

# VPS 4721

## Epoxy functional silane resin

### Technical data

Properties and test methods	Value	Unit	Method
Flash point	> 95	°C	DIN EN ISO 2719
Viscosity (20 °C)	750-1350	mPa·s / cSt	DIN 53015

### Registrations

VPS 4721

on request	
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VPS 4721 is a bifunctional organosilane possessing a reactive organic epoxide and hydrolyzable inorganic methoxysilyl groups.

The dual nature of its reactivity allows VPS 4721 to bind chemically to both inorganic materials (e.g. glass, metals, fillers) and organic polymers (e.g. thermosets, thermoplastics, elastomers), thus functioning as an adhesion promoter, crosslinking agent and/or surface modifier.

VPS 4721 is a colorless liquid. It is soluble in alcohols, ketones and aliphatic or aromatic hydrocarbons.

### Safety and handling

Before considering the use of Dynasylan® products please read its Safety Data Sheet (SDS) thoroughly for safety and toxicological data as well as for information on proper transportation, storage and use. The Safety Data Sheet is available after registration on our website [www.dynasylan.com](http://www.dynasylan.com) or upon request from your local representative, customer service or from Evonik Operations GmbH, Product Safety Department, E-MAIL [sds-hu@evonik.com](mailto:sds-hu@evonik.com).

### Packaging, storage and shelf life

VPS 4721 is supplied in 25 kg, 180 kg drums and 1.000 kg bulk containers.

In the unopened container VPS 4721 has a shelf life of min. 12 months from delivery.

Please do not store above 35°C or in the direct sunlight.

## Properties and applications

VPS 4721 is a novel ingredient for special formulations and can be used in many applications in different industries. Examples are:

- glass fiber/glass fabric composites: as a finish or a size ingredient
- foundry resins: as an additive to polyurethane resins
- sealants and adhesives: as a primer or additive
- mineral filled composites: for pretreatment of fillers and pigments or as an additive to the polymer
- paints and coatings: as an additive and as a primer for improving adhesion to the substrate, especially glass and metal
- as an additive for polymer dispersions

Important product effects that can be achieved through the use of VPS 4721 as an additive include:

- improved mechanical properties, such as flexural strength, tensile strength, impact strength and modulus of elasticity
- improved moisture and corrosion resistance
- improved electrical properties, for example dielectric constant, volume resistivity
- better adhesion on substrates
- crosslinking of suitable polymers and polymer dispersions
- improved storage stability of formulations

VPS 4721 can be used for

- filler dispersions
- viscosity reduction
- increased filler loading
- non yellowing

## Reactivity

In the presence of water, the methoxy groups of VPS 4721 hydrolyze to form reactive silanol groups which can bond to a variety of inorganic substrates. The organophilic glycidyl end of VPS 4721 can react with a suitable polymer. Hydrolysis of VPS 4721 can be catalyzed by organic acids such as acetic acid. Examples of suitable inorganic substrates are glass, glass fibers, quartz, cristobalite and metals.

VPS 4721 may be used in epoxy resins, phenolic resins, polyurethanes, PVAC, acrylates, polysulfides.

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**Europe/Middle-East/Africa**

**Evonik Operations GmbH**

Silanes Business Line  
Rodenbacher Chaussee 4  
63457 Hanau-Wolfgang  
Germany  
FAX +49 6181 59 713915  
dynasytan@evonik.com  
www.dynasytan.com

**Asia / Pacific**

**Evonik (SEA) Pte. Ltd.**

Silanes Business Line  
3 Internatioanl Business Park  
#07-18, Nordic European  
Centre  
Singapore 609927  
PHONE +65 6809 6906  
FAX +65 6809 6699  
dynasytan@evonik.com  
www.dynasytan.com

**Asia / Pacific**

**Evonik Japan Co. Ltd**

Silanes Business Line  
12th Floor Monolith Building  
2-3-1, Nishi-Shinjuku-ku  
Tokyo 163-0912  
Japan  
PHONE +81 353 23 7446  
FAX +81 353 23 7397  
dynasytan@evonik.com  
www.dynasytan.com

**North America**

**Evonik Corporation**

Silanes Business Line  
299 Jefferson Road  
Parsippany, NJ 07054  
USA  
PHONE (TOLL FREE) +1 800 237 67  
45  
PHONE +1 973 929 8513  
dynasytan@evonik.com  
www.dynasytan.com

**Asia / Pacific**

**Evonik Specialty  
Chemicals (Shanghai) Co. Ltd.**

Silanes Business Line  
55, Chungdong Road  
Xinzhuang Industry Park  
Shanghai 201108  
P.R. China  
PHONE +86 21 61191-399  
FAX +86 21 61191-648  
dynasytan@evonik.com  
www.dynasytan.com

**Asia / Pacific**

**Evonik India Pvt. Ltd.**

Silanes Business Line  
Krislon House  
Saki Vihar Road, Anderi (E)  
Mumbai - 400 072  
India  
PHONE +91 226 7238 809  
FAX +91 226 7238 811  
dynasytan@evonik.com  
www.dynasytan.com

**North America**

**Silbond Corporation**

9901 Sand Creek Highway  
Weston, MI 49289  
USA  
PHONE +1 732 981 5004  
FAX +1 732 981 5275  
dynasytan@evonik.com  
www.dynasytan.com

**Asia / Pacific**

**Evonik Korea Ltd.**

Silanes Business Line  
3F (Nongshim Sungmookwan  
B/D)  
112 Yeouidaebang-Ro  
Dongjak-Gu  
Seoul, 07057  
Korea  
PHONE +82 2320 4773  
FAX +82 2783 2520  
dynasytan@evonik.com  
www.dynasytan.com

**Region Central and South America**

**Evonik Brasil Ltda.**

Silanes Business Line  
Rua Arquiteto Olavo Redig de Campos,  
105  
Torre A - 04711-904 São Paulo- SP  
Brazil  
PHONE +55 11 3146 9627  
dynasytan@evonik.com  
www.dynasytan.com

**Asia / Pacific**

**Evonik Taiwan Ltd.**

Silanes Business Line  
Artist Construction Bldg.  
9F, No. 133  
Min Sheng East Road, Sec 3  
Taipei, 105 Taiwan, R.O.C.  
Taiwan 10596  
PHONE +886 227 17 1242 #247  
FAX +886 227 17 2106  
dynasytan@evonik.com  
www.dynasytan.com