

## 1 Description

Nanoman Metal is a clear, nanotechnology enabled coating engineered specifically for all types of metal surfaces. The coating forms an invisible, long lasting bond with the surface to repel water and prevent stains and the build-up of dirt and other contaminants.

Nanoman Metal uses engineered nanoparticles that are measured in billionths of a metre (80,000 times smaller than a human hair) to bond with and form a protective coating on any metallic surface, including painted surfaces.

This invisible coating has enormous hydrophobic and oleophobic properties, which effectively repel liquids and particles of contamination such as grease, oil, and materials from environmental pollution that would otherwise adhere to the metal surface. This creates the “self-cleaning” / “easy-to-clean” effect and negates the need for repeated cleaning and the use of chemical cleaning agents.

Nanoman Metal is certified food safe making it ideal for Stainless Steel BBQ's, basins, benchtops and fridges as well as other household appliances such as ovens, range hoods, dish washers and the like. Used outdoors, it provides protection against acid rain, tea staining, salt deposits, rust and oxidation and can be used to protect a huge range of metal surfaces including stainless steel, chrome, copper, silver, zinc, brass, iron, aluminium and unvarnished alloys.

Nanoman Metal is designed to reduce cleaning times (by up to 90%) and the use of most household and commercial chemical cleaners. A quick wipe down with a damp cloth is all that is needed to remove most marks and fingerprints. Detergents can still be used from time to time and will not affect or damage the nano coating in any way. This is not only good for our environment but reduces water usage as well.

Nanoman Metal is abrasion resistant and will help protect these surfaces from etching and the effects of weathering when used outdoors. The coating is completely UV Stable and cannot peel, flake, craze or discolour at any time.

With the surface friction being reduced and the surface hydrophobic most contaminants are simply picked up by water (rain or manual spraying) and roll off the surface. Stubborn contaminants can be removed with water in most cases.

## 2 Feature Benefits

- Significantly reduces cleaning frequency saving energy, time and cost
- Reduces the use of cleaning agents by up to 70%
- Cleaning is done with a damp cloth without using strong chemicals
- Quick and easy to use. Easy application through spray
- Look and shine of the metal remains, no visual changes
- Long lasting protection against water, dirt, grease and fingerprints
- Invisible, UV-stable, and chemical resistant.
- Excellent easy-clean effect (self-cleaning on external surfaces)
- Strong hydrophobicity (water pearls off)
- Strong non-stick properties (prevents the usual build up off contaminants)



- Protects against etching, dirt, grease and environmental pollutants.
- Long-term UV stability of product
- Is resistant to salty environments
- Stable at varying temperatures.
- Certified food safe.
- Economical (Application rates are so small with 100mL able to treat 10m2).

### 3 Applications

Nanoman Metal is suitable for all metal or chrome plated surfaces including handrails, facings, doorknobs, sinks, taps, cabinets, kitchens, refrigerators, stainless steel fixtures etc. It is particularly well suited to restaurants and kitchens but also for bars made from stainless steel or cooper and for the fittings in sanitary facilities. ideal for use in outdoor locations. Stainless steel and other metals will stay shiny and protected even in harsh marine environments or in areas with high pollution or dust levels.

- Kitchens (commercial, industrial and domestic) , splash backs and bench tops
- Stainless steel appliances, such as fridges and dish washers.
- Building facades and exteriors
- Metal railings and walkways
- BBQ's and basins
- Marine craft railings and fittings
- Wet, humid and/or ocean environments
- Machinery and transport

### 4 Surface Preparation

The most important step in the application process is preparing the surface. To ensure the coatings maximum performance the surface must be completely clean, dry and free of all grease, dirt, oils, scale residue and other contaminants prior to application.

We recommend the use of Nanoman Pre Cleaner to remove grease, dirt and other staining. However if the surface is particularly stained, a stronger cleaner may be required prior to the use of the pre-cleaner.

