mPact™ Environmental Solutions offers a proprietary two-step solution for the disinfection and long-term protection against numerous viral, bacterial and fungal infestation. This solution is changing the way the world tackles microbial contamination and is protecting millions around the globe.

mPale™
The biggest weapon in our arsenal, mPale™, is our exclusive antimicrobial agent that controls mold and bacteria without using a poison, instead controlling such microbes by puncturing cell walls on a microscopic level. mPale™’s unique spiked molecular structure is imperceptible to human touch but is highly effective against virtually all viral, bacterial and fungal infestations, including coronavirus.

Unlike chemical poisons, mPale™, once it is sprayed and bonds to the surface, it retains its effectiveness for 30 days. mPale™ is colorless, odorless, and can be applied to wood or steel, sheet-rock, carpets, upholstery, and painted surfaces in addition to plastic, leather, and fiber. mPale™ is registered with the EPA and is available only through our authorized affiliates.

mPerial™
Our exclusive cleaner, sanitizer, and deodorizer, mPerial™ is registered with the EPA as a virucide and fungicide. mPerial™ may be used in food preparation areas and many other areas, and is specifically formulated for compatibility with our mPale™ antimicrobial.

mPale™ ADVANTAGES

- Less invasive
- More effective
- Faster
- Lower costs
- Longer lasting
- More versatile
- Eco-friendly
- Moisture resistant
mPale™, The mPact Antimicrobial Cleaning System is our exclusive two step process that kills and prevents the spread of virus, mold and bacteria not with poison, but by puncturing cell walls on a microscopic level. mPale™'s unique spiked molecular structure is imperceptible to human touch but is highly effective against virtually all virus, including Corona-19, influenza, molds and most bacteria. This patented technology, registered with the EPA mPact™ Antimicrobial Cleaning System is available only through mPact™ Environmental Solutions.

mPale™ Antimicrobial is colorless, odorless, and can be applied to wood or steel framing, sheet-rock, carpets, upholstery and painted surfaces. The real beauty of this product is that, once it is sprayed on, it bonds to the surface and retains its effectiveness for a minimum of 30 days.
MPact™ Environmental Solutions, LLC is pleased to advise that it has today received a report for the laboratory
tests undertaken against COVID-19. The results show that active ingredients in the mPact™ Antimicrobial
System is > 99.99% effective against COVID-19.

COVID-19 has become a global concern, in particular as it has been shown to survive on surfaces for up to 9
days. mPact™ products have been successfully tested against a variety of pathogens for up to 30 days on
surfaces and 24 hours on hands.

mPact™ active ingredients had been previously tested against bovine coronavirus (the nominated surrogate
for MERS), this latest strain required new testing.

Two separate tests were completed to EN Standard 14476:2013+A2:2019. The first was against Vaccinia;
sometimes referred to as the ‘mother ship’ of double enveloped viruses (that are particularly hard to
inactivate), with the subsequent test against the nominated (and globally accepted) surrogate for COVID19;
feline coronavirus.
EN14476 is the European Standard that applies to products within the medical area including hygienic hand
rubs, hygienic hand wash, instrument disinfection by immersion, surface disinfection by wiping, spraying,
flooding or other means.

RESULTS:

The test against Vaccinia confirmed efficacy of > 4Log (greater than 99.99% efficacy) for the active ingredients
in MPale™ and MPerial™ (The two components of the MPact™ Antimicrobial System)
The second test against the COVID-19 surrogate, feline coronavirus, confirmed efficacy at 4.33Log (greater
than 99.99% efficacy).

The members of the family Coronaviridae are enveloped and have positive sense RNA genome. Coronaviruses
have a distinct morphology with an outer ‘corona’ of embedded envelope spikes. These viruses cause a broad
spectrum of animal and human disease and are particularly difficult to inactivate.

MPact™ Environmental Solutions is very pleased with the results which further demonstrates the ability of the
mPact™ technology to be part of the solution to prevent and protect against the spread of the COVID-19 Virus.
WHAT TYPES OF MICROORGANISMS DOES MPact™ PROTECT AGAINST?

**Bacteria**
- Covid-19
- Micrococcus sp.
- Staphylococcus epidermidis
- Enterobacter agglomerans
- Acinetobacter calcoaceticus
- Staphylococcus aureus (pigmented)
- Staphylococcus aureus (non-pigmented)
- Klebsiella pneumoniae
- Pseudomonas aeruginosa
- Pseudomonas aureginosa
- Pseudomonas aeruginosa
- Streptococcus faecalis
- Escherichia coli
- Proteus mirabilis
- Proteus mirabilis
- Citrobacter diversus
- Salmonella typhosa
- Salmonella choleraesuis
- Corynebacterium bovis
- Mycobacterium smegmatis
- Mycobacterium tuberculosis
- Brucella cania
- Brucella abortus
- Brucella suis
- Streptococcus mutans
- Bacillus subtilis
- Bacillus cereus
- Clostridium perfringens
- Haemophilus influenzae
- Haemophilus suis
- Lactobacillus casei
- Leuconostoc lactis
- Listeria monocytogenes
- Propionibacterium acnes
- Proteus vulgaris
- Pseudomonas cepacia
- Pseudomonas fluorescens
- Xanthomonas campestris

**Fungi**
- Aspergillus niger
- Aspergillus fumigatus
- Aspergillus versicolour
- Aspergillus flavus
- Aspergillus terreus
- Penicillium chrysogenum
- Penicillium albicans
- Penicillium citrinum
- Penicillium elegans
- Penicillium funiculosum
- Penicillium humincola
- Penicillium notatum
- Penicillium variabile
- Mucor sp.
- Trichophyton mentagrophytes
- Trichophyton interdigitale
- Trichoderma flavus
- Chaetomium globusum
- Rhizopus nigricans
- Cladosporium herbarum
- Aerobasidium pullulans
- Fusarium nigrum
- Fusarium solani
- Gliocladium roseum
- Oospora lactis
- Stachybotrys atra

**Algae**
- Oscillaria bornetii
- Anabaena cylindrica
- Selenastrum gracile
- Pleurococcus sp.
- Unicladus quadricauda
- Gonium sp.
- Volvox sp.
- Chlorella vulgaris

**Yeast**
- Saccharomyces cerevisiae
- Candida albicans

ARE CHEMICAL-BASED DISINFECTANTS MORE EFFECTIVE THAN MPact™?

The majority of hand sanitizers on the market today claim they kill 99.99% of germs. While this is true, alcohol-based or other “poison-based” disinfectants are only effective while they are wet, which means they are effective for only a few minutes before re-infection begins again. MPact™ kills 99.99% of germs but offers continuing efficacy for up to 30 days on surfaces. To get similar efficacy from other products, you would need to apply them every few minutes. On surfaces, most household disinfectants require you to leave the disinfectant on the surface for 10 minutes or more to “disinfect” or kill all the germs on the surface. Sadly, once these products are dry, germ build-up resumes. This is not so with MPact™. Once MPact™ is applied and allowed to dry, that is when it starts working and continues to continuously protect for up to 30 days. We believe that makes MPact™ a more effective disinfectant.

HOW SAFE IS MPact™?

MPact™ and mPerial™ are both EPA registered with multiple studies across many industries proving its safety and efficacy. Both products in the MPact antimicrobial cleaning system are EPA Registered, non-toxic, biodegradable and non leaching; therefore it does not absorb in the body. The active formula in our products have been used safely for many solutions since 1976.