MANTA



PRODUCT BROCHURE

Silanes & Catalysts

End cappers · Adhesion promoters · Water scavengers · Crosslinkers · Organotin catalysts for sealants, adhesives, coatings, silicones and composites

Advanced Silicone Science, Infinite Application.

Nanjing Manta New Material Co., Ltd.

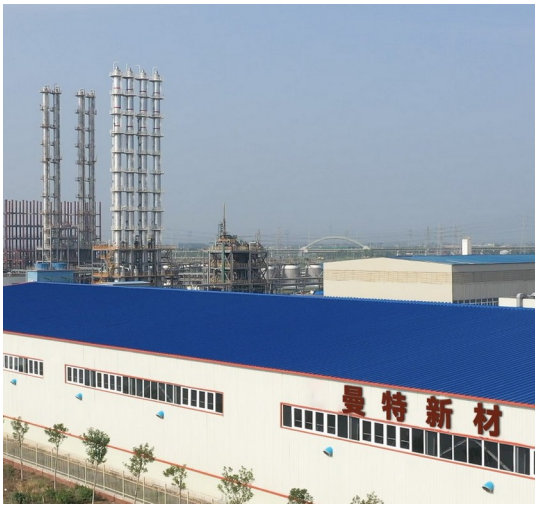
ABOUT THE RANGE

Silanes and catalysts for reactive polymer systems

Manta supplies silanes and catalysts in these product families: silane end cappers, adhesion promoters, water scavengers, crosslinkers and modifiers, and organotin catalysts.

They are used to make silane-terminated polymers; to bond sealants, adhesives and coatings to glass, metal, concrete and plastics; to keep one-component sealants stable in the package; to crosslink silicones and polyethylene; to treat fillers and glass fiber; and to catalyze cure.

This brochure gives the key data and typical uses of each grade to help you shortlist products. Full specifications, handling instructions and safety information are in the technical data sheet (TDS) and safety data sheet (SDS) of each grade.



How silane coupling agents work

01 Hydrolyze

The methoxy or ethoxy groups on silicon react with water to form reactive silanol groups. Methoxy grades release methanol, ethoxy grades ethanol.

02 Bond

The silanols condense with hydroxyl groups on glass, metal, concrete and mineral fillers, and with each other, forming Si–O bonds at the interface.

03 Couple

The organic group (isocyanate, amino, epoxy, mercapto or vinyl) reacts with the polymer, so the polymer is chemically linked to the substrate or filler.

Product families

Silane End Cappers

Isocyanate and secondary amino silanes that turn polyols and NCO prepolymers into moisture-curing silane-terminated polymers.

S310 S320 S121 S122 A431

Adhesion Promoters

Amino, epoxy, mercapto and isocyanurate silanes, as monomers, oligomers and an aqueous grade.

S311 AM311 A111 A110 A112 A146 A112T S31 E560 OP200 E563

Water Scavengers

Fast-reacting silanes that bind residual moisture in one-component moisture-curing sealants and adhesives.

V31 AM121

Crosslinkers & Modifiers

Methyl, phenyl and tetraalkoxy silanes for crosslinking, silicone resins, filler treatment and silica networks.

931 P31 PD21 TMOS TEOS28

Catalysts

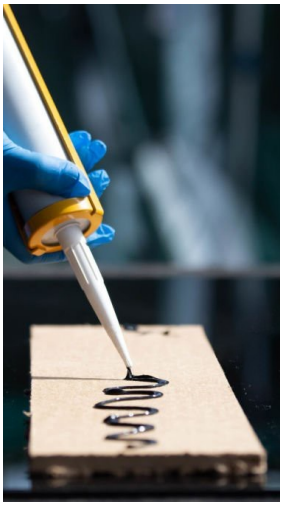
Organotin catalysts for PU, RTV silicone and silane-modified polymer systems.

CAT-DBTDL
CAT-DBTA
CAT-DOTDL
CAT-CTHMTS

FUNCTIONS

What silanes and catalysts do in a formulation

Silanes and catalysts are used at low levels, but they decide how a polymer is built, how long a sealant keeps, how it cures and how well it bonds. The main functions of the range:



01

Silane-terminated polymers

S310, S320, S121, S122 and A431 react with polyols or NCO prepolymers to give moisture-curing silane-terminated polymers for SPUR and MS-type sealants and adhesives.



02

Adhesion to difficult substrates

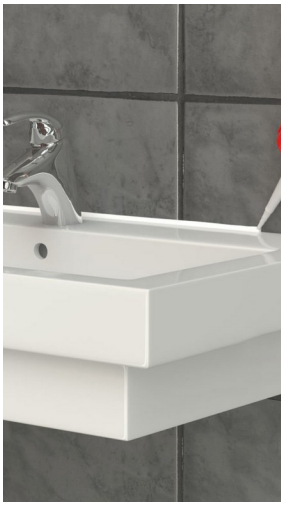
Amino, epoxy, mercapto and isocyanurate silanes bond sealants, adhesives and coatings to glass, aluminum, steel and concrete, and can reduce the need for a separate primer.



03

Shelf-life stability

V31 and AM121 bind residual water in fillers and plasticizers, so one-component moisture-curing sealants do not start to cure in the cartridge.