Nanoman Pre Cleaner should be used as a final step to rid the surface of any residues and will also evaporate any moisture from the surface to ensure it is completely dry prior to application. Do not use abrasive cloths to clean stainless steel or polished metal as this may result in damage or scaring to the surface.

To ensure maximum performance, it is important that the surface is completely clean, dry and free from dust and grease prior to application.

### 5 Directions for Use

Ensure surface has been prepared properly and is clean and dry. We recommend using Nanoman Pre-Cleaner to properly prepare the surface prior to applying the Nanoman Metal. Ensure the temperature is between 5°C and 35°C with 90% relative humidity or less. When applying outside, avoid windy conditions if possible and do not apply in wet conditions or when there is a likelihood of rain.



Shake the container before use and re-shake every 15-20 minutes to ensure the nano particles are fully suspended.

Apply the coating via spray to the metal surface. Then, using a lint free clean cloth, wipe into the surface using circular motions or a figure eight pattern to ensure total coverage of the surface. Let dry for 2-5 minutes (depending on temperature) then buff any slight hazing out using a clean lint free micro fibre cloth. If there is any residues remaining it indicates more coating than necessary was applied and this can be removed by a being wiped down or polished (using the pre-cleaner) to remove residue.

The surface should be allowed to dry for up to one hour (longer if in high humidity).

Nanoman Metal is available in DIY coating kits, and is designed for use by both consumers and professional metal cleaners and manufacturers. You don't need to be an expert to apply the products. Comes with simple to follow instructions and it is quick and easy to apply.

### Specific application instructions:

- The wearing of gloves is recommended.
- Prepare surface with Nanoman Pre Cleaner.
- Shake bottle before applying to a clean and dry surface.
- Avoid application in direct sunlight or to hot surfaces.
- Working in small areas from top to bottom spray the surface and using a clean lint free cloth rub in thoroughly in circular motions. Repeat until the entire area has been treated.
- Avoid applying too much coating. The recommended usage rate is 10ml/M2.
- Allow to dry/cure 60mins.
- Ensure surface stays dry and untouched during this hour.
- After drying, lightly buff the surface with a clean microfibre cloth to remove any residues.
- Protective coating will reach its optimal performance after 24hrs. Keep dry (if possible) during this period.

### Cautions

- Do not use if air or surface temperature is below 40°F / 5°C or above 95°F / 35°C.
- Do not apply to external surfaces in rain or when rain is expected within 12-24 hours.
- DO NOT THIN. Shake contents thoroughly prior to use.
- For best results, apply in the shade and out of direct sunlight.
- Do not use with other waterproofing products.
- Apply in a dust-free environment to avoid surface contamination.

### Working Conditions:

- The wearing of protective gloves/protective clothing/eye protection/face protection is recommended when using this product. Final choice of personal protective equipment will depend upon individual circumstances and/or according to risk assessments undertaken.
- Consult SDS for proper handling, clean-up, disposal, and use of personal protective equipment.
- Please ensure the area being treated is well ventilated.
- Avoid breathing in spray.
- Store in a sealed container and keep away from children.
- Clean equipment immediately after using.



- Protection of adjacent porous areas from overspray and runoff is recommended but not necessary for non-porous surfaces.
- Ensure any overspray be wiped off adjacent with a dry cloth as soon as possible to avoid crystallisation.

## 6 Coverage

Nanoman Metal should be used sparingly as only 8-12ml per M2 is required.

Due to the strong bond with the surface, Nanoman Metal has a life span of 5+ years in ideal conditions and when applied to metal surfaces in good condition. If used on older surfaces or in an environment that produces a lot of friction against the metal i.e. a windy desert or seaside location, its life span will be shortened to 3-4 years. However, to maintain maximum performance we recommend monitoring the surface performance and a reapplication as necessary. To re-apply, simply follow the steps as set out previously in this document.

