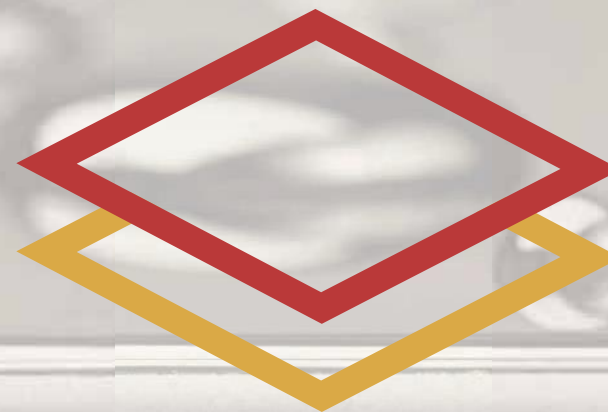


*A permanent wear resistant coating for protection against microbial attacks!*

# LIQUID GUARD












*Protect what matters most with  
LIQUIDGUARD®  
– invisible glass.*

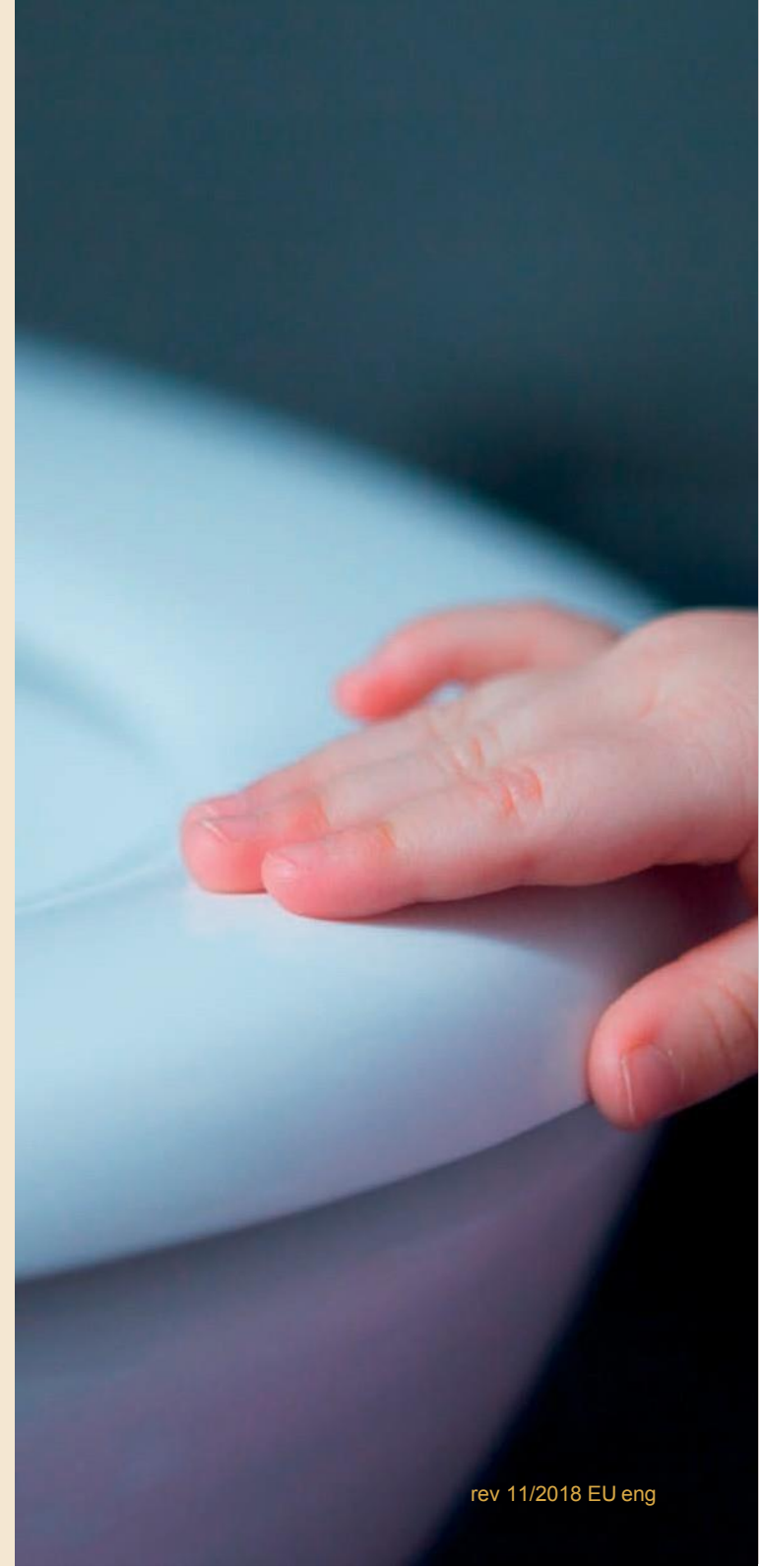
# LIQUID GUARD®

## Protects what matters most

*Through wet wipe application , LIQUID GUARD® preserves and therefore retains the value of any item. Additionally, the invisible seal of amorphous glass protects your most valuable assets: health and well-being.*

Key performance characteristics at a glance:

-  Safe anti-bacterial (+viral) functionality – presence verified using a marker
-  Prevents microbial odours
-  Permanent fungicidal function
-  Deprives house dust mites of food
-  Prevents mold growth on smooth and textured surfaces
-  Prevents micro scratches & reduces damage by improving the friction coefficient
-  Facilitates cleaning and removal of limescale, soot, grease, dust etc.
-  Promotes comfort, well-being, and safety
-  Free from halogens (especially fluorine, PBT/vPvB- & SVHC-substances)



# Application & Effect

- LIQUID GUARD® reduces surface energy. MOLYBSAN® technology facilitates the removal of dirt and biological deposits as well as soap residues and inorganic dirt.
- By forming an ultra-thin layer of glass, LIQUID GUARD® protects, among other things, against micro-scratches. Under mechanical abrasion, the protective layer is abraded before the substrate is damaged. A unique GLIDE function, ensures that any abrasive contact materials glide over the treated surface and leave fewer traces. Protected surfaces take-on a measurably higher degree of hardness (3 levels of pencil hardness).
- The surface is first cleaned and polymerized (step 1).
