

### Nanotol is different than other Nano sealants

Nanotol is the newest generation of nano sealants. Nanotol sealant is very special. A sealant for all materials



- ✓ contains no ceramic nano particles.
- ✓ is free of silicones and organic solvents.
- ✓ is safe for humans and surfaces, absolutely non-toxic, food safe, and biodegradable.
- ✓ is a further development of the lotus effect!
- ✓ is TÜV certified!
- ✓ is a next generation nano sealant.
- ✓ is a product system with primer and sealant.
- ✓ is easy to use (clean - seal - polish - done).
- ✓ adds an invisible protective layer of nano polymers that protects surfaces from dirt.
- ✓ is water, fat, oil, and dirt repellent. Everything can be removed simply and quickly from the sealed surface. With only clear water!
- ✓ can be applied quickly and easily to many surfaces. Suitable for many different materials.

Nanotol is a high quality cleaning and sealing system, the result of intensive research and development as well as successful field tests covering a wide range of applications. Water and dirt will not stick to a Nanotol coated surface. The nano technology in Nanotol, unlike other nano products, is non toxic and environmentally friendly. Nanotol is a water based product – and is biodegradable. It is easy to apply and comes in kit form containing a cleaner and Nanotol sealer.

<p>Nanotol repels fat, dirt, oil and water from paint, plastic, glass, ceramics, metal, marble, and leather.</p>	<p>Save on all additional cleaning products and clean the sealed surface with clear water - your contribution to protecting the environment.</p>	<p>Nanotol is safe for humans and surfaces, is biodegradable, and is even TÜV certified according to food safety laws.</p>
<p>Nanotol makes all glasses look like crystal.</p>		<p>Nanotol is easy to use by anyone - Nanotol cleans, treats, and protects surfaces.</p>
<p>Nanotol contains no silicone, organic solvents, or alcohols.</p>	<p>Clean surfaces sealed with Nanotol in half the time, you just need water and a micro fiber cloth.</p>	<p>Nanotol has an enormous development edge over other sealants</p>

**The nanotol 250 ml Combi Set consists of**

- 250 nanotol primer
- 250 ml nanotol sealant
- 2 high quality microfiber cloths
- 2 sponges

**Coverage: 40 sq. meters**



### Nanotol's advantages at a glance



A direct comparison with other nano sealants shows Nanotol's enormous development edge

<p><b>Other easy to clean, lotus-effect and nano sealers</b></p>	<p><b>Nanotol made in Germany</b></p>
<p>Mostly various products are used for each material since some ingredients affect delicate surfaces</p>	<p>One product for all materials!</p>
<p>Most of the products are only water repellent (lotus effect)</p>	<p>Not only water repellent, but also grease, oil and dirt repellent          hydro phobic (water repellent)          lipo phobic (grease repellent)          oleo phobic (oil repellent)          More than "just" a lotus effect!</p>
<p>Partly the application has to be repeated or cords are visible after only a few weeks</p>	<p>Durability 6 - 12 months, up to 24 months for windows, scratch resistant-, wiping - and shock proof</p>

Often complicated procedure of application. Some of the products are delivered with gloves or the surface needs to be tempered with ultraviolet light	Easy to use
No information available from manufacturer and reseller	Transparent and invisible
Most products are solvent based. Solvents cause damages to synthetic material (joints, windscreen wipers), harming the health with unpleasant odour	Silicone and solvent free for indoor and outdoor use
Matt painted surfaces	Deep shininess of coated surfaces
Cords are partially visible on windscreens and windows	Glasses are clear and rich in contrast (crystal glass effect) due to modified refractive index
No information available from manufacturer and reseller	Higher transmission and contrast on eyeglasses and optical lenses with de-mister effect
Contains nanoscale silicones with possibly adverse health effects	Contains nano polymers on long- chain macro polymers: nano particles are attached together in long chains (polymers) and remain netlike on the surface
Most products are applied with an aerosol can. Aerosols and power gases are toxic and nanoscale ceramic particles can be inhaled	Easy application of the liquid polymer dispersion with the pump spray. No danger of inhalation. No harmful ingredients
No information available from manufacturer and reseller	Food safe according to §31 food -, articles of daily use - and animal law, i.e. surfaces sealed with Nanotol do not emit any substance to the environment
No information available from manufacturer and reseller	Sealed surfaces are harmless even in direct contact with man and animal
Alcoholic liquids are hazardous materials and subject to extensive requirements for transportation or storage	No hazardous goods for transportation and storage

## Nanotol - one for all

whether glass, metal, plastic, paint, leather, marble or Plexiglas - Nanotol works on all smooth, firm surfaces. Nanotol cannot damage any surface - so you can try it out wherever you like no risk at all.

