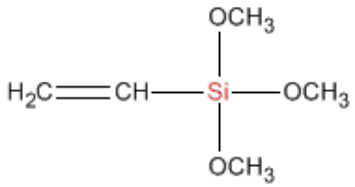
CG-V171 Vinyltrimethoxysilane

Chemical Structure:



The Equivalent Products to other Manufacturers:

GE	Dowcorning	ShinEtsu	Degussa	Chisso
A-171	Z-6300	KBM-1003	VTMO	S21O

Typical Physical Properties

Product No.:	CG-V171
Chemical Name:	Vinyltrimethoxysilane
CAS No.:	2768-02-7
EINECSNo.:	220-449-8
Formula:	$C_5H_{12}O_3Si$
Appearance:	Colorless transparent liquid
Density(ρ 20, g/cm3):	0.9718 ± 0.0050
Refractive Index(n25D):	1.3925 ± 0.0050
Purity	98%

Applications:

Polymer Modification

CG-V171 is used to modify polyethylene and other polymers by grafting its vinyl group to the polymer backbone using a radical initiator, such as peroxide. This provides a polymer with pendant trimethoxysilyl groups that may be used as moisture-activated crosslinking sites via hydrolysis of the alkoxy groups followed by condensation of the resulting silanols.

Crosslinking of Silane-Grafted Polymers.

The reaction of Silane-grafted polyethylene to form a crosslinked or vulcanized polyethylene uses water to form the crosslinks. This technology is widely used around the world for commercial applications in wire and cable insulation, tubing, and other similar uses.

The basic reaction sequence is as follows: polyethylene is reacted (grafted) with vinyltrimethoxysilane, using a peroxide initiator, in an extruder. The grafted polyethylene is then formed into a finished product, such as cable jacketing, wire insulation, or pipe. The forming step is usually done by a second extrusion, during which a catalyst for the moisture-cure step is added. Finally, the formed article is exposed to moisture or hot water to

cause hydrolysis of the Silane and condensation to form crosslinks via Si-O-Si bond formation.

Benefits of Crosslinking

Higher maximum use temperature

Reduced deformation under load (creep)

Improved chemical resistance

Superior environmental stress crack resistance

Increased abrasion resistance

Improved impact strength

Memory characteristics (shrink film, tubing)

Improved impact strength

Advantages of Silane Crosslinking over Radiation or Peroxide Crosslinking

Low capital investment

Low operating (energy) costs

Higher productivity

Processing versatility

Thick, thin, or variable thicknesses possible

Complex shaps possible

Wilder processing latitude (control of premature crosslinking)

Useful with filled composites

Applicable to all polyethylene densities and copolymers.

Packing:

210LIron Drum：200kg/drum

1000L IBCContainer: 950kg/containe

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