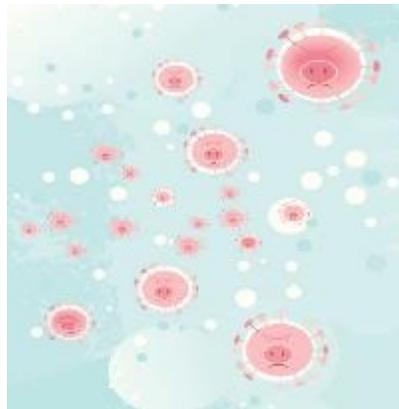
Covid-19 is the name of the disease caused by virus Severe Acute Respiratory Syndrome Coronavirus 2 (SARS-CoV-2)

Presently there is no vaccine for COVID-19 and it is under development by various countries

How does the disease spread?



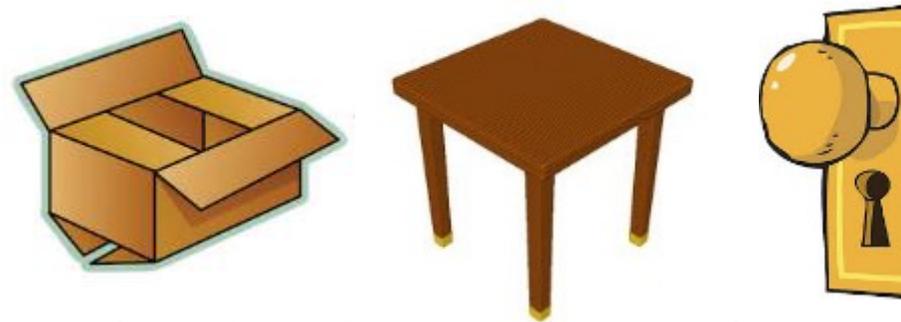
Droplets from the mouth or nose are released when a person coughs.



Droplets fall on Surface or Object. These droplets are too heavy to hang in the air. They quickly fall on floors or surfaces.



Directly - when contaminated hands touch the mouth, nose, eyes



Indirectly: when contaminated surfaces are touched.

What are the symptoms?



- The typical symptoms are
 - Asymptomatic to Mild Flu
 - Fever i.e. temperature above 99 F
 - Dry cough
 - Tiredness
 - Shortness of breath
 - Pneumonia like symptoms
 - Muscle pains
 - Diarrhoea
 - Fatigue
- The symptoms typically occurs between **2 – 14** days.
- The **vulnerable group** that can get affected are Immuno-deficient persons, Elderly people, Diabetic, High Blood Pressure people etc.

Does Covid-19 get transmitted through food?

So far, there is **NO** reported evidence of COVID-19 getting transmitted through food including poultry, seafood.

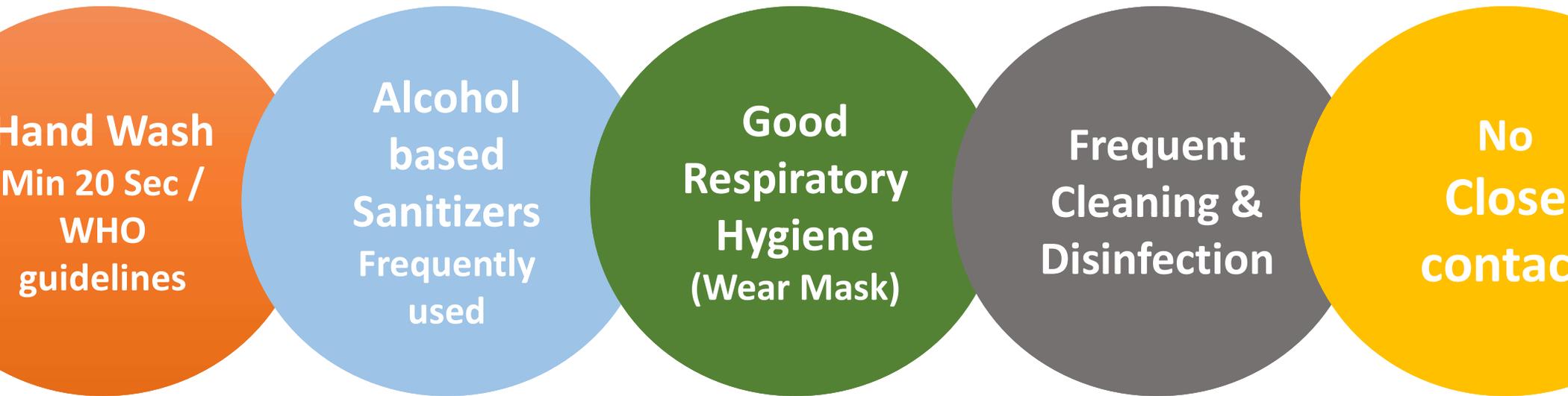
However, like other viruses, the virus that causes COVID-19 can survive on surfaces or objects.

For that reason, it is critical to develop and follow a robust food hygiene program to prevent the spread of the virus.

It is the responsibility of the FBO to follow Good Manufacturing Practices (GMP), Good Hygiene Practices (GHP) prescribed in Schedule IV of FSS (Licensing and Registration of Food Businesses) Regulations, 2011.