04

Crosslinking

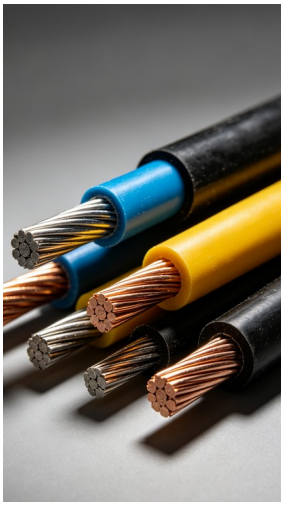
931 crosslinks neutral alkoxy-cure RTV silicones, V31 is grafted onto polyethylene for silane-crosslinked cable and pipe, and TMOS and TEOS28 build silica networks in sol-gel coatings and binders.



05

Controlled cure

Organotin catalysts set the cure speed of PU coatings and elastomers, RTV silicones and MS/STP sealants. CAT-DBTA and CAT-CTHMTS cure faster than CAT-DBTDL.



06

Filler and fiber treatment

A110, A112, E560, V31, 931 and P31 treat ATH, MDH, silica, talc and glass fiber, improving dispersion and the mechanical properties of filled polymers, cables and composites.

PRODUCT OVERVIEW

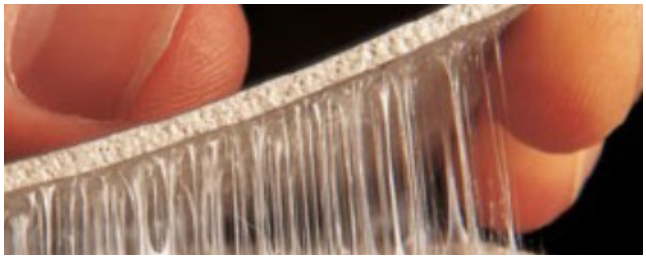
Grades at a glance

Grades by family with chemical name and CAS number. The last column gives the page of the product in this brochure.

Grade	Product	CAS	Page
Silane End Cappers			
S310	3-Isocyanatopropyltrimethoxysilane	15396-00-6	6
S320	3-Isocyanatopropyltriethoxysilane	24801-88-5	6
S121	3-Isocyanatopropylmethyldimethoxysilane	26115-72-0	6
S122	3-Isocyanatopropylmethyldiethoxysilane	33491-28-0	7
A431	N-[3-(Trimethoxysilyl)propyl]-n-butylamine	31024-56-3	7
Adhesion Promoters			
S311	1,3,5-Tris[3-(trimethoxysilyl)propyl] isocyanurate	26115-70-8	7
AM311	1,3,5-Tris(trimethoxysilylmethyl) isocyanurate	82199-95-9	8
A111	3-Aminopropyltrimethoxysilane	13822-56-5	8
A110	3-Aminopropyltriethoxysilane	919-30-2	8
A112	N-(2-Aminoethyl)-3-aminopropyltrimethoxysilane	1760-24-3	8
A146	Aqueous diamino-functional silane oligomer	Mixture	9
A112T	Diamino silane, technical grade (≥ 85% active)	Mixture	9
S31	3-Mercaptopropyltrimethoxysilane	4420-74-0	9
E560	3-Glycidoxypropyltrimethoxysilane	2530-83-8	9
OP200	Epoxy silane oligomer	Mixture	10
E563	3-Glycidoxypropylmethyldiethoxysilane	2897-60-1	10
Water Scavengers			
V31	Vinyltrimethoxysilane	2768-02-7	10
AM121	[(Methylcarbamato)methyl]dimethoxymethylsilane	23432-65-7	11
Crosslinkers & Modifiers			
931	Methyltrimethoxysilane	1185-55-3	11
P31	Phenyltrimethoxysilane	2996-92-1	11
PD21	Diphenyldimethoxysilane	6843-66-9	12
TMOS	Tetramethoxysilane (tetramethyl orthosilicate)	681-84-5	12
TEOS28	Tetraethoxysilane (tetraethyl orthosilicate)	78-10-4	12
Catalysts			
CAT-DBTDL	Dibutyltin dilaurate	77-58-7	13
CAT-DBTA	Dibutyltin diacetate	1067-33-0	13
CAT-DOTDL	Dioctyltin dilaurate	3648-18-8	13
CAT-CTHMTS	Chelated organotin catalyst for MS/STP sealants	Complex	13



Protective coatings



Assembly adhesives

SELECTION GUIDE

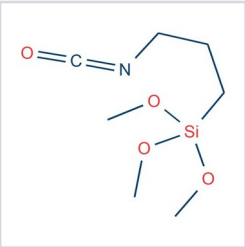
Which grade for which application

Typical starting points. Dosage and suitability depend on the formulation; please test before use and follow the TDS of the grade.