- Subsequently, the modified silica delivers a safe and permanent antimicrobial function (Step 2). For a detailed explanation of efficacy, see pages 7-11.
- A non-migrating antimicrobial glass layer is created.
- LIQUID GUARD® is suitable for all water-resistant surfaces\*.
- To meet the highest demands of test standards in the supply chain, colour coding confirms the antimicrobial agents level of performance.

◆ Overtreated    ◆ Slightly overtreated    ◆ Good treatment    ◆ Slightly undertreated    ◆ Undertreated

\* Do not use if safe application is in doubt.

# Applications

*Some examples of different applications.*

- Invisible hygiene- and abrasion protection against micro scratches on glass or plastic displays, LED, LCD or AMOLED. Zero limitation to touch functions or usability; as holds true for cases or covers of smartphones
- Easy-to-clean and hygiene-treatment for bathroom ceramics, toilet lids, sanitary surfaces, and bathroom utensils ( i.e. taps, shower heads, and hoses)
- Protection against infections on plastics, stainless steel or varnished surfaces in public toilets, hotels, public transportation and food service industry.
- Permanent surface disinfection in hospitals and caring and nursing facilities, especially those within intensive and quarantine care, or surfaces with a high infection risk (e.g. doorknobs) including shelf spaces, work-tops, and floors (please check national regulations!)
- Permanent hygiene for phones, keyboards, and other input devices which are regularly touched and used
- Stainless steel handrails and elevators (incl. operating devices)
- Wear and tear and hygiene treatment for automatic vending equipment, slot machines, water dispensers, parking meters, and other publicly used machines.
- Easy-to-clean anti-limescale performance for glass, PMMA or textile shower screens.
- Odour free hygiene performance for wastebins