Personal Hygiene



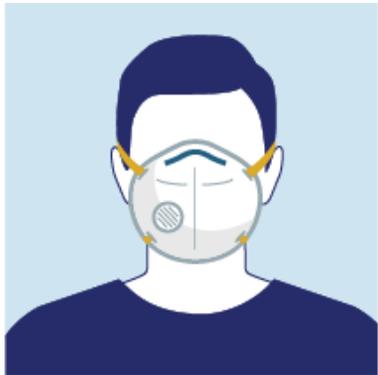
5 Rules of Personal Hygiene

Personal Hygiene

Hand wash for min. 20 Sec / WHO guidelines, preferably followed by **sanitation** with 70% alcohol or equivalent. **Staff MUST wash and sanitize their hands after removing the cloths and before touching the clean cloths.**

Face mask / cover and clean protective clothing MUST be worn by all. No gaps should be observed after wearing the mask / cover. **The face mask / cover should be changed every 6 hours or as soon as they get wet.** Reusable masks should be washed and sanitized. Disposal of the mask must be done separately in the closed bins.

Paper/tissue, paper bag may preferably be used to put used face covers before disposal.



N-95 Mask



Elastomeric Respirator



Disposable Facemasks



Double layered
Cloth Face Coverings

Personal Hygiene

Strict implementation of no jewellery, watches use policy.

Sanitize mobile phones after entry at the work.

Gloves to be worn during handling of ready to eat food, after which no other surface to be touched.

If your task requires direct contact with ready-to-eat food, wash your hands and the exposed portions of your arms for 20 seconds prior to donning gloves and before touching food or food-contact surfaces. Wash your hands immediately after removing gloves.

Note that wearing gloves may give false sense of security. There is no substitute for hand washing and sanitizing to prevent Covid-19.

Personal Hygiene

Respiratory Hygiene shall be adhered by covering mouth, nose while coughing. Dispose of the tissue in closed trash bin.

Reporting of illness: Encourage workers to stay home if they are showing symptoms like coughing, fever, breathlessness etc. Illness reporting on phone to be accepted. **Isolate** the person if they have flu like symptoms while at work and inform the response team and health department.

Personnel close to infected person must do self- quarantine / isolate as per directions from the Government. Isolated persons to use dedicated toilets and washing area.

Discontinue use of Biometric / fingerprints, sharing of belongings, (e.g. gloves, jackets, common stationery, pens, work tools etc) during pandemic period.

Food premises, toilets, counters, equipments etc that came in contact with the infected persons shall be thoroughly cleaned with hot water & detergent and disinfected with 0.1- 0.5% hypochlorite solution, QUAT or a suitable equivalent.



Important: Disposal of used PPE – As per Medical Waste Guidelines

Used mask, gloves, gowns, shoe cover, head cover and other PPE are to be considered like medical waste as it might be a source of further contamination. It includes

- Generally, Masks & gloves should be thrown in closed SEPARATE waste bin post use and handed over to the registered vendor.
- If the mask is used by persons showing symptoms, then it will be put in a plastic bag before throwing in separate waste bin.
- Masks (and other personal protective equipment) that are used in hospital or quarantine or isolation facilities should be decontaminated and incinerated at high temperatures in dedicated facilities.

Give clear communication that Covid-19 "it is recoverable"

Be Empathetic towards people.

Make SOP covering Emergency contacts, Details of family members



COVID-19

Protect yourself and others from getting

When coughing and sneezing, cover your nose and mouth with a tissue or a flexed elbow



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Clean your hands with an alcohol-based hand rub or with soap and hot water for at least 20 seconds



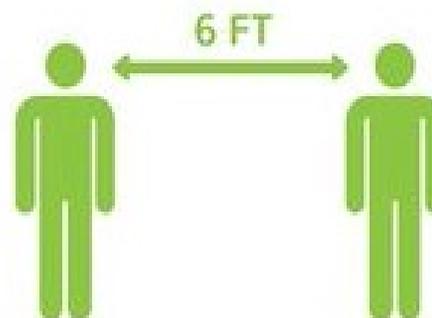
CDC Issues New Cloth Face Cover

The CDC now recommends everyone wear cloth face coverings.
Here are some **do's** and **don'ts** to help keep you and others safe.

DO



Wear a covering when running essential errands.



Practice social distancing, even with the covering on in public.



Take the covering off at home and wash it at home.

Wear Gloves the Right Way

Wear food service gloves or use sanitary utensils or deli tissue when handling ready-to-eat foods.

Always wash your hands before putting on gloves.

Change your gloves any time you would need to wash your hands.

After touching your body
After using the toilet
After eating or drinking
After handling dirty equipment or utensils
After handling raw food
After any other activities that contaminate your gloves

Remove your gloves before washing hands.



CONTAMINATED GLOVES

1



Pinch and pull cuff of glove. St

2



Form beak, pulling glove inside

3



Pinch opposite glove with bea

4



Pull glove off.