Application	Grades	Notes
Silane-terminated polymer synthesis (SPUR, MS type)	**S310, S320, S121, S122, A431**	Trialkoxy grades for higher modulus, methyl-dialkoxy grades for low modulus; ethoxy grades release ethanol
MS / STP sealants and adhesives	**A111, A112, A112T, S311, AM311, V31, AM121, CAT-CTHMTS, CAT-DBTDL**	Adhesion promoter, water scavenger and catalyst
RTV silicone sealants	**931, TMOS, A111, A112, A112T, CAT-DBTDL, CAT-DBTA, CAT-DOTDL, CAT-CTHMTS**	Crosslinker, adhesion promoter and tin catalyst
PU sealants, adhesives and glass primers	**S310, S320, A431, E560, S31, CAT-DBTDL**	S310 and S320 in automotive glass primers
Reactive hot melts (PUR, POR)	**S311, AM311**	Low-volatility isocyanurate silanes
Polysulfide and plastisol sealants	**A112, S31, E560, E563**	Internal adhesion promoters
Water-borne coatings, sealants and adhesives	**A146, E563, V31**	A146 is VOC-free; V31 as co-monomer in acrylic and vinyl acetate emulsions
Industrial and protective coatings	**E560, OP200, A112, A112T, CAT-DBTDL, CAT-DBTA**	Adhesion to metal and glass, crosslinking, 2K PU cure
Glass fiber, composites and foundry resins	**A110, A112, A112T, E560, A431, 931**	Sizing, finishes and resin binder additives
Filled polymers, HFFR and crosslinked PE cable	**A110, V31, 931, P31**	Treatment of ATH and MDH; silane grafting of PE
Silica-filled rubber	**S31**	Couples silica to SBR and BR in tire tread compounds
Electronics: EMC, CCL, LED and encapsulants	**E560, E563, P31, PD21, 931, TMOS**	931 electronic grade; TMOS as CVD precursor
Silicone resins, sol-gel and silica binders	**931, P31, PD21, TMOS, TEOS28**	TEOS28 for investment casting and stone consolidation
PVC stabilization	**CAT-DOTDL, CAT-DBTDL**	Lubricant and heat stabilizer for clear PVC

Silane End Cappers

The isocyanate group of S310, S320, S121 and S122 reacts with the hydroxyl groups of polyols; the secondary amine of A431 reacts with NCO-terminated prepolymers. The product is a silane-terminated polymer (SPUR or MS type) that cures with moisture. Trialkoxy grades give a denser network and higher modulus, methyl-dialkoxy grades lower modulus and higher elongation. Ethoxy grades release ethanol instead of methanol.



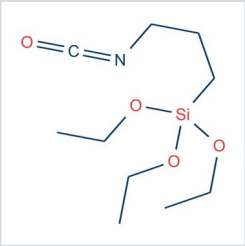
Manta S310

CAS 15396-00-6

3-Isocyanatopropyltrimethoxysilane

Manta S310 is 3-isocyanatopropyltrimethoxysilane, a bifunctional silane that combines an isocyanate group with a hydrolyzable trimethoxysilyl group. The isocyanate reacts with hydroxyl, amino and mercapto groups; the silane end then crosslinks with moisture or bonds to glass, metal and mineral surfaces. Used to end-cap polyols for silane-modified (SMP/SPUR) polymers and as an adhesion promoter in sealants, primers and coatings.

Purity (GC), %	**≥ 97.00**	Density 20 °C, g/cm³	**1.020–1.080**
Refractive Index, 25 °C	**1.4100–1.4300**	Flash Point, closed cup	**99 °C**



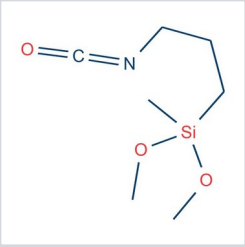
Manta S320

CAS 24801-88-5

3-Isocyanatopropyltriethoxysilane

Manta S320 is 3-isocyanatopropyltriethoxysilane, an isocyanate-functional silane with a triethoxysilyl group that releases ethanol rather than methanol. The isocyanate reacts with -OH, -NH2 and -SH groups, and the silane end gives moisture crosslinking and adhesion to glass, metal and ceramics; purity is 96.0% min. Used to end-cap polyols for SMP/SPUR polymers and as an adhesion promoter in sealants, PU paints and automotive glass primers.

Purity (GC), %	**≥ 96.0**	Density 20 °C, g/cm³	**0.950–1.050**
Refractive Index, 25 °C	**1.4140–1.4240**	Flash Point, closed cup	**77 °C**



Manta S121

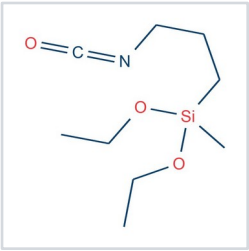
CAS 26115-72-0

3-Isocyanatopropylmethyldimethoxysilane

Manta S121 is 3-isocyanatopropylmethyldimethoxysilane, a bifunctional silane with an isocyanate group and a methyldimethoxysilyl group. The dialkoxy structure gives linear chain extension instead of a dense 3D network on moisture cure, lowering modulus and raising elongation. Used to end-cap polyols for low-modulus SMP/SPUR joint sealants and as a modifier and coupling agent in flexible PU adhesives and coatings.

Purity (GC), %	**≥ 98.00**	Density 20 °C, g/cm³	**0.950–1.050**
Refractive Index, 25 °C	**approx. 1.4200**	Flash Point, closed cup	**approx. 71 °C**

Silane End Cappers (continued)



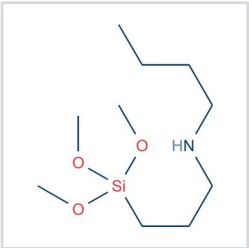
Manta S122

CAS 33491-28-0

3-Isocyanatopropylmethyldiethoxysilane

Manta S122 is 3-isocyanatopropylmethyldiethoxysilane, a bifunctional silane with an isocyanate group and a methyldiethoxysilyl group that releases ethanol on hydrolysis. The dialkoxy structure acts as a linear chain extender and lowers crosslink density, giving low-modulus, high-elongation elastomers; flash point is 96 °C. Used to end-cap polyols for SMP/SPUR polymers and in high-movement joint sealants and low-VOC PU adhesives and coatings.