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## Nanotol has more than "just" the lotus effect

There are also self-cleaning surfaces in nature, for example the lotus blossom.

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Indian lotus blossom

Its leaves are always clean, for it has a built-in self-cleaning mechanism which is called the lotus effect because it was first discovered in the lotus blossom. On the leaves of the Indian lotus blossom, rainwater beads up and rolls down the leaf at the smallest slope, removing dust and soot from them. The surface remains clean and dries immediately after a rain shower.

## What Is Nanotol?

- Aqueous dispersion of nano polymers
- Solvent- and silicone free
- Hydrophobic
- Lip phobic
- Oleo phobic

Two steps further than Lotus-Effect. The Contact-Angle is crucial for Hydrophoby The smaller the contact surface, the smaller the adhesive forces. Due to the surface tension, fluids become spherical.

**The lotus effect is not a biological, but a physical-chemical phenomenon and can be described with physical-chemical parameters:**

## The angle of water contact is the decisive factor.

That is the angle between the surface of the substrate and the surface of the water droplet on it. It is a measure for the wet ability of the surface with water. This angle can be changed by applying nano sealants to the surface.

### Nano-structured surfaces become hydrophobic

That means water repellent. Such hard to wet surfaces have a large contact angle. Materials structured in the nano range have contact angles of up to 170 degrees. On a nano-structured surface, the actual contact area is only two to three percent of the surface covered by a water droplet. The drop lies as if on a bed of nails made of crayons and touches only their tips. This decreases the attraction between the water and the substrate, the water droplets become round.



### Advantages of Nanotol:

1. Water beads up, the surface stays dry.
2. Water removes loose dirt when it beads up.
3. Protects wood and textiles from dampness and penetrating dirt such as red wine on a tablecloth.
4. Protects stone from moss growth etc.

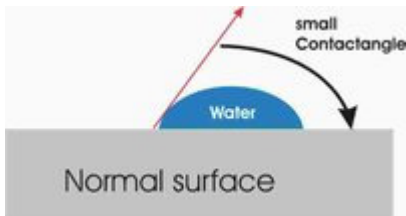
### Disadvantages of using other similar products:

1. The surface does not get wet and cannot be easily cleaned with water to remove stubborn dirt. This applies especially to smooth surfaces.
2. Water smears on smooth surfaces, poor vision through glass, for example a windshield.

**Surfaces with such a low wet ability doesn't get wet. Not even for cleaning. But dirt has to be dissolved by water. The beading effect looks good in many commercials – but has practically no significance for cleaning.**

If a surface is to be cleaned with water, it has to get wet. A surface that repels water entirely can thus no longer be cleaned with water. The surface starts smearing as soon as it comes in contact with water. This effect can be seen in many nano products. But Nanotol not only beads up water but makes the surface excellent and easy for cleaning.

### The ideal contact angle



**On normal smooth surfaces** the water droplets cannot roll off, only glide. Then they slip over the dirt without removing it.

The ideal contact angle must thus be between the normal and the hydrophobic contact angle in order to remove loose dirt when the water rolls off while still allowing stubborn dirt to be cleaned using water.



Nanotol repels not only water, but fat, oil, and dirt as well.

### Nanotol contains no solvents or alcohol

Nanotol is dispersed in water, with no solvents or alcohol that can ruin gaskets or leave an unpleasant odor. You can use Nanotol on all (!) surfaces, even in the car's interior, on sensitive surfaces, even on marble.

## ***How to use Nanotol***

Nanotol can be applied quickly and easily at temperatures between 1 ° and 40 °C. Following procedures carefully before and during sealing can improve the results considerably.

### **Detailed instructions and tips for an ideal result**

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#### **1. Clean the surface with Nanotol primer**

The Nanotol primer is a cleaner that is optimally suited to prepare the surface for sealing. Please dilute one part Nanotol primer with 25 parts water (two to three caps of primer to one liter of water). Softened or distilled water is ideal; tap water with a low degree of hardness is also suitable. Wash the object thoroughly and rinse the cleaned areas with water or wipe them off to completely remove any remaining primer.

