



BRB Silanil 258

3-Glycidoxypropyltrimethoxysilane

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Description

BRB SILANIL 258 is an epoxy silane which contains reactive glycidoxy and methoxy groups.

Application

BRB SILANIL 258 possesses both organic and inorganic reactivity that allows it to react with or "couple" organic polymers and inorganic surfaces. This dual reactivity should be considered when using **BRB SILANIL 258** in specific applications. **BRB SILANIL 258** is particularly recommended as:

- Treatment on glass fiber for use in reinforced areas.
- Treatment on mineral surfaces for use in mineral filled plastics
- Adhesion promoter to enhance bonding of a polymer coating or adhesive to glass.

Features

- Organic and inorganic reactivity
- Improves adhesion
- Increases composite strength properties
- Increased composite wet and dry tensile strength and modulus
- Increased composite wet and dry flexural strength and modulus
- Increased wet and dry compressive strength

Benefits

- Better appearance
- Better filler wet-out and dispersion
- Lower viscosity of filled liquid resins
- Improved processability

Typical Data

Parameter	Unit	Value
Appearance		Clear liquid
Specific gravity at 25°C		1.07
Refractive index at 25°C		1.42
Flash point, closed cup	°C	> 101 °C
Purity	%	98
Molecular Weight		236
Viscosity at 25°C	cSt	3

How to Use

BRB SILANIL 258 can be applied in inorganic surfaces, as a dilute aqueous solution (0.1 to 0.5% silane concentration). Aqueous solutions are prepared by adjusting the pH of the water from 3.5 to 4.5 with about 0.1% acetic acid and then adding the silane and stirring. After adding the silane to the acidified water, it is necessary to stir the mixture for about 15 minutes before it hydrolyses and forms a clear homogeneous solution. Higher concentrations of **BRB SILANIL 258** in water are not stable indefinitely and after standing several days may deposit an oily phase of condensed polysiloxane. **BRB SILANIL 258** can also be applied as a solution in many common organic solvents.

Solubility and stability of a specific organic solvent should, however, be verified before use in a commercial process. In the case of mineral fillers, the mineral can be treated by mixing with the silane at very low shear for several minutes without any additional solvent. After applying the silane, the glass or mineral surface should be dried briefly at 104°C to 121°C to effect condensation of silanol groups at the surface and to remove traces of methanol from hydrolysis of the methoxysilane. Optimum application and drying conditions such as time and temperature should be determined for each application prior to use in a commercial process. For use as a primer, 49.5 parts of **BRB SILANIL 258** and 0.5 parts of an organic amine such as benzyldimethylamine (mixture A) are diluted with about 950 parts methanol, isopropanol or ether glycol. Alternatively, a prehydrolyzed primer may be prepared by adding 5 parts water and 1,000 parts of the above primer solution. In both cases, the primer solution is applied to a solid surface such as glass or metal and a polymer is heat pressed or cured on the surface. **BRB SILANIL 258** can be added directly to a resin system at 0.5 to 2.0 pph to promote unprimed adhesion.

Stored in dry and cool (approx. 20 ° C) conditions in its sealed original container, **BRB Silanil 258** has a shelf life of 12 months. A Product Safety Data Sheet should be obtained from your BRB office prior to use.

ATTENTION: Before handling, read product information, Product Safety Data Sheets and container labels for safe use, and any physical and/or health hazard information.

Warranty: The information given in this product data sheet are believed to be fully accurate. However, BRB International BV shall not be liable for its content and make no warranty with respect thereto. For additional information we request you to contact BRB International BV or visit our web-site: www.brb-international.com