



TECHNOLOGY MAKES LIFE BETTER

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安徽艾约塔硅油有限公司

**IOTA CORPORATION LTD.**

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## TDS of Inorganic polysilazane IOTA-PHPS

### Perhydropolysilazane (PHPS) or Inorganic Polysilazane IOTA-PHPS

#### Description:

The coating product is mainly composed of perhydropolysilazane IOTA PHPS, with a small amount of organic polysilazane, nano filler, curing accelerator and other functional additives, and is diluted and stored in a solvent.

#### Features:

Good solubility

Short curing time

Curing a variety of ways

Good adhesion on the metal \ ceramic \ polymer materials

Can be converted to SiO<sub>2</sub> at a lower temperature

#### Technical Parameters:

Appearance: colorless transparent liquid

Solid content: 20%

Solvent: butyl ether

Liquid density: 1.16-1.31 g / ml

Density after curing: 1.6-2.0 g / ml

#### Curing mechanism:

The curing of the coating material mainly is the Si-N bond hydrolysis, the mechanism is as follows:

#### Curing conditions:

Room temperature: more than 7 days

Moisture curing: humidity 90%, temperature 150 °C, 2h

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Tel: 86-552-3827158; Fax: 86-552-3822922 Website: [www.polysilazane.cn](http://www.polysilazane.cn)



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### **Coating properties:**

Composition: SiO<sub>x</sub>

Coating thickness (nm): > 100

Hardness (GPa): 3 (ammonia curable)  
8-10 (high temperature curing)

Elastic modulus (GPa): 60 (NH<sub>3</sub>.H<sub>2</sub>O curing)  
100-130 (high temperature curing)

Pencil hardness: 9H (Chinese)  
6H (Mitsubishi)

Transparency (visible light): > 90%

Adhesion (grid method): 0 level

Temperature resistance (air): 800 °C

Rust, alkali, salt water resistance

Acid (10% hydrochloric acid): about a month.

### **Applications:**

Building anti – graffiti

Metal anti-corrosion

Rail

Semiconductor insulating layer

electronic circuit

Plastic packaging waterproof gas barrier

Metal high temperature oxidation resistance

Surface hardening coating

### **Product packaging:**

According to customer demand, 0.5-10 liters metal sealed drum, generally use xylene, dibutyl ether or dichloromethane for filling, solid content of 2-20%.

### **How to use:**

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First, clean the substrate surface, coating products using spin-coating, rubbing, spraying, dipping, etc. construction, and then by room temperature curing, high temperature curing, etc. curing.

Clean:

Proper cleaning is important. After using promptly use acetone or solvent oil to wipe the tool cleaning.

IOTA PHPS cured, the solvent can not be washed away.

**Storage:**

Shelf life: 2years; after the application, it depend on the protective measures, sealed low temperature drying case, the applicable period of more than half a year.

**Precautions:**

Should I be in a ventilated, dry environment, and the use of necessary protective measures, such as gloves, masks, goggles; shall not

Do not place uncured OPSZ-9150 near to fire, humid air, or water.

After opening, seal it in a timely manner. If it is used in a humid environment, replace the container with nitrogen after using.

For details, please contact,

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