



# Photocatalytically active coating for plastics for self-cleaning, air purification and germ prevention

## TA 2202



### Benefits

TECHNICAL BENEFITS	OPERATIONAL BENEFITS	FINANCIAL BENEFITS
<ul style="list-style-type: none"> <li>• Suitable for polycarbonate, polyester, PMMA, PVC, acrylic and HDPE surfaces</li> <li>• Suitable for paint and powder coat surfaces</li> <li>• Self-cleaning properties</li> <li>• Hydrophilic surface avoids baking in of acids and soot</li> <li>• Bonds with substrate</li> <li>• Low material use per m<sup>2</sup> 20 – 60 ml/m<sup>2</sup></li> <li>• Full transparent coating</li> <li>• No change of look-and-feel of host-material</li> <li>• Fast drying</li> <li>• Free of solvents</li> <li>• Contains no biocides</li> <li>• Long durability of &gt;10 years</li> </ul>	<ul style="list-style-type: none"> <li>• Degenerates viruses, bacteria and pollen from the air and from interior surfaces</li> <li>• Prevents organic growth like mold, algae or moss</li> <li>• Filters VOC's, pollen, NOx from the air</li> <li>• 90m<sup>2</sup> treated surface = filter capacity of 8 mature oak trees</li> <li>• Minimizes need for cleaning</li> <li>• Application by ESS or HVLP</li> <li>• Easy to touch-up during replacement or repair of surface</li> <li>• Maintains pristine appearance of treated surfaces</li> <li>• Non-hazardous, easy to transport</li> </ul>	<ul style="list-style-type: none"> <li>• Low cost per m<sup>2</sup></li> <li>• Minimizes cost for cleaning agents and soaps</li> <li>• Minimizes repair and replacement costs due to pollution</li> <li>• Reduces cost for ill personnel</li> </ul>

### Description

nC® Nadicare® TA2202 Plastic & Painted Surfaces is a very fine, water-based titanium-dioxide dispersion. Its formulation is a photocatalytically active coating and is fully transparent. Upon radiation with light, the coatings will release oxygen radicals from the ambient air and thus decompose organic pollution: The surface becomes self-cleaning. TA2202 is active under UV light and artificial light up to a wavelength of 475 nm.

nC® Nadicare® TA2202 is an in- and outdoor application. The design of nC® Nadicare® TA2202 provides polycarbonate, polyester, PMMA, PVC, acrylic and HDPE surfaces, but also paints and powder coat surfaces with self-cleaning properties, to protect them against pollution. The active self-cleaning titanium-dioxide particles transform all organic pollution on the surfaces, like soot, bird-droppings, stains of coffee, wine, oils, fingerprints etc. , into harmless compositions and oxygen. As the coating has strong hydrophilic capacities, pollution can never scale or “bake in.”



# Photocatalytically active coating for plastics for self-cleaning, air purification and germ prevention

## TA 2202



### Description

nC® Nadicare® primers TP2221 (for rougher and absorbent surfaces) and TP2223 (for smooth, dense and non-absorbent surfaces) use the unique capacity of nano-technology to bond into surfaces and form a protective and active matrix. nC® Nadicare® TA2202 unites the advantages of photo catalysis and hydrophilicity. By doing this, the coating system offers a very robust and wear resistant surface. The lifetime cycle of the coating is around 10 years. The active self-cleaning characteristics of titanium-dioxide will remain intact throughout this period.

nC® Nadicare® TA2202 Granite and Natural Stone unites the advantages of photo catalysis with the unique capacity of nano-technology. Instead of sticking mechanically on the surface (like waxes or foils do), the use of nanotechnology ensures that the nC® Nadicare® TA2202 coating bonds into the surface chemically. The active self-cleaning characteristics of titanium-dioxide will not exhaust.

### Application

It is recommended to apply TA2202 with electrostatic spraying technique, alternatively with HVLP. Industrial application processes, especially coil coating, are also possible. In case of industrial application, technical consultation at the nC Group R&D dept. is strongly recommended.

- Do not eat, drink or smoke during application.
- Surface must be clean and free from kit, glue, grease, mold or moss.
- Rinse with clean and fresh water to remove soap residues.
- Surface must be dry.
- Ambient temperature during manual application must be at least 15° C.
- Do not apply when ambient humidity exceeds 80%.
- Do not apply in a dusty environment.
- Wear protective gloves during application. Wear safety goggles during application.
- Shake container well for a minute.
- Use ESS (Electro Static Spraying) or HVLP for application.
- Recommended application quantities (non bathing):
  - Plain surfaces 20 ml/m<sup>2</sup>
  - Textured surfaces 40ml/m<sup>2</sup>
  - Absorbent surfaces 60 ml/m<sup>2</sup>



# Photocatalytically active coating for plastics for self-cleaning, air purification and germ prevention

## TA 2202



### Application

- Surfaces must necessarily be pre-coated with a primer. Please use TP2223 for smooth/non-absorbant surfaces or TP2221 for rough/absorbent surfaces. Let dry for 30 to 60 mins.
- Item is now ready to use.
- Put left-over nC® Nadicare® TA2202 in container and use-up within 4 weeks after first opening of original.
- nC® Nadicare® TA2202 will deteriorate fast when dirty or greasy items are coated without cleaning.
- Clean tools, spraynozzles with water immediately after every stop.
- Wash hands and face after every stop.

As the technology is about bonding particles into surfaces, matrices of particles need to be built up after application. The treatment reaches full performance AFTER a cure time of approximately 72 hours, which is dependent upon environmental variables, humidity and heat applied. Tests for performance should be done after full cure. However, the surface can be used and exposed 60 minutes after application.

### Limitations

- Do NOT apply on marble.
- Re-apply regularly on paths or walking areas that are in heavy use.
- When installing over poor, greasy or dirty surfaces, the bonding of nC® Nadicare® TA2202 will become erratic, and so will the results be.
- Do NOT freeze product or store in subzero areas.
- Do not allow application during freezing temperatures.
- The selfcleaning effect will not occur in poor visible light, the effective light spectrum is < 475nm for artificial light.

### Logistic info

- Store nC® Nadicare® TA2202 at temperatures between +5° C and +30° C.
- Store nC® TA2202 for max. 9 months in unopened containers counting from production date.
- Storage life for opened containers is 4 weeks, keep containers tightly sealed and store in a dark place.



# Photocatalytically active coating for plastics for self-cleaning, air purification and germ prevention

## TA 2202



### Logistic info

- **Avoid freezing product.**
- nC® Nadicare® TA2202 is available in 5L, 25L and 200L containers.
- Never use pressure to empty containers.
- Dispose of contents/container in accordance with local/regional/national/international regulations.
- UN number DOT, IMDG, IATA: None
- Shipping name DOT, IMDG, IATA: None
- Transport hazard class DOT, IMDG, IATA: None
- Packaging group DOT, IMDG, IATA: None
- Environmentally hazardous: No
- Marine pollutant: No

### Typical properties

- TiO<sub>2</sub> , H<sub>2</sub>O
- Appearance: Yellowish transparent
- Active material: 1% by weight
- Effective light spectrum: up to 475 nm
- pH value: approx. 7,0 - 9,0
- Primary particle size: < 8nm
- Specific Density: 1,007 g/ml