5



With ungloved hand, slide fing

<https://www.youtube.com/watch?v=D2sbZTHa7pM>





Cleaning & Sanitation

Cleaning

Cleaning is the process of achieving and maintaining an area to a standard deemed visually free from debris which can include dirt, food, faeces, saliva and other body secretions.

It is the removal of foreign material from areas and objects.

Cleaning reduces amount of organic matter that contributes to the proliferation of bacteria and viruses.

The actual process of cleaning is achieved with the use of aids such as cleaning tools and cleaning agents. Cleaning tools such as mops, vacuum cleaners, cloths, floor scrubbers are used to achieve a state of visual cleanliness.

Cleaning agents are substances which come in many forms but generally are liquids, powders, sprays, or granules. Some cleaning agents can kill bacteria and clean at the same time. Cleaning is important because it prevents the spread of dirt and contaminants to oneself and others. It is about removing dirt, including stains, dust, bad smells and clutter on surfaces.

Sanitization

It's best to sanitize surfaces that don't normally come into contact with dangerous bacteria, or those that are best cleaned without powerful chemicals. For example, cooking tools or children's toys would be best for sanitization, as you don't want those coming into contact with powerful chemicals.

In order to be considered a sanitizer, a product must reduce bacteria on a surface by at least 99.9 percent, according to the EPA. A simple water and bleach solution can be a sanitizer or a disinfectant, depending on the concentration of bleach in the solution. Solutions with higher concentrations of bleach will be a disinfectant, while lower concentrations are more likely to be a sanitizer.

Disinfection

Disinfection is the process or act of destroying pathogenic microorganisms and removes most organisms present on surfaces. Disinfectants are antimicrobial agents that are applied to non-living objects to destroy microorganisms that are living on the objects. Disinfectants work by destroying the cell wall of microbes or interfering with the metabolism.

Type of Disinfectants

- There are a wide range of disinfectants used today. One of the most cost-effective disinfectants used is chlorine bleach (a 5% solution of sodium hypochlorite), which is effective against most common pathogens, including difficult organisms found in a healthcare setting, such as antibiotic-resistant strains of staphylococcus, fungi, and hepatitis B and C.
- Disinfection does not necessarily kill all microorganisms, especially resistant bacterial spores; it is less effective than sterilization.

Difference between Cleaning, Sanitization and Disinfection

Cleaning a surface simply removes visible debris, dirt and dust.

Sanitizing is meant to reduce, not kill, the occurrence and growth of bacteria, viruses and fungi. When you sanitize, you are killing/reducing the number of bacteria present by 99.9 percent (3 log₁₀) but doing nothing about viruses and fungus.

Disinfecting a surface will “kill” the microscopic organisms upto 6log₁₀ or as claimed on the label of a particular product.

The minimum level of effectiveness in a modern-day disinfectant is 100 percent kill of 6 log₁₀ of an organism. A sanitizer is only required to reduce that 6 log₁₀ down to 3 Log₁₀. We can put that into real numbers. If we start with 1 million organisms on a surface then a disinfectant must kill 100 percent of them; zero left. A sanitizer only reduces the number of organisms down to 1,000 and does nothing about virus and fungus. While this difference might seem minimal, it can make a huge difference in reducing the spread of infection.



Sterilization

Sterilization is an entirely different beast, and it's not something the average person will need to do in their home. According to the CDC, sterilization is the process of destroying or eliminating all forms of microbial life.

It's often carried out in health-care facilities using physical or chemical methods including: steam under pressure, dry heat, EtO gas, hydrogen peroxide gas plasma, and liquid chemicals. These extreme forms of decontamination are necessary for things like surgery, or in certain environments like laboratories or hospitals.

Disinfection is the process of eliminating all *harmful* microorganisms, while sterilization is the process of killing *all* microorganisms.

Cleaning Agents, Sanitizers & Disinfectants

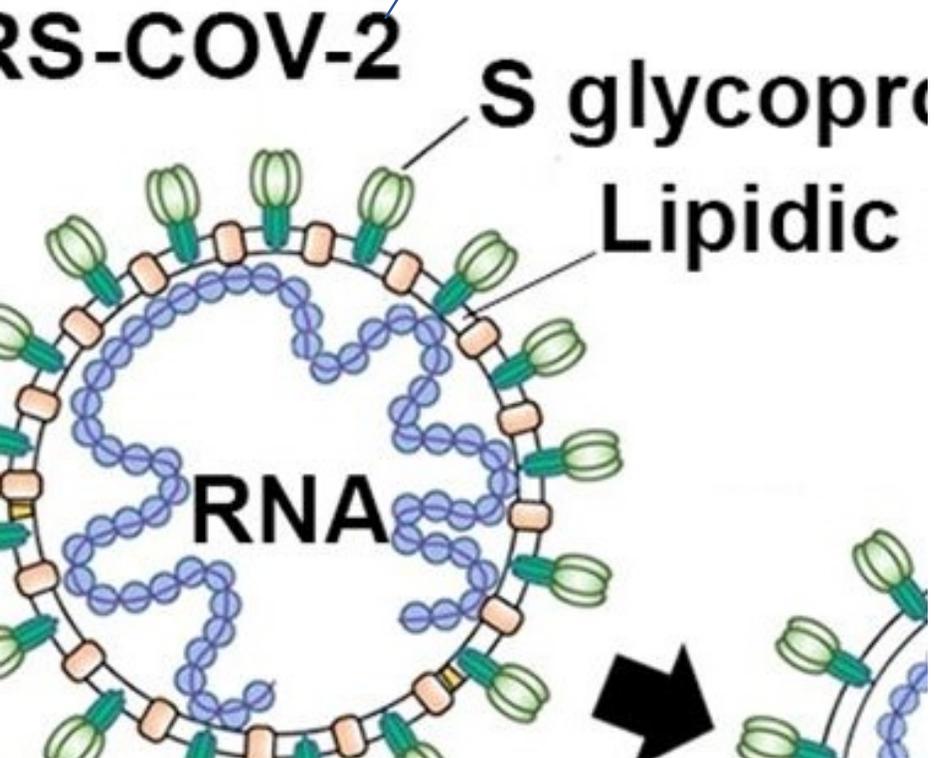
Cleaning refers to the removal of germs, dirt, and impurities from surfaces. It does not kill germs, but by removing them, it lowers their numbers and the risk of spreading infection.