#### **2. Sealing the surface with the Nanotol sealant**

Apply some sealant to a dry cloth. Apply the sealant thinly and evenly. Make sure that the sealant is applied to all areas. You will see the effect immediately - the water it contains beads up.

#### **3. Polish the sealed surface**

Please polish the dried surface with a high quality micro fiber cloth until no remaining sealant is visible and the surface shines with no streaks. If remaining sealant is still visible, moisten the micro fiber cloth slightly with warm water. If any streaks can be seen later, just polish again at a later time.

#### **Done!!**

The sealant will remain intact for a long time if you clean the surfaces treated with Nanotol with clear water and the Nanotol micro fiber cloth only. The Nanotol primer can also be used on the sealant without damaging it.



## General information:

- ❖ Application temperature is between 1° and 40 °C
- ❖ The Nanotol coating is can withstand permanent temperatures up to 200 °C
- ❖ The Nanotol coating is acid and base resistant to pH 12
- ❖ The sealant complies with the standards of § 31 (LFGB) food, commodities and animal feed law and were classified by TÜV as "safe".
- ❖ Please do not use any commercial soaps or cleaners on the sealed surface. Aside from the fact that it is not necessary to use cleaners, the anionic tensides they contain damage the nanopolymers structure that Nanotol has formed on the surface.

## Nanotol has the crystal glass effect

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Whether windows or eyeglasses - glass sealed with Nanotol is as clean as never before. Brilliant visibility without streaking or smearing and it's so easy to clean within seconds each time. You will be astonished!

**Nanotol for windows, sun rooms and facades**

***Nanotol is a real blessing for sunrooms and windows***



## **Glass sealed with Nanotol has**

1. **Longer intervals between cleaning**

applying the sealant makes the glass noticeably smoother. Dirt and dust doesn't stick to it because they don't have any contact with the surface. The whole surface stays clean longer.

2. **Shorter cleaning times**

Grease streaks or water droplets can be removed with just a moist micro fiber cloth with no cleaners. You have "sparkling" windows with just one wipe! Visibility is great, the glass is almost invisible!

3. **High quality radiance**

smoothing changes the angle of incidence, similar to crystal glass. This is why glass surfaces sealed with Nanotol have an elegant look that you can only get with really clean windows.

### ***Never again without nanotol***

That is the overwhelming opinion of our customers. Once you've tested Nanotol, you'll never want to clean a "normal" window again.

### **You'll love it!**

Nanotol keeps for years and is simple to use.

### ***Test Nanotol today!***

On windows, windshields, glass facades, glass furniture, glass doors, mirrors, shower stalls, showcases and food cabinets, sunrooms and all objects made of Plexiglas.



***Tip:** Seal your window frames at the same time and turn spring cleaning into child's play. No matter whether painted wooden frames or plastic frames. The invisible protective coating protects the surface from dirt, sun, wind, and weather. White window frames stay white for years because the dirt doesn't even touch the surface and can be removed with clear water.*

### **Nanotol contains no nanoscale ceramic particles**

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The chains of nanopolymers in Nanotol cannot enter the body through the skin or the respiratory tract. Nanotol is safe for humans and surfaces, biodegradable, and even TÜV certified acc. to §31 of the food, commodities, and animal feed code; this means that surfaces treated with Nanotol do not emit any substances.

### **Nanotol is colorless and completely invisible**

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Nanotol will not cause any smearing, no silicone streaks, no holograms and no changes in color on the sealed surface.

### **Lasts 6 - 24 months**

How long a Nanotol seal lasts, depends greatly on the demands made on the surface. Here are a few examples:

- ✚ Windows with frames: over 24 months
  - ✚ Car washed by hand: about 24 months
  - ✚ Car washed at a carwash once a week: about 3-6 months
  - ✚ Tiles in bathrooms or kitchens: 12 - 24 months
  - ✚ Sink that has daily contact with soap: 6 weeks
- We recommend **Nanofix!**
- ✚ Windshield: about 6 months (due to the windshield wipers)

You need only clear water and a micro fiber cloth for cleaning sealed surfaces. If you follow this suggestion, you will get more out of your sealed surface.

### **Opened bottles can be used indefinitely**

Nanotol remains effective for many years, as long as you keep it in the original bottle and close it properly.

### **Last but not least:**

- Nanotol is extremely resistant to cleaning products with a pH between 2 and 12
- Nanotol is easy to remove by applying a commercial cleaner containing anionic tensides such as Sidolin
- Nanotol is not a hazardous material according to transport and storage regulations as it contains no hazardous substances.