Purity (GC), %	**≥ 96.0**	Density 20 °C, g/cm³	**0.94 ± 0.1**
Refractive Index, 25 °C	**approx. 1.4200**	Flash Point, closed cup	**96 °C**



Manta A431

CAS 31024-56-3

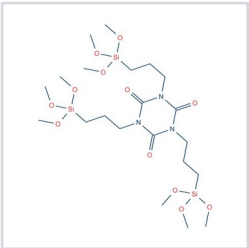
N-[3-(Trimethoxysilyl)propyl]-n-butylamine

Manta A431 is N-(3-(trimethoxysilyl)propyl)butylamine, a secondary amino silane with three hydrolyzable methoxy groups. Compared with primary amino silanes it gives more flexibility, better stability and less yellowing; hydrolysis is autocatalytic and purity is 97% min. Used as an adhesion promoter and end-capper in adhesives, sealants and SMP/SPUR systems, to modify NCO prepolymers, and in foundry resins, filler treatment and glass fiber sizing.

Purity (GC), %	**≥ 97**	Density 20 °C, g/cm³	**0.947**
Refractive Index, 25 °C	**1.4246**		

Adhesion Promoters

Added to the formulation or used in primers, these silanes bond to glass, metal, concrete and mineral fillers through their alkoxysilyl groups and to the polymer through their organic group. Amino silanes are used in RTV silicones, MS/SPUR, PU and epoxy systems; epoxy silanes in epoxies, polysulfides and water-borne coatings; the mercapto silane in rubber and polysulfide sealants. The oligomeric and aqueous grades release less alcohol. A431 (page 7) is also used as an adhesion promoter.



Manta S311

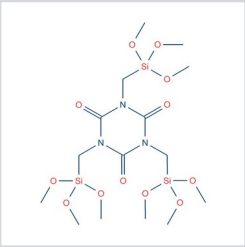
CAS 26115-70-8

1,3,5-Tris[3-(trimethoxysilyl)propyl] isocyanurate

Manta S311 is 1,3,5-tris[3-(trimethoxysilyl)propyl]isocyanurate, an adhesion promoter with an isocyanurate ring carrying three trimethoxysilylpropyl groups. Its high molecular weight and boiling point of 250 °C give low volatility, and its low basicity improves adhesion to plastics, glass, aluminum and steel without stiffening the polymer. Used in reactive polyolefin and PU hot melt adhesives, SPUR/MS sealants and high-temperature coatings.

Purity (GC), %	**≥ 93.0**	Density 20 °C, g/cm³	**1.170–1.185**
Flash Point, closed cup	**102 °C**		

Adhesion Promoters (continued)



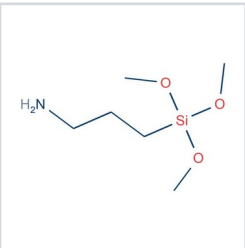
Manta AM311

CAS 82199-95-9

1,3,5-Tris(trimethoxysilylmethyl) isocyanurate

Manta AM311 is 1,3,5-tris(trimethoxysilylmethyl)isocyanurate, an isocyanurate silane with three alpha-functional trimethoxysilyl groups. One methylene group between silicon and nitrogen makes the methoxy groups hydrolyze fast (alpha-effect), so it crosslinks with moisture without tin catalysts. Used as a crosslinker and adhesion promoter in tin-free SMP sealants, reactive POR/PUR hot melts, high-temperature coatings and fast-cure adhesives.

Purity (GC), %	**≥ 95**	Density 20 °C, g/cm³	**1.160–1.200**
Refractive Index, 25 °C	**approx. 1.4300**		



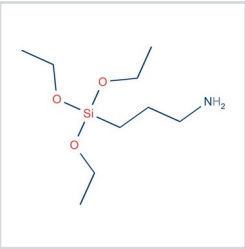
Manta A111

CAS 13822-56-5

3-Aminopropyltrimethoxysilane

Manta A111 is 3-aminopropyltrimethoxysilane, a primary amino silane with three hydrolyzable methoxy groups. The amine reacts with organic polymers and the methoxysilyl groups bond to inorganic surfaces, improving adhesion to glass, metals, ABS, PVC and polystyrene; purity is 97.0% min. Used as an adhesion promoter in RTV silicones and MS/SPUR sealants, in primers for PU and hybrid sealants, and to modify phenolic, melamine and epoxy resins.

Purity (GC), %	**≥ 97.0; ≥ 98.0 grade available**	Density 20 °C, g/cm³	**1.0050–1.0150**
Refractive Index, 25 °C	**1.4205–1.4225**	Color (Pt-Co)	**≤ 30**



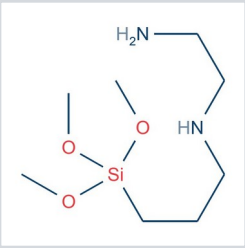
Manta A110

CAS 919-30-2

3-Aminopropyltriethoxysilane

Manta A110 is 3-aminopropyltriethoxysilane, a primary amino silane with three hydrolyzable ethoxy groups that releases ethanol rather than methanol. The amine bonds to organic polymers and the silanol groups to inorganic substrates; purity grades are 98% and 99% min. Used as an adhesion promoter in sealants and coatings, for glass fiber sizing, ATH/MDH treatment in HFFR cables, foundry binders, asphalt anti-stripping and resin-bonded abrasives.

