



**micro**be defence

Protecting where you Work, Live and Play

# Surface Defense

## Program Healthcare Facilities

Application and services provided by:

aegis<sup>★</sup>

PROTECT 

**KASTEEL**  
Construction and Coatings  
- NORTHERN TRUSTED -

# 1 Introduction

**Did you know!** "When you cough or sneeze, your germs go everywhere. Fast. And once they've hit a surface, they can survive for hours."

– *The Welsh Assembly Government Foster J Gerssi, www.wales.gov.uk*

What we know is that every day we touch the surfaces that have been touched by others.

What we don't know is whether or not the person or persons who touched the surfaces we share use proper hand hygiene. In this respect, surfaces become contaminated with infectious microbes that are spread by touch.

Handwashing and sanitizing is key, but the moment those products dry, you are at risk.



# 2 Current Housekeeping Practices

The most common housekeeping methods include cleaning surfaces with soap and water and in some cases also include the use of sanitizers or disinfectants. Neither soap and water or sanitizers and disinfectants provide any on-going protection to cleaned surfaces.

Sanitizers and disinfectants stop working the moment they dry. Soap residue actually provides a food source to bacteria and moulds encouraging their growth.

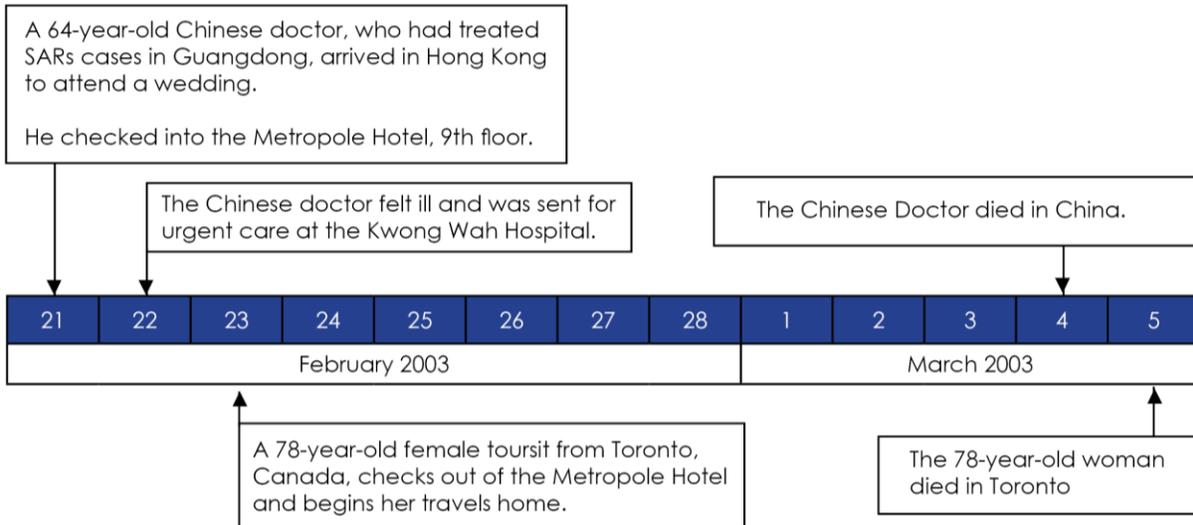
**What this means is that even though a surface has been cleaned or disinfected, bacteria, viruses, mould, fungus, algae and yeast begin to re-inhabit those surfaces by either touch or infected water droplets. The moment a disinfectant/sanitizer has dried, microbial growth can actually be accelerated by soap residue.**

# 3 High Touch & Disease

There are literally thousands, if not millions of types of infectious diseases that can exist around the world today. To illustrate the role high touch surfaces play in transmitting infectious diseases we will look at a well-known example: SARS.

### 3.1 SARs

Severe Acute Respiratory Syndrome (SARS) is a contagious and sometimes fatal respiratory illness. In 2003, SARS caused a global epidemic starting in China and moving throughout many parts of the world including here in Canada. The timeline below illustrates how SARs is believed to have been spread from China to Toronto. The doctor and the tourist outlined in the example had not come in direct contact with each other. It is likely that SARs was spread by an infected high-touch surface such as an elevator button or door knob.



### 3.2 Arthur G. James Cancer Hospital and Research Institute

This hospital, located in Columbus Ohio suffered a catastrophic flood when a pipe burst on the 12<sup>th</sup> floor of this new facility and 500,000 gallons of water cascaded from floor 12 to ground level. Ceilings, walls, carpeted floors, upholstered furnishings were either soaked or exposed to high humidity. Moulds and a host of fungi and bacteria proliferated throughout the building.

The objective of remediation was to return the facility to contaminant levels consistent with the intended use as a bone marrow transplant and cancer treatment center. Despite high efficiency air filtration and chlorine based disinfectant fogging, large numbers of fungi and moulds were retrieved from the air in all areas of the hospital. 58% of test sites produced samples of microorganisms of 720 to 2800 CFU/m<sup>3</sup> which represent the upper limit of testing equipment results. A surface modification strategy was undertaken deploying the Aegis Microbe Shield®. All accessible interior spaces (carpets, ceilings, walls, crawl spaces, furnishings, elevator shafts, mechanical and electrical chases) were treated.