### ***More time for essentials***



### **Save your precious time for the things you enjoy!**

Like walking, sailing or biking instead of cleaning. You need to seal the windows of your house or apartment with nanotol only once and can then give all the windows a brilliant shine in just a few minutes.

### **nanotol has two big advantages:**

1. Surfaces sealed with Nanotol do not require cleaning as often.
2. Surfaces sealed with Nanotol can be cleaned in a fraction of the time.

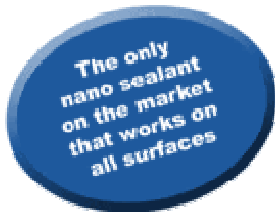
Cleaning can even be fun when it is so simple and fast! Save time and cleaning products while you protect the environment and save money.

## The secret of Nanotol

### **In the development of Nanotol**

A great effort was made to leave the contact angle just large enough to allow water to roll off, but also allow the surface to be moistened for cleaning. Nanotol is not only water repellent, but fat, dirt and oil repellent also.

### ***Nanotol – the second generation of nano sealants***



Applying Nanotol<sup>®</sup> creates a thin, invisible layer of nanopolymers. Dirt, dust, and fat can no longer bond with the surface and can be easily removed from the sealed surface using clear water without any cleaning agents.

### **You can't get more environmentally sound than that.**

With nanotol you don't need any other commercial cleaning products. Save not only money, but over 50% of the normal cleaning time as well.

### **That goes far beyond the previously known lotus effect!**

Nanotol is a **further development of the already known lotus effect** and can be used for many different **purposes**.

In 2006 it was tested for food safety – Nanotol is the only nano sealant on the market that is food safe acc. to §31 of the food, commodities, and animal feed law, which means that surfaces treated with Nanotol do not emit any substances and can thus be used in the foodstuff industry and in stores (meat counter).

### **Nanotol offers an incredible range of uses**

The possibilities are unlimited, because Nanotol is completely safe!  
Try Nanotol on all solid, non-porous surfaces.



#### **Car care is simpler than ever.**

A sealed vehicle repels dirt and can be washed in just a few minutes with clear water. A sealed windshield not only improves visibility when it rains, it is also easier to clean.



#### **Cleaning windows, sunrooms and facades**

Sealed glass or Plexiglas panes stay clean longer and are easy to clean. The frames, whether made of plastic, wood, or aluminum, can be sealed with Nanotol.



#### **Caravans and campers**

You can finally enjoy your holidays! The sealed surface stays clean longer, the annoying black streaks caused by water running down don't even appear, and resin and dirt can be removed with clear water.



### **Sanitary facilities**

Lime build-up is a thing of the past! Tiles sealed with nanotol are so smooth that lime cannot form on them. Our top seller Nanofix will make you love cleaning day.



### **Boat care**

Nanotol is a great help below and above the water line. After the boating season, clean your boat below the water line easily. The surfaces on deck repel dirt and leave you time for fun!



### **Optical lenses and glasses**

Sealed eyeglasses have a higher transmission coefficient and are easier to clean.



### **Monitors, TVs, computers and electronic entertainers**

Become antistatic and stay clean longer. Fingerprints and dust can be wiped away using a moist micro fiber cloth without any cleaning products.



## Facility Management

Surfaces sealed with nanotol can be cleaned in half the time. That saves time and labor. Recalculate your offers and offer a cleaning service that is easier than ever and cheaper than the competition!

## Various uses

Nanotol is already used successfully in many different industries. Aircraft owners, railroads and public institutions use the dirt-repellent effect of nanotol, for example to make traffic signs easier to clean and thus save time.

### *How does Nanotol work?*



A surface that feels smooth looks like a moon landscape under an electron microscope. Deep crevices and craters allow fat, dirt, and lime to collect and stick to the surface. You need muscle power, cleaning agents, and most of all, time to remove this dirt.