- **Sanitizing & Disinfecting** refers to using chemicals, to kill germs on **surfaces**. This process does not necessarily clean dirty surfaces or remove germs, but by killing germs on a surface *after* cleaning it can further lower the risk of spreading infection.
- The main difference between sanitizer & disinfectant is that the former kills the germs to $-\log$ of 3 while the latter kills to $-\log$ of 5. In other words, disinfectants are more powerful. Besides it has higher contact time than sanitizers.



How SARS-CoV-2 gets deactivated?

Enveloped viruses like SARS-CoV-2—which rely on a protective lipid coating—are the easiest type to deactivate.



There are a few ways to bust through this flimsy shell. **Cleaning with soap & water gets maximum job done.**

- **Alcohol-based products** disintegrate the protective lipid bilayer.
- **Quaternary ammonium disinfectants** attack protein and lipid structures, thwarting the pathogen's typical mode of infection.
- **Chloride and other potent oxidizers** swiftly break down the virus's essential components.

Cleaning & Sanitation

High touch points

Elevator buttons, handrails / handles and call buttons, escalator handrails, public counters, intercom systems, equipment like telephone, printers/scanners, and other office machines, table tops, chair handles, pens, diary files, keyboards, mouse, mouse pad, tea/coffee dispensing machines, etc.

Method and Frequency

Cleaned twice daily by mopping with linen/absorbable cloth soaked in freshly prepared 0.1- 0.5% hypochlorite , QUAT, 70% alcohol or an equivalent

Metallic surfaces like door handles, security locks, handles of baskets/carts, display racks (where bleach is not suitable)

70% alcohol

Hand sanitizing stations at the entry and near high contact surfaces.

Cleaned at least twice in a shift. Sanitized with freshly prepared 0.1- 0.5% hypochlorite , QUAT, 70% alcohol or an equivalent

Cleaning & Sanitation

High touch points

Restrooms and Washrooms

Method and Frequency

After every shift using water and detergent, followed by . freshly prepared 0.1- 0.5 % hypochlorite, QUAT, 70% alcohol or an equivalent

A radius of two meters around the person who has coughed

Vacated immediately, thoroughly cleaned and disinfected with freshly prepared 0.1- 0.5 % hypochlorite, QUAT, 70% alcohol or an equivalent

Cleaning equipment, cloth, mops, reusable protective gear such as boots, gloves

Cleaned thoroughly before use & after use. Sanitize where required

Cleaning & Sanitation

Step 1: Preparation

- Remove loose dirt and food particles.
- Rinse with warm, potable water.

Step 2: Cleaning

- Wash with hot water (60 °C) and detergent.
- Rinse with clean potable water.

Step 3: Sanitising

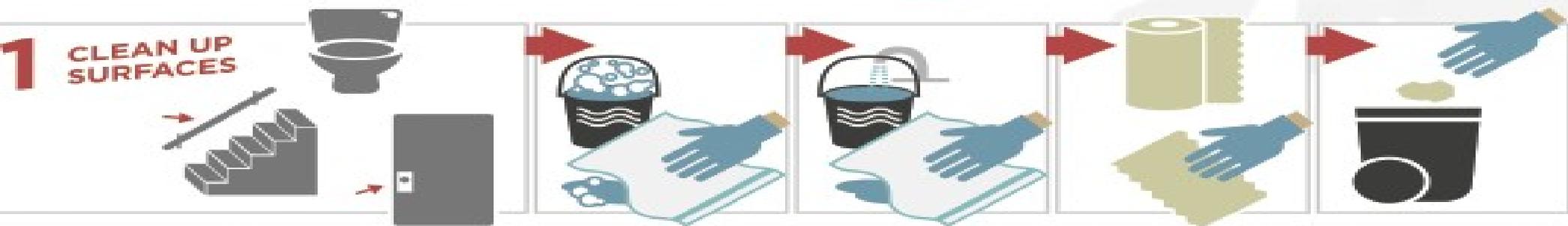
- Treat with very hot, clean, potable water (70 °C) for at least 2 minutes.