- Hygiene performance in ventilating systems
- Permanent hygiene protection for flooring and other surfaces
- Mould reduction for agricultural covers

# Compatible surfaces

*Our products can be used on these surfaces:*

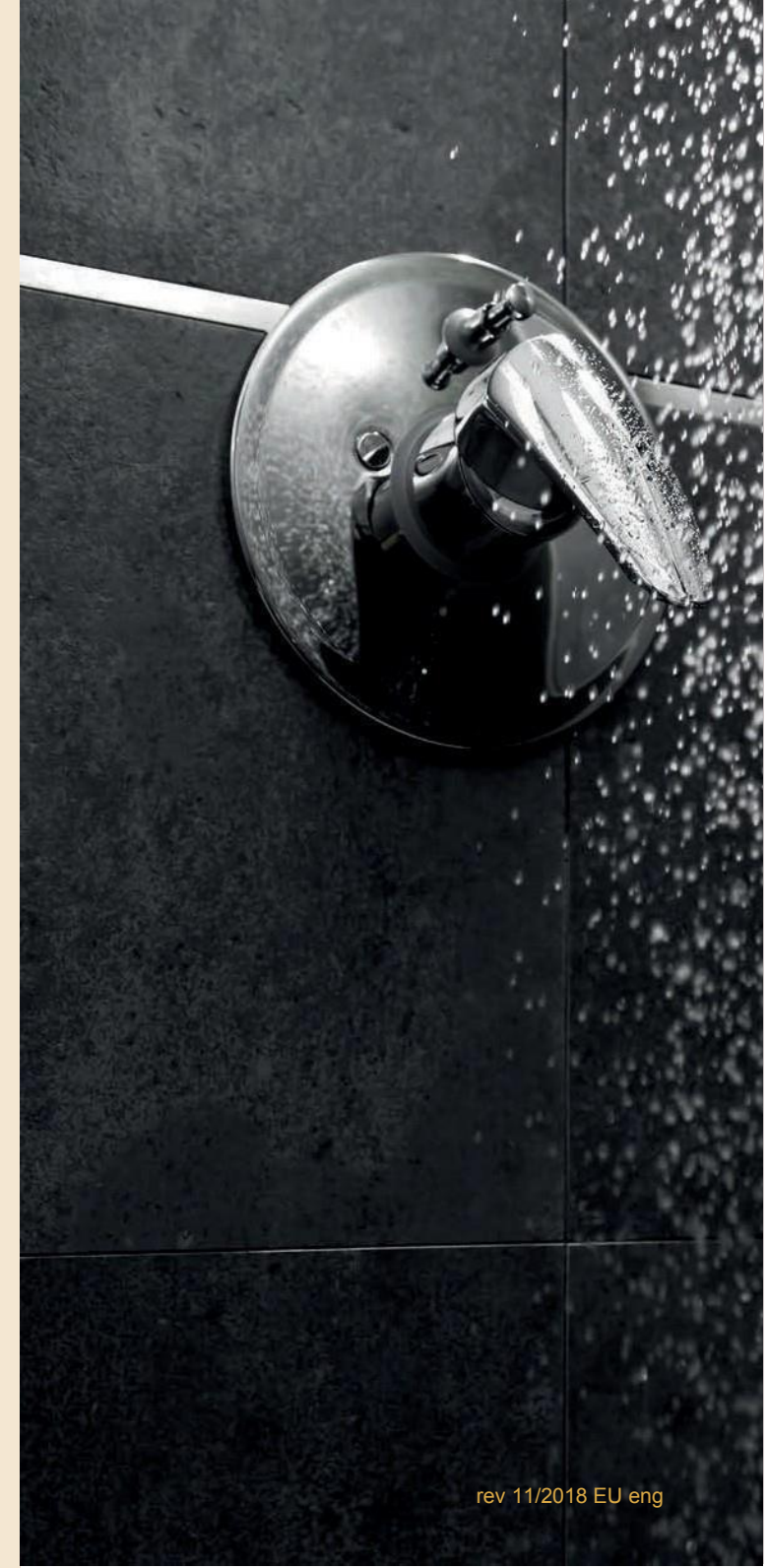
- Glass
- Ceramics
- Noble metals (aluminium, stainless steel, brass, gold)
- Plastics, made from e.g. PMMA, ABS, ECTFE, HDPE, LDPE, PA, PC, PMP, PP, PS, PVC, SAN or SI
- Varnishes
- Printed cardboards and wrapping