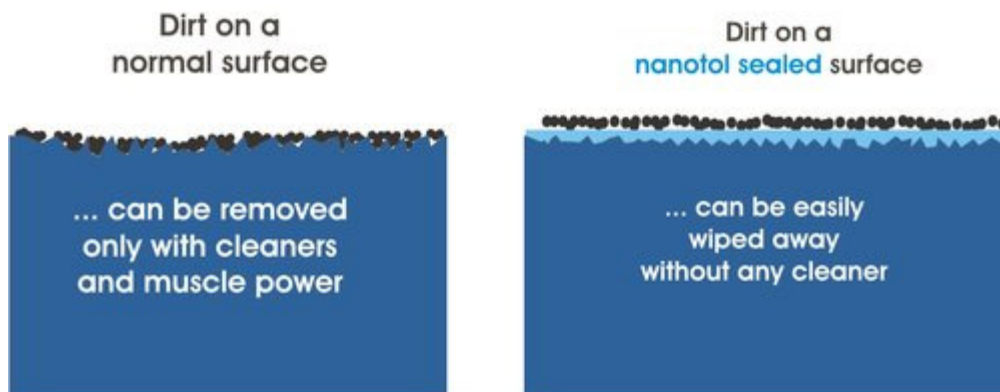
The nanoparticles contained in the Nanotol nano sealant enter these deep craters. Imagine dumping small pearls into a bucket full of tennis balls. The pearls slide between the tennis balls and fill in the spaces. This makes the surface noticeably smoother. You can feel this effect immediately after applying Nanotol when you stroke the surface with your hand.

Dirt cannot stick to such a smooth surface. So you don't need muscles or cleaners to clean such a smooth surface. Clear water suffices and you can just wipe even greasy streaks from a mirror.



Under a microscope, you can see that a normal surface has craters and pits where dirt can stick to it. This is entirely normal, because no surface is completely smooth. To remove the dirt, we use conventional chemical and mechanical energy (cleaners, scrubbers, and muscle power). The surface gets even rougher over time and dirt collects faster and is more difficult to remove.

Sealing with Nanotol fills the recesses with a macro polymer. Nanoparticles that are fat, dirt, oil, and water repellent are attached to the macro polymers. The dirt thus sits loosely above the Nanotol coating and can be easily removed with clear water without any cleaning product.



**Use the technology of the 21st century to seal windows, car, boat, camper, or motorcycle and start saving time and money for their care.**



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## Nanotol is:

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- hydrophobic (water repellent)
- lipophobic (fat repellent)
- oleophobic (oil repellent)
- and food safe acc. to § 31 LFBG and can thus be used in the food industry.

## They are small, even tiny, but don't underestimate them.

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They have completely different properties from particles that can be seen with the naked eye or under a normal microscope. These special properties were used in developing Nanotol®. Macroscopically, the sealed surface feels smoother; microscopically you can see the network of nanopolymers lying on the surface that is firmly bonded to the surface at what are known as docking sites.

## Nanopolymers are chains of Nanoparticles:

- Nano particles are only a few millionths of a millimeter in size. Aphids or bacteria are giants by comparison. Many material properties of a solid can no longer be observed when viewing a single atom, but are apparent only in a larger group of atoms.
- Nanoparticles consist of only relatively few atoms, thus they are somewhere in between a single atom and a normal solid.
- For example, they have an enormous surface area in relation to their volume.
- The light refraction index deviates greatly from the usual.
- Hardness, toughness, flexibility and behavior with water are determined by groups of molecules measured by nanometers.

Nanotol®, a hydrophobic (water-repellant), lip phobic (fat-repellant), and oleo phobic (oil-repellant) sealant that provides a special dirt-resistant and self-cleaning surface to the materials treated, was developed through the use of such Nanoparticles and nanopolymers. Pure water can be used to remove dirt, whether dust, fat, or oil, from the surface. This goes far beyond the previously known lotus effect.

### ***CeNano sealants***

Are available for wood, textiles, and mineral substrates such as concrete, plaster, screed, or natural stone.

Coated textiles, garden furniture, building facades or walls become hydrophobic, or water repellent. Water "beads up" on their surfaces. The water particles remove loose dirt – the surface is cleaned.



### **Textile sealant**

#### ***A new dimension of stain protection***

Fluids can no longer penetrate the fabric and thus cannot leave stains.

### ***CeNano velour Protect***



Keeps even family cars presentable! Liquids, ice cream and chocolate, Etc do not leave any traces and odors such as cigarette smoke are not as easily absorbed by the fabric.

### ***CeNano Tex I***



For textiles that need to keep their nano seal even after laundering, for example tablecloths.

## **CeNano Tex II**



for textiles that are seldom laundered, such as jackets, shoes, outdoor wear, upholstery, tents, car upholstery, awnings, sun shades, or neckties. Just spray on, finished.

## **Wood sealant**

**Protect your teak furniture, gazebo, and fence from the elements!**



Water does not penetrate the wood.



As beautiful as new.