Step 4: Air drying

- Leave benches, counters and equipment to dry.
- The most hygienic way to dry equipment is on a draining rack.

Help Prevent the Spread of COVID-19* ("novel coronavirus")

Clean surfaces that are touched a lot.



Cleaning and disinfecting equipment and metal surfaces

CLEANING

Apply **0.5% detergent-water** solution with a cloth.

Use a **stiff, non-metallic, short-bristled brush** to work loose dirt away from the device.

Use a **soft, absorbent, lintless cloth or tissue** to remove the solution and dry the device.

IMPORTANT:

Ensure that no solution remains entrapped in connectors, cracks or crevices.



DISINFECTING

1 Wipe device down with over-the-counter isopropyl alcohol (rubbing alcohol) with **at least 70% alcohol concentration**.

2 **Alcohol should never be applied directly** to the device. Apply to a cloth, then wipe down the device.

3 The effects of **certain chemicals** and their vapors **can have detrimental effects** on plastics and the metal platings.

IMPORTANT:

Do not use bleach, solvents or cleaning sprays to cleanse or disinfect your device.

Surface and Viruses

The retention time on surface varies from 4 hrs to 5 days.

Cleaning, Sanitizing, Disinfection measures are to be adopted to ensure that food packaging is kept clean and away from sources of contamination

Coronavirus Average Surface retention time

4 hrs

On Copper

2-8 hrs

On Aluminium

24 hrs

On Cardbo

2-3 days

On Stainless Steel

2-3 days

On Plastics

4 Day

On Wood

5 days

On Paper, Glass (Upto)

5 days

On Ceramics

5 day

On Metal

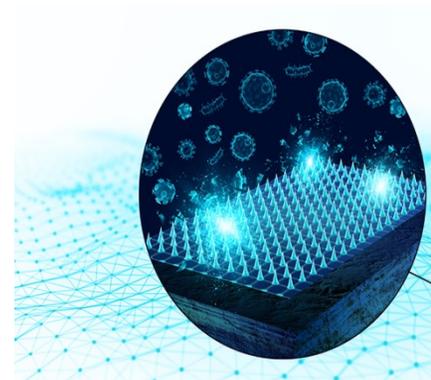
Coating – Micoshields

"physical kill" replaces the need for dangerous poisons, chemicals and alcohol. This method of rupturing the cell means the cell cannot mutate, preventing the development of superbugs.

is mostly colourless, odourless, non-leaching, environmentally safe, non-corrosive and is almost completely gentle for humans and animals, it is deadly for a wide range of bacteria and mould.

When applied to a surface by spraying, wiping or 'fogging'; It leaves behind a monomolecular layer that permanently bonds to the surface. These molecules are antimicrobial, silane based polymers that covalently bond to the surface forming a barrier of positively charged microscopic pins.

It does not contain harmful chemicals, generally in a liquid form and is less toxic than vitamin C and coffee.



Technology Behind

t works by the formation of a molecular layer of covalently bound biocidal molecules based around silicone polymer chemistry.

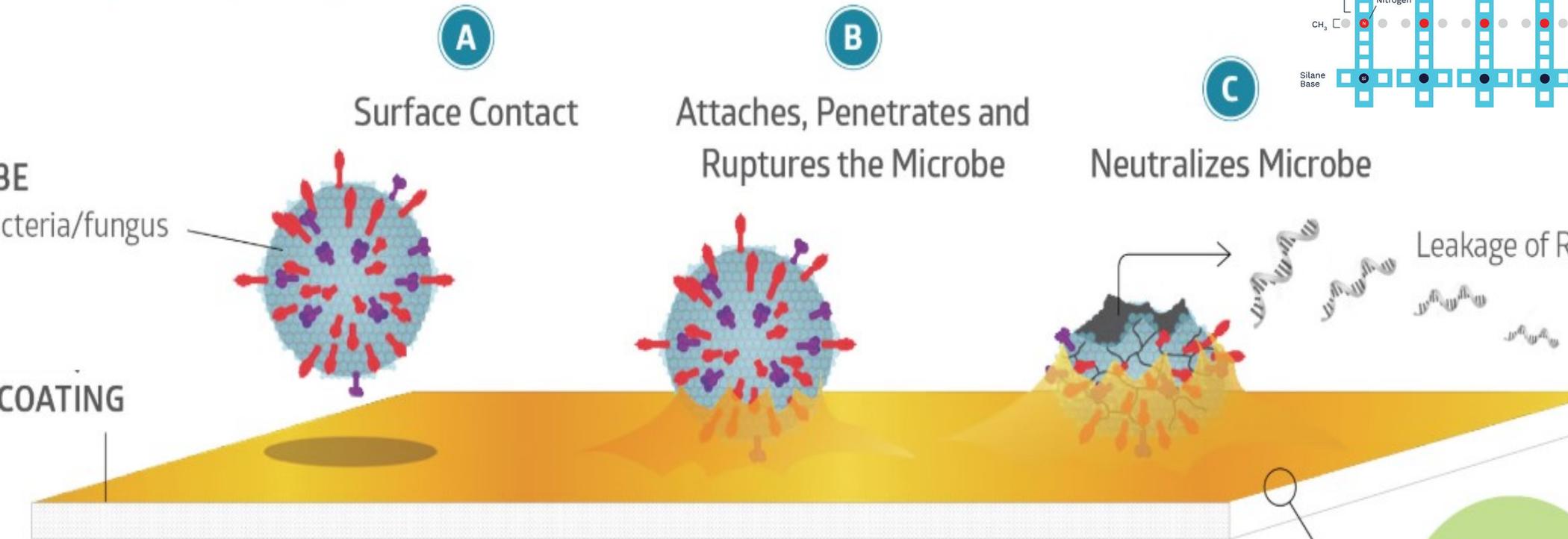
Generally products use purified, deionized water & an antimicrobial compound.