Surfactants in cleaning agents and strong consistent mechanical abrasion will affect the coatings life. If the performance of the coating starts to deteriorate, another application coating should be applied.

## 7 Cure Time

Nanoman Metal takes 30 – 60 minutes to cure during which time the surface should remain completely dry and untouched. In more humid conditions, curing time will be longer. After curing, the coated surface should be polished or wiped down with a soft cloth and if necessary use Nanoman Pre Cleaner to remove any remaining silans or residue. The surface will be at its most effective after 24 hours and should be kept dry in this time if possible.

## 8 Physical Properties

Look:	Transparent liquid
Base:	SiO <sub>2</sub> •
Solvent:	Ethanol
Rel. Density:	at 20°C: 0.822 kg/l •
Flashpoint:	11°C •
Active Agent:	0.5 Gew. %
Thinning:	Ready to use
Handling:	Refer to SDS
Application:	8-12 ml/sqm (dependent on surface/application)

## 9 Packaging

Nanoman Metal is available in the following pack sizes:

- 125ml, 250ml, 750ml & 1L with appropriate application sprayers
- 1L, 2L, 5L, 20L



## 10 Shelf Life and Storage

- Store in its sealed container and keep away from children.
- Unopened original containers can be stored for up to 12 months.
- Used/opened containers can be stored for approximately 6 months.
- Recommended storage and transport temperature: +5 to +25°C.
- Store out of direct sunlight and in a dry environment.

## 11 Safety Instructions

The instructions on the Nanoman Metal Safety Data Sheet must always be followed.

- The wearing of gloves is recommended.
- Please ensure the area being treated is well ventilated.
- Avoid breathing fume/gas/mist/ vapours/spray.
- Store in a sealed container and keep away from children.
- In the event of eye contact, wash out immediately with cold water. Seek medical advice if necessary.
- Do not swallow.
- Avoid applying in windy conditions.
- Wash hands after application
- Highly flammable, do not store in hot conditions or apply to hot surfaces.
- Keep ignition sources away – Do not smoke
- Keep out of reach of children.

\*\* This product contains ethanol and so appropriate care should be taken when transporting. Please refer to product SDS for further details on handling and transporting.

## 12 Surface Maintenance / Cleaning

With Nanoman Metal applied, there is no need to use expensive and environmentally unfriendly cleaners and detergents. To maintain the hydrophobic effect, simply wash with fresh water and wipe down using a soft cloth. It is recommended that you occasionally use Nanoman Pre Cleaner or a mild detergent to wipe down the treated surfaces to keep surfaces looking their best.

In high use areas like kitchens, we recommend a rinse and wipe down after each use. For best results, use a damp cloth to remove contaminants.

The need to use harsh cleaners or toxic chemicals is no longer necessary to maintain the pristine appearance of your treated surface. When cleaning your treated surface you must not use aggressive (especially highly alkaline chemicals such as bleach) or abrasive cleaners.

For areas with exceptionally hard water, high silica levels or bore water, more regular cleaning with a microfiber cloth and an acidic cleaner will be necessary. In these areas, the nano coating may need more frequent maintenance and top up re-applications.

Do not use paper towels or abrasive cloths that are likely to scratch the surface.



## 13 Disclaimer

The information provided in this Technical Data Sheet (TDS) including the recommendations for use and application of the product are based on our knowledge and experience of the product as at the date of this TDS. Users should satisfy themselves that it is suitable for their needs. The product can have a variety of different applications as well as differing application and working conditions in your environment that are beyond our control. As we cannot control or anticipate the conditions under which this product may be used, each user should review the information in specific context of the planned use. To the maximum extent permitted by law, Nanotech Products Pty Ltd will not be responsible for damages of any nature resulting from the use or reliance upon the information contained in this data sheet. No express or implied warranties are given other than those implied mandatory by law.

Users should always refer to the most recent issue of the Technical Data Sheet available from [www.nanoman.com.au](http://www.nanoman.com.au)