Purity (GC), %	**≥ 98; ≥ 99**	Density 20 °C, g/cm³	**0.9400–0.9500**
Refractive Index, 25 °C	**1.4180–1.4220**		



Manta A112

CAS 1760-24-3

N-(2-Aminoethyl)-3-aminopropyltrimethoxysilane

Manta A112 is N-(2-aminoethyl)-3-aminopropyltrimethoxysilane, a diamino silane with primary and secondary amino groups and a trimethoxysilyl group. It gives higher bond strength than mono-amino silanes and better wet adhesion; purity is 98%; typical loading in polysulfide sealants is 0.5–1.0 wt%. Used in RTV silicone, hybrid, polysulfide and plastisol sealants, 2K epoxy and PU coatings, glass fiber sizing, foundry binders and molding compounds.

Purity (GC), %	**98**	Density 20 °C, g/cm³	**1.010–1.030**
Refractive Index, 25 °C	**1.4430 ± 0.0050**	Flash Point, closed cup	**136 °C**

Adhesion Promoters (continued)

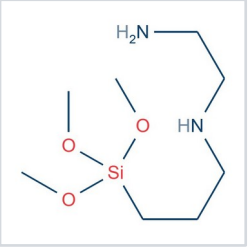


Manta A146

Aqueous diamino-functional silane oligomer

Manta A146 is an aqueous diaminofunctional silane hydrolysate, a pre-hydrolyzed oligomer that releases no methanol or ethanol during cure. It is stable in water and can be added directly to water-based formulations; viscosity is approx. 35 mPa·s. Used as an adhesion promoter in water-borne acrylics, PUDs and epoxies, in RTV silicone, 2K PU, MS/SPUR and epoxy sealants and adhesives, and for glass fiber sizing and filler treatment.

Density 20 °C, g/cm³	**1.06**	Viscosity, mPa·s	**approx. 35**
VOC Content	**VOC-free**		



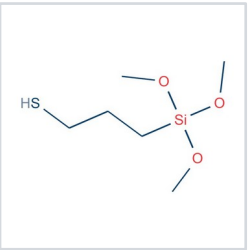
Main component

Manta A112T

Diamino silane, technical grade (≥ 85% active)

Manta A112T is a technical-grade diamino silane with min. 85% N-(2-aminoethyl)-3-aminopropyltrimethoxysilane, carrying primary and secondary amino groups. The 85% concentration lowers viscosity for easier dosing and faster dispersion in resins and treatment baths; amine value is 13–15. Used in cold-box and hot-box foundry resins, glass fiber sizing, RTV and hybrid sealants, 2K epoxy and PU coatings, filler treatment and metal primers.

Active Content	**≥ 85%**	Density 25 °C, g/cm³	**approx. 1.030**
Amine Value	**13–15**	Refractive Index, 25 °C	**1.4300–1.4800**



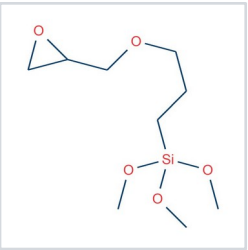
Manta S31

CAS 4420-74-0

3-Mercaptopropyltrimethoxysilane

Manta S31 is 3-mercaptopropyltrimethoxysilane, a bifunctional silane with a mercapto (-SH) group and three hydrolyzable methoxysilyl groups. The mercapto group reacts in sulfur-vulcanized rubber and with isocyanates and epoxies, and has a high affinity for copper, silver, gold and aluminum; purity is 98.0% min. Used in silica-filled tire treads, polysulfide and PU sealants, metal primers, copper foil treatment and foundry resins.

Purity (GC), %	**≥ 98.0**	Density 20 °C, g/cm³	**1.0570 ± 0.0050**
Refractive Index, 25 °C	**1.4300–1.4500**	Color (Pt-Co)	**≤ 30**



Manta E560

CAS 2530-83-8

3-Glycidoxypropyltrimethoxysilane

Manta E560 is 3-glycidoxypropyltrimethoxysilane, an epoxy silane with a glycidoxy group and hydrolyzable trimethoxysilyl groups that bonds to inorganic substrates and organic polymers. Unlike amino silanes it is non-yellowing and stays stable in 1K PU and SPUR systems; purity is 98.0% min. Used in coatings, sealants and adhesives, filler treatment, glass fiber sizing, foundry binders, copper clad laminates and epoxy molding compounds.

Purity (GC), %	**≥ 98.0**	Density 20 °C, g/cm³	**1.060–1.075**
Refractive Index, 25 °C	**1.4220–1.4320**		

Adhesion Promoters (continued)

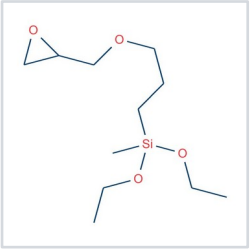


Manta OP200

Epoxy silane oligomer

Manta OP200 is an epoxy-functional silane oligomer, a pre-condensed structure with fewer hydrolyzable alkoxy groups than monomeric epoxy silanes. It releases less alcohol on cure, has better hydrolytic stability and suits water-borne, solvent-borne, high-solids and solvent-free systems; viscosity is 40–100 mPa·s. Used as a crosslinker and adhesion promoter in industrial, architectural and marine coatings, adhesives and sealants.