Generally they use a Quaternary Ammonium Compound – these are commonly used antibacterial agents found in products such as toothpaste, contact lens products, cosmetics, soaps.

While our quaternary ammonium compound originates from natural sand the process is synthetic.

Our trade secret lies in the technology behind the quaternary ammonium compound which enables Coating to stay active and continue killing pathogens for long periods of times.

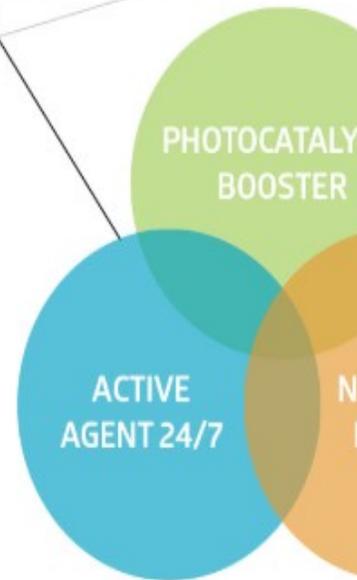
How it works

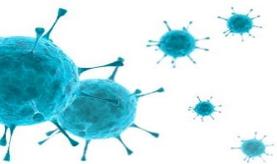


works around the clock to provide continuous long-lasting sterilization

provides durable bonding to surfaces using nanotechnology

photocatalyst provides a sterilizing boost when light is available





WHY ANTIMICROBIAL PROTECTION IS IMPORTANT

It is now widely acknowledged that the environment and surfaces are a significant source of microbiological contamination and is considered as a major vehicle for harmful microorganisms to cause infection (cross-infection). Bacteria, viruses, fungi and yeasts contaminate surfaces and in fact can form bio-films that are extremely resilient to hygiene processes i.e. cleaning and disinfection. Harmful microorganisms can be transferred by cross contamination via touch or the air in the form of aerosols (in water droplets) or generally as single cells or “clumps”.

Aerial contamination is especially significant for viral infection but also for other infections such as those caused by spores such as *Clostridium difficile*. Bacteria can also be found in water systems such as *E.coli* and *Pseudomonas* spp. Each species family of microorganisms can have its own unique mode of transmission and portal of entry, also people that are more vulnerable with low immunity, the very young and very old can be especially vulnerable but there are a plethora of microorganisms “pathogens” that are capable of infection any person for example *Staphylococcus aureus* (MRSA), norovirus, *Aspergillus niger* and extremely pathogenic viruses such as Ebola. However, patients that are immunosuppressed, have open wounds or who are generally ill at any age are more suscep



Where it can be used

Any environments where germs are present and likely to pose a threat.

It successfully used in buildings, vehicles, shipping, homes and hospitals where there is a risk of infection.

Routine liquid disinfectants only work when the surface is wet, once the disinfectant is wiped off or dried it is no longer capable of killing any further potentially harmful microorganisms that recontaminate that surface, in fact the surface becomes contaminated to the same levels as before disinfection within 1 – 2 hours.

This is the reason why this technology is the next generation biocide because it is also water-based and has a low toxicity level so does not require any special precautionary considerations such as the more toxic and corrosive biocides, which is why it can also be used in the home.

Effective Against

Effective Against 99.9% OF GERMS AND BACTERIA

- H1NI STAPHYLOCOCCUS AUREUS SALMONELLA CHOLERAESUIS ESCHERICHIA COLI STREPTOCOCCUS PYOGENES COMMUNITY ASSOCIATED MRSA HEALTHCARE ASSOCIATED MRSA SARS AVIAN INFLUENZA HEPATITIS MUMPS RHINOVIRUS ROTOVIRUS HBV HCV HIV CANINE PARVOVIRUS POLIOVIRUS TYPE 1AND MANY MORE
- It is mechanical killing and it means it depends on the size of microbe to kill that so effectively it kills almost all microbes known to human being till date.
- For particular COVID 19 research is under process in various environment, surfaces etc and reports will soon be available.

Effective Till

Coating can be effective for weeks, months, or even years.

But this depends on where it's used. "It's water-soluble, so if you're in an outdoor setting and you end up with a steady rain you'll have to reapply.

In an indoor environment, it's all based on how many times that particular area is touched."

"If you continue to rub at it for long periods of time, you will have to reapply. But, if you have a wall, and people aren't touching that every few minutes, it could be up there for well over a year."

Dust can create a layer on the coating and that dust can be added on that can reduce the performance of the Coating.

