

● OH Hygiene DM

Purify · Protect · Preserve

Since humanity recognised that disease has natural causes, modern medicine has advanced one careful step at a time. Alongside landmark discoveries — cardiac function, vaccines, the stethoscope, antibiotics — innovations such as pacemakers, catheters and MRI have reshaped what treatment can achieve.

OH Hygiene DM is an invention set to make a meaningful contribution to human health and to become part of daily life. Featuring the world's first and only **heavy-metal-free ionic disinfectant technology**, it offers an effective, permanent and safe way to combat microorganisms. Thanks to its amphoteric — both anionic and cationic — structure, patented **OH Hygiene DM** delivers innovative solutions across disinfection, medicine and food-related sectors.

First do no harm / *Primum non nocere*

— Hippocrates

Health professionals have drawn on the wisdom of Hippocrates for centuries and have been struck by the clarity of his words. Yet those making decisions — Hippocrates included — have often had to accept lesser harms to prevent far greater ones.

For example, Hippocrates saved countless lives using cauterization, a method that inflicted real damage on the body when it had to be used.

A parallel story has unfolded in disinfection: people have had to rely on disinfectants to survive, knowingly or unknowingly accepting the harm they can cause.

Improvements in living conditions and the use of disinfectants helped reduce the share of deaths from infection — roughly 50% around 1900 — to 20–25%, and later to substantially lower levels.

The main reason this figure cannot be reduced further is that today's disinfectants — whatever their chemistry — cannot fully overcome harmful microorganisms.

Many are not used at adequate levels because they are toxic, carcinogenic or allergenic, they damage the beneficial microorganisms of the body, and their short effective window prevents lasting hygiene.

PURIFIES

Clears the environment of harmful microorganisms by destroying bacteria, viruses, fungi and spores — without harming humans, animals, plants or nature.

PROTECTS

Beyond being harmless, it keeps working long after application. With no volatile components and a lasting effect on treated surfaces, it continues to guard the area against microorganisms until cleaned. Protection lasts at least 7 days, and 3–6 months depending on the environment.

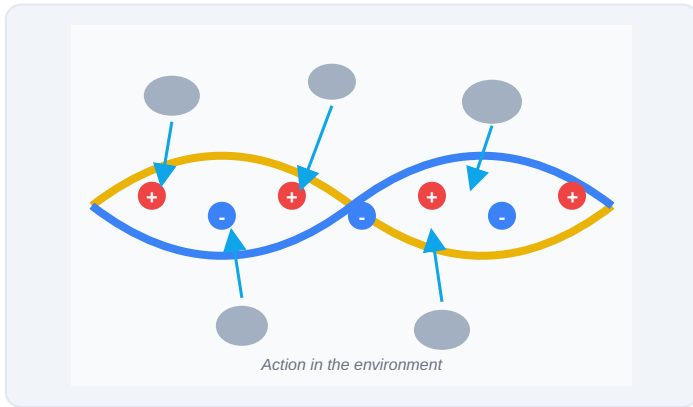
PRESERVES LIFE

Because it removes harmful microorganisms without damaging cells, it allows beneficial cells and elements to thrive or regenerate while guarding against new invasions. Its near-neutral alkaline profile extends the life of treated materials by eliminating corrosive microbes on their surfaces without damaging the materials themselves.

A healthy and effective era of hygiene begins here.

OH Hygiene DM

HOW DOES OH HYGIENE DM WORK?

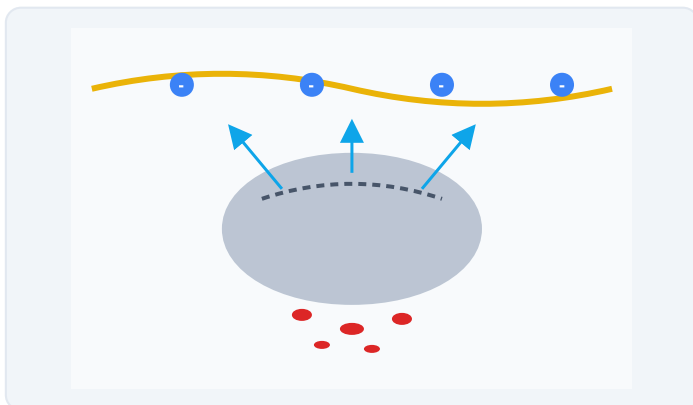
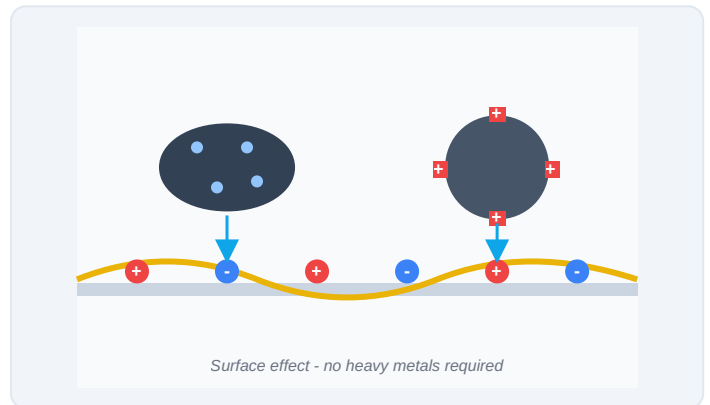


Action in the environment

OH Hygiene DM acts as both an anion and a cation thanks to its **amphoteric polymer** structure. To stay alive, bacteria must attract divalent cations such as magnesium and calcium to their cell walls. The cationic side of OH Hygiene DM pulls those ions away from the microorganism, disrupting and deforming its membrane. In the same way, cationic microorganisms are disabled when positive ions move toward the anionic side of OH Hygiene DM.