Viscosity, mPa·s	**40–100**	Density 25 °C, g/cm³	**1.130–1.170**
Refractive Index, 25 °C	**1.4450–1.4650**	Flash Point, closed cup	**> 100 °C**



Manta E563

CAS 2897-60-1

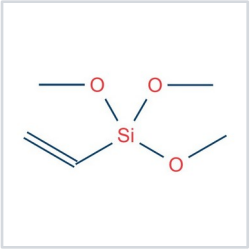
3-Glycidoxypropylmethyldiethoxysilane

Manta E563 is 3-glycidoxypropylmethyldiethoxysilane, an epoxy silane with a glycidoxy group and a methyldiethoxysilyl group that releases ethanol. It is stable in aqueous systems, and the dialkoxy structure lowers crosslink density, improving wet adhesion without loss of flexibility; purity is 97.0% min. Used in water-borne sealants and coatings, epoxy electronic encapsulants, primerless joint sealants, composites and metal primers.

Purity (GC), %	**≥ 97.0**	Density 20 °C, g/cm³	**0.9780 ± 0.0050**
Refractive Index, 25 °C	**1.4280–1.4380**		

Water Scavengers

Water in fillers, plasticizers and pigments starts the cure of a one-component sealant inside the cartridge. V31 and AM121 react with this water first, so the product stays stable in the package. V31 is also grafted onto polyethylene for silane-crosslinked cable and pipe; AM121 is a dialkoxy silane that also acts as a chain extender.



Manta V31

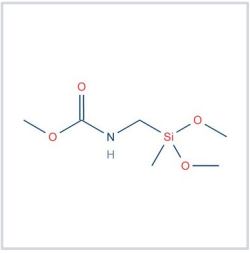
CAS 2768-02-7

Vinyltrimethoxysilane

Manta V31 is vinyltrimethoxysilane, a bifunctional silane with a vinyl group and a hydrolyzable trimethoxysilyl group, with 98% min purity. The vinyl group grafts onto polymers with peroxide or copolymerizes in emulsions, and the methoxy groups then hydrolyze and condense to a Si-O-Si network. Used for moisture crosslinking of PE cable insulation and PEX pipe, as a moisture scavenger in MS, PU and silicone sealants and for HFFR filler treatment.

Purity (GC), %	**≥ 98**	Density 20 °C, g/cm³	**0.960–0.980**
Refractive Index, 25 °C	**1.3880–1.3980**		

Water Scavengers (continued)



Manta AM121

CAS 23432-65-7

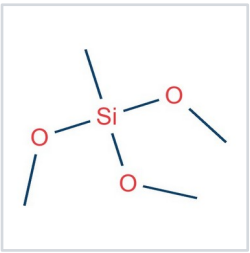
[(Methylcarbamato)methyl]dimethoxymethylsilane

Manta AM121 is [(methylcarbamato)methyl]dimethoxymethylsilane, an alpha-functional dialkoxy silane in which one methylene group links nitrogen to silicon. This alpha-effect makes the methoxy groups react very fast with moisture, so it scavenges water during compounding and extends chains for low-modulus cured products; purity is 95% min. Used in alpha-STP/MS sealants, high-movement joint sealants and 1K PU and hybrid adhesives.

Purity, %	**≥ 95**	Density 20 °C, g/cm³	**1.05–1.15**
Refractive Index, 25 °C	**1.4300–1.4400**		

Crosslinkers & Modifiers

931 is the standard crosslinker of neutral alkoxy-cure RTV silicones and a monomer for silicone resins. P31 and PD21 add phenyl groups for heat resistance and a higher refractive index in resins, encapsulants and fluids. TMOS and TEOS28 hydrolyze to silica and are used in sol-gel coatings, as binders for investment casting and stone consolidation, and TMOS also as an RTV crosslinker.



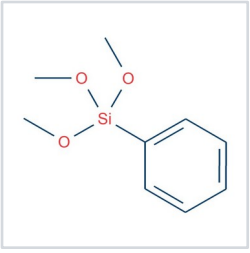
Manta 931

CAS 1185-55-3

Methyltrimethoxysilane

Manta 931 is methyltrimethoxysilane, an alkyl silane with three hydrolyzable methoxy groups, available at 99% min and as a 99.5% min electronic grade. With an acid, amine or organometallic catalyst it hydrolyzes and condenses into siloxane networks, and the methyl group gives water repellency. Used as a crosslinker in neutral-cure RTV silicone sealants and for silicone resins, filler treatment, water repellents and silica aerogels.

Purity (GC), %	**≥ 99; ≥ 99.5 (Electronic Grade)**	Density 20 °C, g/cm³	**0.9500 ± 0.0050**
Refractive Index, 25 °C	**1.3695 ± 0.0050**		



Manta P31

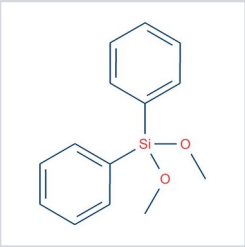
CAS 2996-92-1

Phenyltrimethoxysilane

Manta P31 is phenyltrimethoxysilane, a trifunctional silane with one phenyl group and three hydrolyzable methoxy groups, with 98% min purity. The phenyl-silicon bond gives higher thermal stability than alkyl silanes and raises refractive index, and treated fillers become hydrophobic. Used for treating ATH, silica, kaolin and wollastonite, in phenyl silicone resins, sol-gel hard coats, epoxy molding compounds and LED encapsulants.