Questions ?

Contact – Sachin Jain
info@rscovidcare.com
8744050874

Comparison Chart of Disinfectants

Disinfectants	70% Isopropyl Alcohol Solution	Chlorine Bleach- Sodium Hypochlorite	Phenols	Quaternary Ammonium Compounds	Accelerated Hydrogen Peroxide (hydrogen peroxide /anionic surfactants)	Botanicals ex: Benefect – Thymol	
Level	Low to Intermediate Level	Intermediate Level Disinfectant	Some intermediate, some low	Low Level	Low or Intermediate, some high	Intermediate	High *(see of do
Effects	irritant to eyes and mucous membranes, hypotension, facial flushing, bradycardia, and dizziness. Also, Prolonged skin contact with isopropyl alcohol caused eczema and sensitivity [Genium 1993]. Finally, delayed dermal absorption is attributed to a number of pediatric poisonings that occurred following repeated or prolonged contact with isopropyl alcohol to reduce fever. symptoms included respiratory distress, stupor, and coma [Hathaway et al. 1991; NLM 1992].	Mixing with ammonia, ammonium quaternary compounds and other acidic products can create poisonous gas. <ul style="list-style-type: none"> •Corrosive to eyes and skin, and a respiratory irritant. •Suspected cardiovascular, gastrointestinal or liver, kidney, central nervous system, respiratory, and skin or sense organ toxicant. 	Phenols are recognized carcinogens (CA Prop. 65), suspected cardiovascular, developmental neurological, reproductive, respiratory, skin and sense organ toxicant. ⁹ Corrosive to eyes and skin. ¹⁰ Absorbed through the skin and by inhalation.	Can cause contact dermatitis and nasal irritation. Ammonium quaternary compounds including benzalkonium chloride, dodecyl-dimethyl- benzyl ammonium chloride and lauryl dimethyl benzyl ammonium chloride are respiratory sensitizers, and are associated with asthma.	Can cause skin irritation and respiratory problems Some products using this technology have been third-party certified by EcoLogo to meet environmental and human health criteria. (EPA does not allow eco labels on disinfectants.)	No warning or first aid statements are required on the material safety data sheet. The botanical oils in the product are either F.D.A (Food and Drug Administration) approved as Food Additives or on the United States G.R.A.S. (Generally Recognized as Safe) list. Third-party certified by EcoLogo to meet environmental and human health criteria. (EPA does not allow eco labels on disinfectants.)	No w state requi know hazar assoc produ
	Category I or II High or Moderate	Category I Highly Toxic	Category I or II High or Moderate	Category III Slightly Toxic	Category I, II, III or IV, product specific.	Category IV Relatively non-toxic	Categ (lowe allow

Comparison Chart of Disinfectants

	70% Isopropyl Alcohol Solution	Chlorine Bleach- Sodium Hypochlorite	Phenols	Quaternary Ammonium Compounds	Accelerated Hydrogen Peroxide (hydrogen peroxide /anionic surfactants)	Botanolois ex: Benefect – Thymol	
ts	Surfaces must be pre-cleaned. ¹ Best practices advise pre-cleaning all surfaces before disinfecting.	Surfaces must be pre-cleaned. ¹ Best practices advise pre-cleaning all surfaces before disinfecting.	Surfaces must be pre-cleaned. ² Best practices advise pre-cleaning all surfaces before disinfecting.	Product specific. Some products registered as one-step disinfectant cleaners. Best practices advise pre-cleaning all surfaces before disinfecting.	Registered as one-step disinfectant cleaners. •Best practices advise pre-cleaning all surfaces before disinfecting.	Surfaces must be pre-cleaned according to label instructions. Best practices advise pre-cleaning all surfaces before disinfecting.	SNIFE design high fu cleane disinfe are pr using both o
s	Lack sporicidal action and they cannot penetrate protein-rich materials.	Effective against most bacteria and some viruses and is registered as effective against HIV, HBV, H1N1 (Influenza A), MRSA and TB.	Product specific	Generally effective against a broad spectrum of microbes including MRSA H1N1 but typically not proven effective against spores	Effective against a broad spectrum of microbes including H1N1, norovirus and MRSA	Effective against a broad spectrum of microbes including H1N1, TB and MRSA	•Data for chl that s manuf bacter fungio sporic tuberc virucic claims •Exert biocid •not s by org
al and	Incompatibilities: Contact between isopropyl alcohol and air may result in the formation of dangerous peroxides. Isopropyl alcohol is incompatible with strong oxidizers, acetaldehyde, chlorine, ethylene oxide, acids, and isocyanates.	Toxic to aquatic organisms.	Toxic to aquatic organisms. Considered a persistent bio accumulative toxin by EPA. Disposal restrictions in some states.	Very toxic to aquatic life. ¹⁹ Also see Material Safety Data Sheet. Associated with antimicrobial resistance. ²⁰	Some products using this technology have been third-party certified by EcoLogo to meet environmental and human health criteria. (EPA does not allow eco labels on disinfectants.)	Third-party certified by EcoLogo to meet environmental and human health criteria. (EPA does not allow eco labels on disinfectants.)	ClO ₂ hazar form in conce ClO ₂ unstab exper gener SNIFE techn stable safe.