# Incompatible surfaces

*Our products CANNOT be used on these surfaces:*

- Surfaces in contact with foods
- Water-sensitive surfaces, such as e.g. paper

If you're unsure whether our products are suitable for any surface, please do not use it.





# CERTIFIED Microbiological Efficiency

*So far accredited laboratories certified for the following:*

- Staphylococcus aureus (MRSA = methicillin-resilient Staphylococcus aureus)
- Escherichia coli (intestinal bacteria)
- Klebsiella pneumoniae (odour-creating bacteria)
- Listeria monocytogenes (food-stuff)
- Salmonella choleraesuis (food-stuff)
- Aspergillus niger (slightly sporicidal)
- Pseudomonas aeruginosa
- Enterococcus hirae
- Influenza A
- TGEV Coronavirus

See our website for the certified list:

<https://www.nano-care.co.uk/antimicrobial-products/liquid-guard-full-kill-list/>

# Spectrum of activity

*The microorganisms listed should be viewed as representative of the types of organisms, rather than as a comprehensive list.*

## Bacteria

- Micrococcus sp.
- Staphylococcus epidermidis
- Enterobacter agglomerans
- Acinetobacter calcoaceticus
- methicillin-resistant staphylococcus aureus
- Staphylococcus aureus
- Klebsiella pneumoniae
- Pseudomonas aeruginosa
- Streptococcus faecalis
- Escherichia coli
- Proteus mirabilis Citrobacter diversus
- Salmonella typhosa
- Proteus mirabilis
- Salmonella choleraesuis
- Corynebacterium bovis
- Mycobacterium smegmatis
- Mycobacterium tuberculosis
- Brucella canis
- 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 versicolor
- Aspergillus flavus
- Aspergillus terreus
- Penicillium chrysogenum
- Penicillium albicans
- Penicillium citrinum
- Penicillium elegans
- Penicillium funiculosum
- Penicillium humicola
- Penicillium notatum
- Penicillium variabile
- Mucor sp.
- Tricophyton mentagrophytes
- Tricophyton interdigitalis
- Trichoderma flavus
- Chaetomium globosum
- Rhizopus nigricans
- Cladosporium herbarum
- Aureobasidium pullulans
- Fusarium nigrum
- Fusarium solani
- Gliocladium roseum
- Oospora lactis
- Stachybotrys chartarum

### Algae

- Oscillatoria borneti
- Anabaenacylindrica
- Selenastrum gracile
- Pleurococcus sp.
- Schenedesmus quadricauda
- Gonium sp.
- Volvox sp.
- Chlorella vulgaris

### Yeast

- Saccharomyces cerevisiae
- Candida albicans

### Virus

- Influenza A
- TGEV Coronavirus

# Specifications

*LIQUID GUARD®*, consisting of 2 wet wipes *LIQUID GUARD® clean + primer wipe*, and *LIQUID GUARD® wipe*, is a 2-step-system for consumers for the permanent, antibacterial treatment of surfaces.

