



Technical Data

PRIMARY ES 140 3-glycidyloxypropyltrimethoxysilane

CAS# 2530-83-8

PRODUCT DESCRIPTION

Primary ES 140 epoxy silane is a bifunctional additive that enhances the performance of a variety of polymer formulations. A pendant epoxy ring allows it to react with many organic polymers. At the opposite end of the molecule, trimethoxysilane enables bonding to many inorganic materials. The resultant coupling between organic and inorganic can impart dramatically improved bonding between polymer and inorganic filler and improve wet and dry adhesion of the product to inorganic substrates.

PROPERTIES

Property	Value
Appearance*	clear, colorless liquid
Purity*	98% minimum
Refractive index*	1.425-1.428
Specific gravity*	1.065-1.075
Boiling point °C / °F	290 / 554
Flash point °C / °F	110 / 230
Molecular weight	236

* Specification

APPLICATIONS

Use ES 140 where organic resins and inorganic surfaces come into contact. Resins coupled are acrylic, epoxy, polyamide, polyester, urethane, and others. Inorganic materials coupled are

talca, silica, glass, ceramic (including microspheres), many metals, and others.

SUGGESTED APPLICATIONS:

- Pretreatment of glass fibers to be used in fiber reinforced polymers (FRP) where improved flexural and tensile strength are desired, i.e. fiberglass boat, tub, and other composites,
- Modification of caulks, coatings, inks, and other formulated polymers to improve adhesion to glass, ceramic, metals, and certain polymer substrates,
- Modification of mineral-filled caulks, coatings, inks, and other formulated coatings to improve mechanical properties such as flexibility and impact resistance,
- Improvement of anticorrosive properties of coatings through enhanced adhesion,
- More complete dispersion and viscosity reduction of certain pigment dispersions,
- Priming of difficult substrates to promote adhesion of subsequent coatings.

USE LEVELS

Use ES 140 at 0.5 to 2.0% as a formulation component. Addition at the point of application may provide optimum adhesion improvement.

When using as a primer, 0.1 to 0.5% should provide optimum adhesion to difficult substrates.

QUALITY

ES 140 is produced for Primary Silane under ISO and DIN quality systems. Purity is guaranteed. Service is superior.

PACKAGING

ES 140 is available in 22 kg pails and 200 kg drums. Sample size is 0.5 kg. Shelf life of unopened containers is one year or more from date of manufacture when stored at or below 25°C and away from sunlight.

SAFETY AND HANDLING

Before using ES 140, read the MSDS. Always wear personal protective gear appropriate to the situation. Dispose spilled or unused material in compliance with federal, state, and local regulations.

WARRANTY

The above information is believed correct and is for evaluation purposes only. Customer is required to have a thorough evaluation of this product performed by a qualified individual for suitability prior to use. Statements in this technical data sheet, other literature, or by employees of Primary Silane do not relieve the customer of the need to test incoming material. Warranty is limited to the replacement of defective material.