Purity (GC), %	**≥ 98.0**	Density 20 °C, g/cm³	**1.0620 ± 0.0050**
Refractive Index, 25 °C	**1.4650–1.4750**		

Crosslinkers & Modifiers (continued)



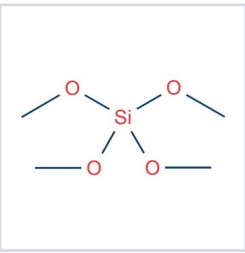
Manta PD21

CAS 6843-66-9

Diphenyldimethoxysilane

Manta PD21 is diphenyldimethoxysilane, a difunctional silane with two phenyl groups and two methoxy groups on silicon. The phenyl groups give a refractive index of about 1.5400 and more heat and oxidation stability than mono-phenyl silanes; purity is 98.0% min. Used to build phenyl silicone resins and high-temperature silicone fluids, in LED encapsulants and optical coatings, for resin modification and in epoxy molding compounds.

Purity (GC), %	**≥ 98.0**	Density 20 °C, g/cm³	**1.000–1.100**
Refractive Index, 25 °C	**1.5350–1.5450**	Flash Point, closed cup	**121 °C**



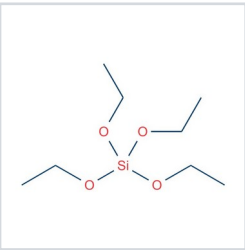
Manta TMOS

CAS 681-84-5

Tetramethoxysilane (tetramethyl orthosilicate)

Manta TMOS is tetramethoxysilane (tetramethyl orthosilicate), a silicon dioxide precursor with four hydrolyzable methoxy groups and 96% min purity. It hydrolyzes faster than tetraethoxysilane and forms clear, hard silica films; the flash point is 26 °C. Used in sol-gel silica gels, aerogels and glasses, scratch-resistant and anti-reflective coatings, CVD dielectric layers, RTV silicone crosslinking and moisture scavenging, and refractory binders.

Purity, %	**≥ 96**	Density 25 °C, g/cm³	**1.023**
Refractive Index, 25 °C	**1.3630–1.3730**	Flash Point, closed cup	**26 °C**



Manta TEOS28

CAS 78-10-4

Tetraethoxysilane (tetraethyl orthosilicate)

Manta TEOS28 is tetraethoxysilane (tetraethyl orthosilicate), a silicon dioxide source that hydrolyzes and condenses to a silica network while releasing ethanol. Assay is 99.5% min, with total chlorine below 0.5 ppm and total cations below 1 ppm. Used as a binder for refractory fillers in precision investment casting, in sol-gel coatings, for consolidating stone and masonry, to make fine silica and phosphor powders, and in silicone resins.

Purity, %	**≥ 99.5**	Density 25 °C, g/cm³	**0.920–0.960**
Refractive Index, 25 °C	**1.3750–1.3990**	Flash Point, closed cup	**48 °C**



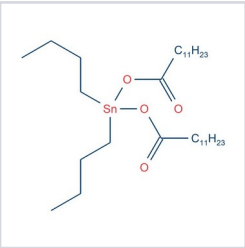
Neutral-cure RTV silicone sealants — 931



Filler treatment for plastics compounds — 931, P31

Catalysts

Organotin compounds catalyze the isocyanate-hydroxyl reaction and the condensation of silanols. Dibutyltin and dioctyltin compounds are restricted in some uses, for example under EU REACH Annex XVII; please confirm that the grade is permitted for your market and application.



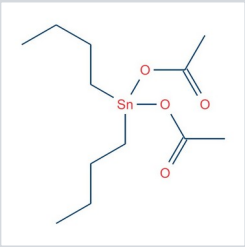
Manta CAT-DBTDL

CAS 77-58-7

Dibutyltin dilaurate

Manta CAT-DBTDL is dibutyltin dilaurate (DBTDL), an organotin catalyst with a tin content of 18.0–19.2%. It catalyzes both the isocyanate-hydroxyl reaction and silanol condensation, is miscible with polyols, polyethers and organic solvents, and is typically used at 0.01–0.5%. Used in 2K PU coatings, PU elastomers, sealants, foams and sports flooring, RTV silicones, silane-modified polymers, PVC heat stabilization and esterification.

Tin Content, %	**18.0–19.2**	Density 25 °C, g/cm³	**1.040–1.080**



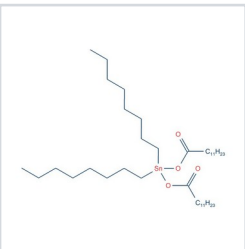
Manta CAT-DBTA

CAS 1067-33-0

Dibutyltin diacetate

Manta CAT-DBTA is dibutyltin diacetate (DBTA), an organotin catalyst with a tin content of 33.4–34.4%, higher than that of dibutyltin dilaurate. It gives shorter gel and tack-free times and catalyzes transesterification, silanol condensation and PU crosslinking. Used in rigid urethane foams, fast skin-over RTV silicones and caulks, fast-drying industrial coatings, adhesives and the synthesis of esters and plasticizers.

Tin Content, %	**33.4–34.4**	Density 25 °C, g/cm³	**1.31**
Color (Pt-Co)	**≤ 200**		



Manta CAT-DOTDL

CAS 3648-18-8

Dioctyltin dilaurate

Manta CAT-DOTDL is dioctyltin dilaurate, an organotin additive with a tin content of 15.0–16.0%. In PVC it acts as a lubricant and stabilizer that resists sulfur staining and keeps clarity; in silicone and polyurethane it serves as a catalyst where butyltin compounds are restricted. Used in RTV silicone rubber, PU coatings and elastomers, flexible PVC films, sheets and hoses, rigid transparent PVC packaging and weather-resistant films.