Chemical basis:	Modified silicon dioxide
Layer thickness:	ca. 150-300 nm
Water-repellent:	slightly hydrophobic
Temperature stability:	150 degree Celsius
Chemical stability:	solvent-resistant
Weatherproof:	2000 h according to ISO 11507 A (corresponds to ca. 3-4 years)
Resilience (mechanical):	<ul style="list-style-type: none"><li>• Glass, ceramic &gt; 40.000 cycles according to ISO 11998 (cleaning with water)</li><li>• Noble metals &gt; 20.000 cycles according to ISO 11998 (cleaning with water)</li><li>• Plastics &gt; 5.000 cycles according to ISO 11998 (cleaning with water)</li></ul>
Salt water resistant:	yes





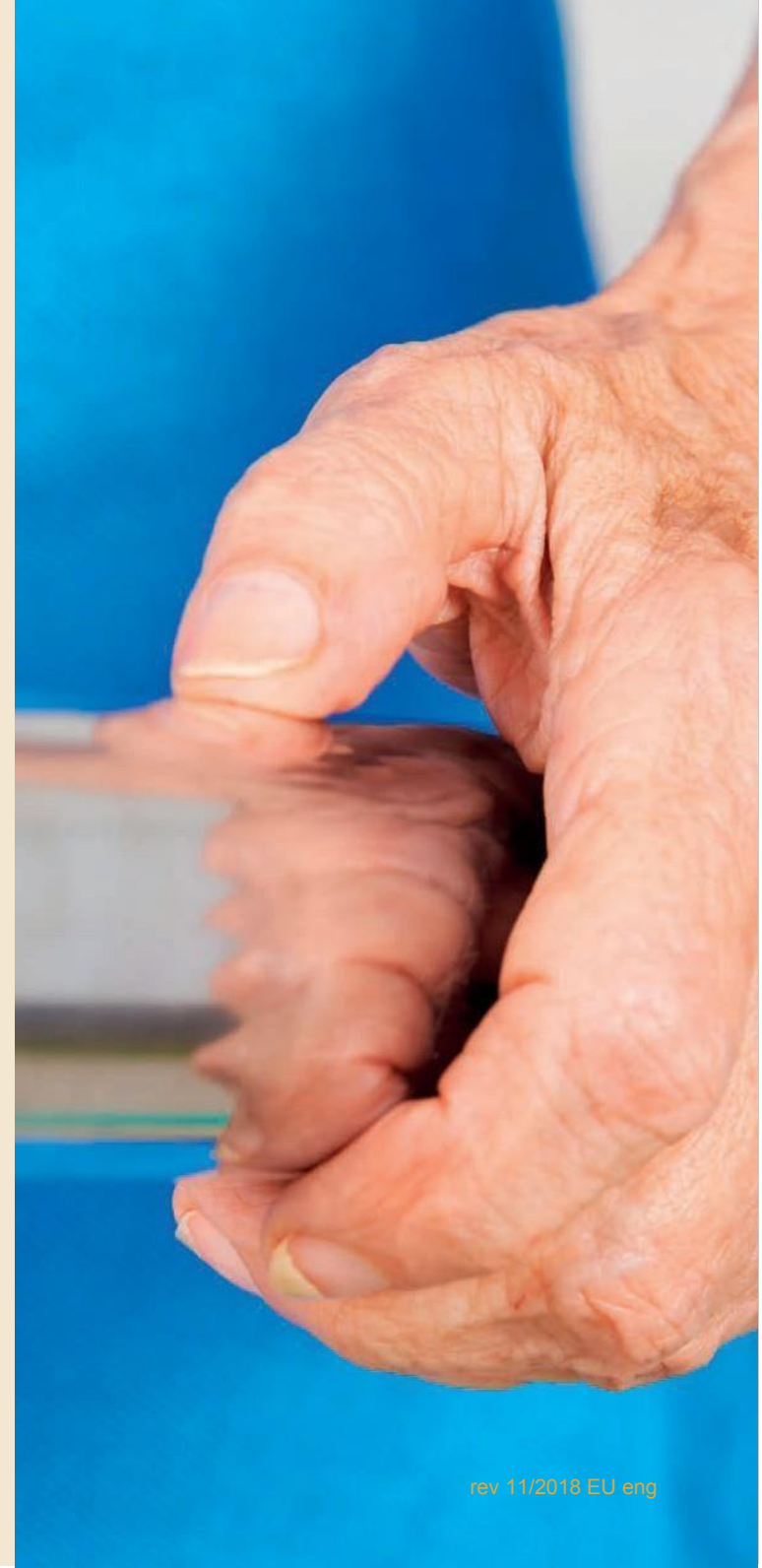
Transparency:	100%
Storable:	12 months
Temperature sensitivity:	3 to 40°C
Wastage:	1 x cleaning and polymerizing wipe + 1 x activating wipe for up to 3m <sup>2</sup> ;
Application:	Use the cleaning and polymerizing wipe (LIQUID GUARD® clean and primer wipe) (step 1) to degrease and clean the surfaces thoroughly. Only in case of extreme contamination (or limescale) should a pre-cleaner for the specific type of contamination be used. After the 1. liquid has evaporated (ca. 5 min,) a polymer layer forms. This is activated and becomes antimicrobial by wiping it over with the activating wipe (LIQUID GUARD® wipe). After 2 minutes the surface should be wiped dry using the microfiber wipe until all visible streaks disappear. A thorough polishing will be necessary, especially on transparent or shiny surfaces. After 6 hours the coating is hardened and ready for use.

