



HYPERCOAT® V3

Inorganic polymer solution for high performance coatings for various applications

CHARACTERISTICS

Appearance:	colorless liquid
Density:	0.8 g/cm ³
Viscosity:	< 5 mPa.s (20 °C)
Active matter:	30 wt -%
Flash point:	<23°C
Ignition point:	175°C
Stability and storage:	6 months at 10 °C

PROPERTIES

The application of **HYPERCOAT® V3** in the Nautical sector allows obtaining the following benefits:

- Colorless clear coating
- Reduction of hull friction and turbulence
- Reduced fuel consumption
- Increase the boat speed
- Maintenance reduction
- Better oxidation and corrosion resistance
- Scratchproof
- Excellent adhesion on low porous substrates

The application of **HYPERCOAT® V3** in the Solar Energy sector (Photovoltaic panels) allows obtaining the following benefits:

- Increased hail resistance
- Easy to clean properties
- Maintenance reduction
- Reduction of ice formation

HYPERCOAT® V3 is a 30% by weight solution of inorganic polymer in n-heptane.

The **HYPERCOAT® V3** product binds covalently to the substrate surface; an excellent adhesion is therefore obtained. The film can be easily cured at relatively low temperatures. This process can be accelerated using UV radiation or heat. The curing produces a glass-like SiO₂ film. The coating is

generally very thin (from 5 to 10 µm, depending on the application), hard, resistant to scratches and with high hydrophobic effect.

APPLICATION

HYPERCOAT® V3 is a ready-to-use formulation. When required, the solution can be diluted with n-heptane or apolar solvents. The addition of other solvents or other substances (e.g. pigments, additives, extenders, nanoparticles) It should be checked to avoid unexpected reactions.

HYPERCOAT® V3 is applied by spraying with HVLP guns.

The application of **HYPERCOAT® V3** on the hull of boats and on photovoltaic panel is carried out using a low pressure HVLP guns (approximately 1-2 bar) and a 1-1.2 mm nozzle.

INSTRUCTIONS FOR USE

HYPERCOAT® V3 should only be used by qualified persons.

HYPERCOAT® V3 reacts strongly with water, alcohols, protic solvents and amines with evolution of ammonia and hydrogen gas. When using **HYPERCOAT® V3**, personal protective equipment is essential.

It is recommended to store **HYPERCOAT® V3** at 10°C, the container must be warmed to room temperature before opening to avoid condensation of water in the liquid. Open containers slowly and gradually release the gas pressure. Take precautions against electrostatic discharge when transferring to another container.

The substrate surface must be dry, free from grease, dirt, dust and other particles before application. Traces of moisture or impurities should be removed.

PURE-CHEM SRL

Via Provinciale Nr. 455 – 24059 Urgnano (BG) - P.IVA /VAT CODE IT04626390167

E-MAIL: info@purechem.it - WEB: www.purechem.it

TDS 05-2023



CURING

The n-heptane solvent must be evaporated at temperatures between 20°C and 120°C max. Curing of the solvent-free film is complete after 48-72 hours at room temperature, 5-6 hours at 50°C. Touch dry after 2 hours.

CLEANING AND REMOVAL

After use, tools and equipment in contact with **HYPERCOAT® V3** must be cleaned immediately by rinsing thoroughly with n-heptane. Removal of cured material is generally not possible.

SAFETY INSTRUCTIONS

The safety instructions are listed in the material safety data sheet and must be observed unconditionally. Wear solvent resistant gloves (e.g. butyl or nitrile rubber gloves) when applying the product.

Wear suitable eye protection (safety goggles or face shield).

Provide adequate ventilation of the work area.

When applying the product, it is recommended to wear a half mask with filter types A2 B2 E2 K2 Hg / P3.

The solution must not be mixed or diluted with other solvents.

Keep **HYPERCOAT® V3** away from children. Store in a cool, dry place with adequate ventilation (10°C).

Keep away from flame, sparks, water, moisture, alcohol and other chemicals.

STORAGE

HYPERCOAT® V3 must be stored in a cool and dry place with sufficient ventilation. Before sealing any package containing **HYPERCOAT® V3**, purge the

package with a dry inert gas such as argon or nitrogen. Vent sealed containers regularly (once a month) to relieve pressure. Vent dates should be verifiable. This activity will minimize the accumulation of ammonia and hydrogen. The package must be cleaned with a dry inert gas afterwards before sealing and storing.

A slow reaction of **HYPERCOAT® V3** with moisture will lead to a more viscous material which should no longer be used. Coating quality will suffer when using **HYPERCOAT® V3** with higher viscosity.

The remains of **HYPERCOAT® V3** must not be mixed with other liquid or solid waste. **HYPERCOAT® V3** waste must be collected separately in appropriate, dry and pressure resistant containers.

Waste containers should be stored in a dry, cool and well-ventilated place. To avoid a build-up of pressure, do not seal waste containers tightly during storage. We recommend monthly ventilation of waste containers.

Disposal of waste containers with **HYPERCOAT® V3** mixtures must only be carried out at the appropriate and authorized disposal sites according to current regulations (for further information see MSDS). During transport, waste containers must be hermetically sealed. Disposal is preferably done by incineration. Unauthorized personnel are not authorized to transport and dispose of waste.

TECHNICAL SERVICE

This technical information does not replace the relevant safety data sheet. All technical information is based on practical experience. It is generally not mandatory as practical conditions vary. Users should run their own tests. As the use of this product is beyond our control, we only accept responsibility for its consistent quality.