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ts	<ul style="list-style-type: none"> •<50% solution not very effective •Not active when organic matter present •Not active against certain types of viruses •Evaporates quickly •Contact time not sufficient for killing •Flammable •Eye irritant •Fatal postoperative wound infections with Clostridium have occurred when alcohols were used to sterilize surgical instruments contaminated with bacterial spores •3 bloodstream infection outbreaks have been described when alcohol was used to disinfect transducer heads in an intensive-care setting 	<p>May damage floor finishes, carpets, clothing and other fibers when used in higher concentrations. Has an unpleasant odor.</p> <ul style="list-style-type: none"> • Must be stored separately from ammonia and flammable products. • Rinsing is required in applications where direct skin or oral contact can occur (children's toys). • Personal protection equipment and/or increased ventilation should be used. •Corrodes metals such as stainless, aluminum •Inactivation by organic matter •Increase in alkalinity decreases bactericidal property 	<p>Not for use on food or food utensils. May damage floor finishes and other surfaces. Caution: Do not use around babies and small children. Generally leaves a residue so rinsing is required.</p> <p>Requires personal protection equipment and increased ventilation.</p> <p>Unpleasant odor Some areas have disposal restrictions Effectiveness reduced by alkaline pH, natural soap or organic material Sporicidal - no</p>	<p>Thorough rinsing required. See product label for specifics.</p> <p>Requires personal protection equipment and increased ventilation.</p> <p>Does not eliminate spores, TB bacteria, some viruses</p> <p>Effectiveness influenced by hard water</p> <p>Layer of soap interferes with action</p> <p>Skin & eye irritant</p>	<ul style="list-style-type: none"> •Rinsing is required where direct skin or oral contact can occur (children's toys). •Requires personal protection equipment and increased ventilation. •Organics may reduce activity •Corneal damage from a hydrogen peroxide-soaked tonometer tip that was not properly rinsed has been reported. Hydrogen peroxide also has been instilled into urinary drainage bags in an attempt to eliminate the bag as a source of bladder bacteriuria and environmental contamination. This procedure did not reduce the incidence of catheter-associated bacteriuria. 	<p>Not yet widely available through vendors, may need to be ordered.</p> <ul style="list-style-type: none"> • Strong odor. 	<p>ClO2 gas known corrosive sufficient explosive character together unstable have pro use in disinfect</p> <p>Thanks advanced represent SNIPER can now deployed non-com format cannot, nature, free ClO a gas b SNIPER takes full advantage unique character this cor deliver high pe disinfect</p>
es							

1% sodium hypochlorite or phenolic disinfectants Preparation

Guidelines for Preparation of 1% sodium hypochlorite solution

Product	Available chlorine	1 percent
Sodium hypochlorite – liquid bleach	3.5%	1 part bleach to 2.5 parts water
Sodium hypochlorite – liquid	5%	1 part bleach to 4 parts water
NaDCC (sodium dichloro-cyanurate) powder	60%	17 grams to 1 litre water
NaDCC (1.5 g/ tablet) – tablets	60%	11 tablets to 1 litre water
Chloramine – powder	25%	80 g to 1 litre water
Bleaching powder	70%	7g g to 1 litre water
Any other	As per manufacturer's Instructions	

Examples of WHO recommended sanitizers & Disinfectants

Ingredient	Conc.	Contact Time	Surface	Comments
Quaternary Ammonium Compounds (Quats)	-	5 – 10 Min	Hard Nonporous (HN); Food Contact Post-Rinse Required (FCR)	Example: cetylpyridinium chloride
Hydrogen Peroxyacetic	500–2000 mg/L	As per labelling	Hard Nonporous (HN)	
Sodium Hypochlorite	1000 – 5000 ppm i.e. free chlorine	5 – 10 Min	Hard Nonporous (HN)	Where unstabilized chlorine is used (does not contain Cyanuric acid), strength loses fast. In such case 1% chlorine solution should be used.
Alcohol	70%	30 sec – 2 Min	Hard Nonporous, Metallic	
	70%	30 sec – 2 Min	Hard Nonporous, Metallic	Comments

Cleaning process should be followed by disinfection.

Use chemicals as per the direction provided by the manufacturers.

There are more chemical based disinfectants available; this is just a suggestive list.

Source: WHO / UNICEF document dated 3rd March 2020 on Water, sanitation, hygiene and waste management for COVID-19

Resources

Antimicrobial Coating for Food Processing Industry

<https://onlinelibrary.wiley.com/doi/full/10.1111/1541-4337.12502>

<https://www.microban.com/antimicrobial-solutions/technologies/aegis-microbe-shield>

<https://zoono.com/pages/our-technology-efficacy-testing>

<https://www.canadianmanufacturing.com/features/ont-manufacturer-producing-semi-permanent-disinfectant-coating/>

<https://www.mohfw.gov.in/pdf/Guidelinesondisinfectionofcommonpublicplacesincludingoffices.pdf>

<https://www.mohfw.gov.in/pdf/National%20Guidelines%20for%20IPC%20n%20HCF%20-%20final%281%29.pdf>