LIQUID GUARD® clean + primer wipe and LIQUID GUARD® wipe are registered non-dangerous goods according to ADR and IATA  
For the safe handling of LIQUID GUARD® please see the safety instructions for each component, as well as the information flyer concerning the LIQUID GUARD® wipe agent.

# Safety

*Additional legal obligations and safety instructions concerning the antimicrobial efficient components of LIQUID GUARD® wipe:*

Kind of formulation:	Ready to use sealed in wet wipes
Usage:	refer to "application"
Recommended date for further treatments:	As soon as the color marking no longer sticks to the coated surface
Possible side effects and instructions for first aid:	According to the regulations this formulation is not considered as dangerous/hazardous. There are no known side effects.
Extensive usage:	Consider limitation and monitoring of exposure in the workplace. (safety regulations)
Personal safety equipment:	Not necessary for normal usage. For extensive usage refer to Section 8.2.2. of the safety instructions.
Disposal instructions:	P501: Content and wrapping need to be disposed in accordance with the local regulations (refer to safety instructions)
Storability:	12 months
Onset of effect:	antimicrobial effect becomes active one hour after application.
Drying time / curing:	The advised drying time from application to when contact is recommended for humans or animals to the treated surface: 6 hours
Registration number:	Liquid Guard N-77607; Liquid Guard Wipe N-77608 to PT 2 a. PT 9



A close-up photograph of a person's hand, showing the texture of the skin and the veins. The hand is positioned on the left side of the page, with the fingers slightly curled.

*Detailed first aid measures:*

General information:	In case of doubt or if symptoms don't improve, seek medical attention. Present safety information or label to the doctor. Never administer substances orally to people in an unconscious state.
After inhalation:	Take patient outside – leave contaminated area. Seek medical attention, if symptoms continue.
After skin contact:	Immediately wash affected skin with lots of soap and water! Remove contaminated clothes and shoes. Seek medical attention if symptoms continue.
After eye contact:	Remove contact lenses, Rinse open eyes and under the eye lids immediately with plenty of water (for several minutes). Seek medical attention if irritation continues.
After Ingestion:	Do not take vomit inducing measures. In case of doubt seek medical attention, or if symptoms worsen present safety information or seal to a doctor. Never administer substances orally to people in an unconscious state.

SANITIZERS SHOULD BE USED WITH CARE. ALWAYS READ LABEL INSTRUCTIONS OR PRODUCT INFORMATION BEFORE USE.







LIQUID  
GUARD



One strong team

Molybsan<sup>®</sup>



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