Tin Content, %	**15.0–16.0**	Density 25 °C, g/cm³	**1.010–1.030**
Refractive Index, 25 °C	**1.470–1.474**		



Manta CAT-CTHMTS

Chelated organotin catalyst for MS/STP sealants

Manta CAT-CTHMTS is a chelated organotin complex catalyst for silane-modified polymer (MS/STP) and RTV silicone systems, with a tin content of 27.0–28.0%. It cures faster than dibutyltin dilaurate and diacetate, lacks the acidic odor of tin diacetate and keeps cured rubber from reverting when heated in sealed conditions. Used in one-component MS/STP adhesives and sealants, RTV-1 silicones, 2K PU coatings and sealed high-temperature gaskets.

Tin Content, %	**27.0–28.0**	Density 30 °C, g/cm³	**1.21–1.23**
Viscosity 30 °C, mPa·s	**10–50**	Melting Point	**15–30 °C**

HANDLING AND STORAGE

Packaging, shelf life and storage

As stated in the TDS of each grade, in the original unopened containers. Other pack sizes on request.

Grade	Packaging	Shelf life	Storage
Silane End Cappers			
S310	20 kg, 25 kg iron pail, 200 kg drum	12 months	Cool, dry place
S320	20 kg, 25 kg iron pail, 200 kg drum	12 months	Cool, dry place
S121	20 kg, 25 kg iron pail, 200 kg drum	12 months	Cool, dry place
S122	20 kg, 25 kg iron pail, 200 kg drum	12 months	Cool, dry place
A431	20 kg pail, 190 kg drum and 950 kg IBC	12 months	≤ 25 °C
Adhesion Promoters			
S311	20 kg, 25 kg iron pail, 200 kg drum	12 months	Cool, dry place
AM311	20 kg pail, 180 kg drum and 900 kg IBC	9 months	≤ 25 °C
A111	25 kg pail, 200 kg drum and 1000 kg IBC	24 months	≤ 25 °C
A110	20 kg pail, 190 kg drum, 200 kg drum	24 months	≤ 25 °C
A112	25 kg pail, 200 kg drum and 1000 kg IBC	24 months	≤ 25 °C
A146	20 kg pail, 190 kg drum and 950 kg IBC	12 months	≤ 35 °C
A112T	25 kg pail, 200 kg drum and 1000 kg IBC	12 months	≤ 25 °C
S31	20 kg pail, 190 kg drum, 200 kg drum	24 months	≤ 25 °C
E560	25 kg pail, 200 kg drum and 1000 kg IBC	24 months	≤ 25 °C
OP200	200 kg drum and 1000 kg IBC	12 months	≤ 25 °C
E563	200 kg drum and 970 kg container	12 months	≤ 35 °C
Water Scavengers			
V31	20 kg pail, 190 kg drum and 950 kg IBC	24 months	≤ 25 °C
AM121	500 g, 1000 g, 25 kg pail, 200 kg drum	9 months	Cool, dry place
Crosslinkers & Modifiers			
931	20 kg pail, 180 kg drum and 900 kg IBC	24 months	≤ 25 °C
P31	25 kg pail, 200 kg drum and 1000 kg IBC	24 months	≤ 25 °C
PD21	25 kg pail, 200 kg drum and 1000 kg IBC	24 months	≤ 25 °C
TMOS	20 kg pail, 180 kg drum and 900 kg IBC	12 months	≤ 25 °C
TEOS28	20 kg pail, 180 kg drum and 900 kg IBC	12 months	Cool, dry place
Catalysts			
CAT-DBTDL	25 kg pail, 200 kg drum	12 months	≤ 25 °C
CAT-DBTA	25 kg pail, 200 kg drum	12 months	Cool, dry place
CAT-DOTDL	25 kg pail, 200 kg drum	12 months	Cool, dry place
CAT-CTHMTS	25 kg steel-plastic composite pails or 200 kg drums	See TDS	Cool, dry place

Handling notes

- Alkoxysilanes hydrolyze with moisture: keep containers tightly closed and use dry equipment; close part-used containers under dry nitrogen
- Methoxy grades release methanol and ethoxy grades ethanol on hydrolysis; provide ventilation
- Isocyanate silanes react with water and give off carbon dioxide, which can pressurize closed containers
- Amino silanes are alkaline and react quickly with isocyanates, acids and epoxides; see the handling notes in the TDS
- Organotin catalysts are moisture-sensitive; avoid skin contact and follow the SDS
- Read the SDS of each grade before handling

SUPPLY AND SERVICE

Supply and support

Packaging

- Silanes: pails, steel drums and IBCs
- Isocyanate silanes in iron pails and drums
- Organotin catalysts: 25 kg pails and 200 kg drums
- Sample bottles for evaluation

Quality and documents

- ISO 9001:2015 certified quality management system
- TDS, SDS and COA available for each grade on request

Custom grades

- Further specialty silanes, purity grades and pack sizes on request
- Custom silanes subject to technical review

Technical support

- Help with grade selection and starting formulations
- Samples available for evaluation







To select a grade, please tell us

1. Polymer system: MS/STP, PU, silicone, epoxy
2. Function: end-capping, adhesion, drying, curing
3. Substrates to bond
4. Methanol or ethanol release acceptable
5. Local regulations (tin, VOC, methanol)
6. Quantity and packaging

The information in this brochure is given in good faith and based on our current knowledge. Values are typical unless stated as specifications and do not form part of a sales specification. Users should test the products to determine their suitability for the intended use. The latest TDS and SDS of each grade apply.

MANTA



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