The results were impressive. 45% of sites reported 0 CFU/M3 and 36 % of sites reported 1 – 5 CFU/M3 (acceptable). The initial reduction of airborne microorganisms and the sustained control of microbial levels during the 30 months post flood demonstrated the ability of the Aegis Microbe Shield® to effectively control the growth of microorganisms on treated surfaces.

## 4 Surface Defense: Control and Prevent Microbial Growth

Fighting the war on infectious diseases requires a strong game plan! Winning the battle on high-touch surfaces requires the right strategy - the Surface Defense Program.



## 5 The AEGIS Microbe Shield®

Globally registered the Aegis Microbe Shield®, it is the most commonly used antimicrobial in the world. From socks to medical equipment, Aegis® has been used in a wide range of industries and on a broad and diverse set of materials. In each application, the general concept is the same: **provide long lasting antimicrobial protection.**

The Aegis Microbe Shield® is the only Health Canada registered, bonding, antimicrobial surface treatment approved for commercial applications.

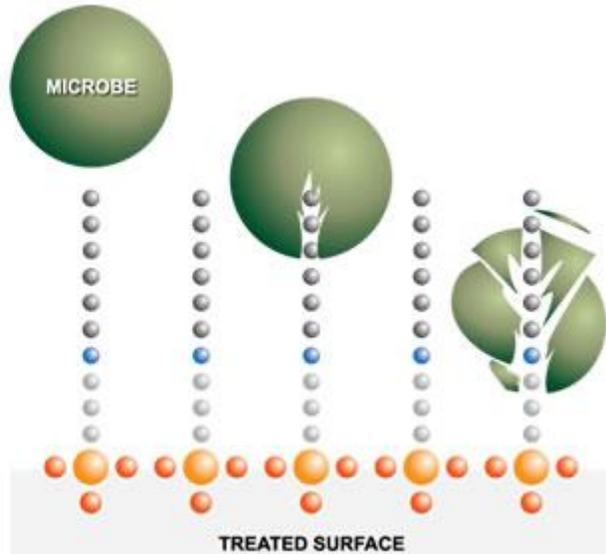
It can kill up to 99.9 % of germs on contact with its unique mode of action. The shield is unique in that it alone remains on guard to Control and Prevent the growth of harmful microorganisms between traditional cleaning and disinfection practices.



### 5.1 How AEGIS® Works

Think of Aegis® as a microscopic sword and a treated surface acting like bed of nails or swords. Aegis® modifies treated surfaces creating an inhospitable environment for microbes including bacteria, fungus and mold – in other words microbes cannot live on surfaces protected by Aegis®.

The positive nitrogen center of the Aegis® sword attracts microbes to it and the long carbon chain punctures the cell membrane destroying the microbe on contact! This combination of stabbing and electrocution allows the technology to be fully effective as long as the surface remains intact.



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## 5.2 Features & Benefits

- Worldwide registrations including Health Canada and the US EPA.
- No EPA, FDA, or Health Canada regulated biocides.
- Shield is safe and "green".
- Does not contain bleach or alcohol.
- No off gassing of VOCs.
- Aegis® is colorless and odorless.
- Can't be seen nor felt.
- Will not leach from surface to skin (like most disinfectants).
- Hypoallergenic with no side effects or irritation.
- Effective solution to control and prevent germs and mould.
- Bonding antimicrobial to provide on-going protection.
- Will not cause super bugs or resistant organisms.

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## 5.3 Safety of the Aegis Microbe Shield®

The safety profile of the Aegis Microbe Shield® has been proven over and over again by the companies that incorporate it into its products as well as the list of professional sports teams that depend upon it to keep facilities free of harmful microbes. From intimate apparel to diapers to equipment that rests upon the skin of professional athletes, Aegis® is seen as safe and dependable.

### **Supplemental Information Summary Reasons for Using the Aegis Microbe Shield® Technology November 13, 2014**

A wide range of reasons why any product, people mover, school, restaurant, church, hotel, transportation vehicle, hospital, commercial building or home should use the Aegis Microbe Shield Technology®. These include:

- EPA Registered in the United States since 1976.
- Used around the world in hospitals, commercial buildings, residences, schools and on textiles.
- A proven safe, effective science with no known product failures.
- Manufactured in an ISO 9002 certified facility by one of the world's most respected companies.
- Micro-polymer technology that molecularly bonds directly and permanently to the substrate.
- Technology is not consumed by the microorganism, it does not produce adaptive organisms.
- Does not off-gas or bleed off the surface onto which it has been applied.
- Does not use heavy metals or poisons as found in most other antimicrobials.
- Physically controls and eliminates microorganisms on contact and remains on the surface to fight again.
- Controls a wide range of microorganisms including bacteria, fungi, algae and yeast.
- Does not migrate from the surface - will not transfer from the surface to your skin or leach into the environment.
- Colorless, odorless application.
- An integral part of the holistic approach to providing the best available Indoor Environmental Quality.