Action on surfaces

When applied to a surface, OH Hygiene DM attracts microorganisms to the treated area. Until now, antimicrobial surfaces have relied on heavy metals such as silver or copper; OH Hygiene DM achieves the same outcome **without any heavy metals**, using a technology that does not harm human health. Restrictions on heavy metals harmful to people and the environment are expected worldwide in the near future.



Lethal mechanism

The lethal effect of OH Hygiene DM comes from **electrostatic interaction**: the polycationic side attracts negatively charged microbial membranes, while the polyanionic side pulls away the charges of positively charged membranes. This disrupts the membrane potential, disables the ion-transport mechanisms the microorganism relies on to survive, and the cell dies.

WHAT A SAFE DISINFECTANT MUST OFFER

Biological performance

1. A broad antimicrobial spectrum - effective against multi-resistant microbes, harmful bacteria, fungi, spores and viruses.
2. Fast action.
3. Unaffected by the environment - retains activity in the presence of organic matter such as blood, sputum and faeces, and is compatible with soap and detergent.
4. Non-toxic - does not damage skin, body tissue or cells.
5. Forms a protective antimicrobial film on treated surfaces for lasting effect.

OH Hygiene DM

1. Broad-spectrum: active against multi-resistant microbes, harmful bacteria, fungi, spores and viruses.
2. Acts quickly.
3. Resilient to environmental factors; retains activity with organic matter present and is compatible with soaps and detergents.
4. Non-toxic - does not damage skin, body tissue or cells.
5. Forms an antimicrobial film on the treated surface and provides a long-lasting effect.

Conventional disinfectants

1. Different chemicals are needed for different microbes. A product effective against bacteria may not be effective against viruses, so repeated applications with different actives are often required.
2. Fast action only when the right chemistry is selected.
3. Active chemistries are influenced by and alter environmental conditions.
4. Common actives (glutaraldehyde, formaldehyde, orthophthalaldehyde, alcohol, chlorine compounds) are tissue irritants and may be carcinogenic or allergenic; post-application cleaning is typically regulated.
5. No lasting effect and no defence against re-contamination.

Application performance

1. Non-corrosive to tools and metal surfaces; does not degrade plastics, rubber and similar materials.
2. Easy to use with clear, simple instructions.
3. Economical in use.
4. Water-soluble.
5. Colourless, odourless or pleasantly scented.

OH Hygiene DM

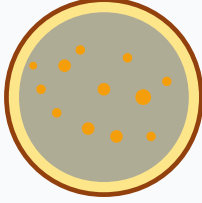
1. Water-based with a near-neutral pH. Extends the life of plastics, rubber and similar materials by removing the microorganisms that degrade them - without causing deterioration itself.
2. Applied by fogging, spraying or pouring; application instructions are straightforward.
3. Considering product cost, ease of application and duration of effect, the overall value is highly economical.
4. Dissolves in water and leaves no residue on materials or surfaces.
5. Colourless and odourless.

Conventional disinfectants

1. Aggressive actives corrode tools and surfaces and degrade plastics and rubber; post-application cleaning is often required.
2. Strict usage rules are needed to limit harm to patients, operators and the environment, requiring trained staff and lengthy procedures.
3. List price alone is not a sufficient measure - proper economic comparison requires cost-benefit analysis including persistence of effect and application cost.
4. Some products are insoluble and leave residues that must be removed promptly.
5. Colour and fragrance can trigger allergies and may carry special application and cleaning procedures.

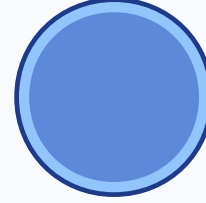
OH HYGIENE DM IN USE

BEFORE / AFTER - AIR SAMPLE



Air sample taken before application - many colonies visible

OH Hygiene DM



After application - microorganisms destroyed, no growth detected

LONG-LASTING SURFACE PROTECTION

Treated

Day 0 - clean

Still protected

Still protected

Protection holds

Untreated

Some colonies

Growing

Heavy load

Contaminated

Protection lasts at least 7 days - and 3-6 months depending on the environment.

SCOPE OF APPLICATION

HEALTH - Hospitals, family health centres, oral and dental clinics, the health and pharmaceutical industry, laboratories, pharmacies, beauty centres, nursing homes for the elderly, orthoses and prostheses, pets.

INDIVIDUAL & PUBLIC AREAS - Schools, factories, offices, houses, dormitories, hotels, restaurants, transportation (trains, metros, buses, planes, ships), gyms, beauty centres.

FOOD - Agriculture and livestock; food and food production; industrial additive production; silos; fresh fruit and vegetable warehouses; animal farms (barns, poultry houses, fish-farming facilities); beekeeping; packaging materials.

INDUSTRY - Antibacterial materials (plastic, fabric, paint...); diapers, pads, masks, bandages, in-shoe sprays, orthoses and prostheses.

ISO

9001

QUALITY

APPROVED

NON-

TOXIC

PATENTED

TECH

GREEN LINE TEMİZLİK MADDELERİ VE HAM MADDE SANAYİ TİCARET LİMİTED ŞİRKETİ

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