Rain beads up and the surface stays dry! Water does not enter into the open pores of the wood. The wood cannot rot. In addition, CeNano protects wood from dirt and dust. The colors stay fresh and value is retained. Rain washes dust away before it can bond to the surface.

### **Substrate**

Works on all kinds of wood, and also on porous stone and paper.

### **Consumption**

Depends on the absorbency of the surface. Between 100 to 400 ml/m<sup>2</sup> for very absorbent wood.

The surface to be coated must be clean and dry. Loose items need to be removed. Shake CeNano wood sealant before use and then just spray on or use a brush or roller.

## Properties

- contains no solvents or alcohol
- no odor
- water repellent (hydrophobic)
- oil repellent (oleophobic)
- invisible, as it is transparent
- condensation permeable



Protect your property so you can enjoy it longer.

## Concrete/stone/screed sealant

### *CeNano PorMin I*



Protects concrete, natural stone, terra cotta, or screed from clay and earth, from stains from wet leaves, oil, and food such as red wine.

- contains no solvents or alcohol
- neutral odor
- water repellent (hydrophobic)
- oil repellent (oleo phobic)

### ***CeNano PorMin II***



suitable for porous surfaces such as brick, limestone, concrete, Ziegel blocks, unglazed tiles and mineral stucco.

- water repellent (hydrophobic)
- oil repellent (oleophobic)
- optically neutral, colorless
- condensation permeable

### ***CeNano Anti Graffiti***



No one can protect you from graffiti, but sealed surfaces make it easier to remove. The CeNano Anti Graffiti product consists of a primer and sealant. The primer is the foundation, the sealant the protective coating. Paint graffiti can be removed by a high pressure cleaner. Then the sealant must be reapplied to restore the protective coating.

### **Facade sealant**

### **Nano sealant as anti-graffiti protection**

### **Our shoe deodorant gets rid of shoe odor**



Nano-silver ions sprayed inside the shoes don't give athlete's foot and bacteria a chance. At the first application, they destroy almost 100 percent of bacteria and fungi and prevent them from returning. In addition, they give the shoes a fresh, pleasant scent.

### **No more problems with lime scale with Nanofix**



Nanofix cleans, descales, and seals in one short step. After use, water runs off on its own, the surface does not need to be dried.

***Descal, clean, and seal in one step!***



No more limescale build-up!

**Thanks to nanotechnology, the first universal cleaner has been developed that combines several steps in one.**

No more limescale build-up – the nanopolymers arrange themselves on the surface so that lime cannot stick. Water runs off easily and the surfaces dry quickly.



Nanofix is sprayed onto the surface and then rubbed in with a damp cleaning cloth to descale, clean, and seal. After cleaning, rinse with clear water and dry with a micro fiber cloth.

For use in bathrooms, kitchen, and everywhere where lime scale is a problem. The demands on modern cleaning products and disinfectants are met with high standards on innovative and future-oriented research as well as continuous cooperation with independent institutes and universities.



After the nanotol line, Nanofix is the second nano product for the private consumer that far surpasses other cleaning products on the market that make comparable claims.

**Save on all other bathroom and kitchen cleaners and try the sensation long-lasting effect of Nanofix.**

The 250 ml spray bottle is very economical and lasts several months in a private household. The bathroom cleaner of the future. Long-lasting shine and protection from lime scale in one product.



## *Nano-San for "maximum hygiene properties"*



Nano-San is a hygiene mat with colloidal silver. The antibacterial mat prevents the growth of bacteria, viruses, and fungi. Conventional household cleaners that are suspected to contribute substantially to the alarming increase in allergies can be drastically reduced.

### **Viruses, bacteria, and fungi cannot multiply on Nano-San®.**

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Intensive research has made it possible to impregnate foam mats with silver colloids. The antimicrobial effect of silver particles was known in ancient times and has been multiplied using nanotechnology. The result was used in the Nano-San® line especially to create hygienic surroundings. Colloidal silver works as a catalyst by rendering enzymes needed by bacteria, viruses, and fungi for their metabolism ineffective.

## Nano-San is guaranteed:



- antibacterial
- non-toxic
- dermatologically safe
- allergy friendly
- environmentally sound
- economical

All Nano-San® products are tested and certified under strict laboratory conditions. The tests prove the efficacy, environmental compatibility, and safety of the product for its entire service life.



**Due to its exceptional, outstanding properties, Nanotol has met with huge interest far beyond the European market.**

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