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Innovation of Fine Chemicals & Silicone Solution Partner
Bio-G KOREA BIO-GEN Co., Ltd.

Company Profile

CEO' s Message

KOREA BIO-GEN Co., Ltd. has produced and supplied a wide range of fine chemicals since established in 2001. The products developed by our own technology include food additives, pharmaceutical raw materials, silicone chemicals, polymerization inhibitors for petrochemicals, hybrid polymers, catalysts, etc. They have greatly contributed to a lot of industries including electricity & electronics, automobile and so on as well as chemical related industries of food & pharmaceutical, petrochemicals, etc.

KOREA BIO-GEN Co., Ltd. has especially focused on developing silicone chemicals. They will serve an important role in the industry of electricity & electronics, automobile, construction, etc.

Corporate Philosophy

KOREA BIO-GEN Co., Ltd. will have been keeping unchanged philosophy of "success with customers", "employee's happiness" & "healthy growth of society" by pursuit of more safety, more simplicity, more efficiency and more clean environment.

History

2013	Awarded for "\$ 5 Million export" by Government
2010	Invested by Small & Medium Business Administration Selected as a Technology Innovation & Development Enterprise
2009	Selected as good & successful tech Enterprise Established GOESAN FACTORY
2007	Acquired the Government R&D Support
2006	Selected as an Export Promising Small and Medium Enterprise Selected as a Technology Innovation Enterprise
2005	Selected as Innobiz Enterprise
2004	Selected as a Technology Innovation & Development Enterprise
2003	Acquired ISO 9001:2000 Acquired Clean & Safety Factory certification Selected as blue-chip technology company
2002	Established R&D center
2001	Established KOREA BIO-GEN Co., Ltd. in CHEONAN-CITY

Research Laboratory

Profile

R&D site	Research Field
NO1. CHEONAN NO2. GOESAN	<ul style="list-style-type: none"> • Chemical synthesis for new fine chemical products • Synthesis and evaluation techniques of silane coupling agents and cross-linking agents • Synthesis and evaluation techniques of silicone resins • Polymerization techniques of reactive silicone fluids • Synthesis and evaluation techniques of catalysts for silicone cure • Manufacturing techniques of silicone PSAs and PSRs • Synthesis and evaluation techniques of polymerization inhibitors • Instrumental and wet analysis methods of silicone and organic compounds

Laboratory Equipment



Gas Chromatography (FID & TCD)



Gel Permeation Chromatography



Universal Testing machine



Inductively Coupled Plasma Spectrometer



UV/MS Spectrophotometer



Transmission Colometer



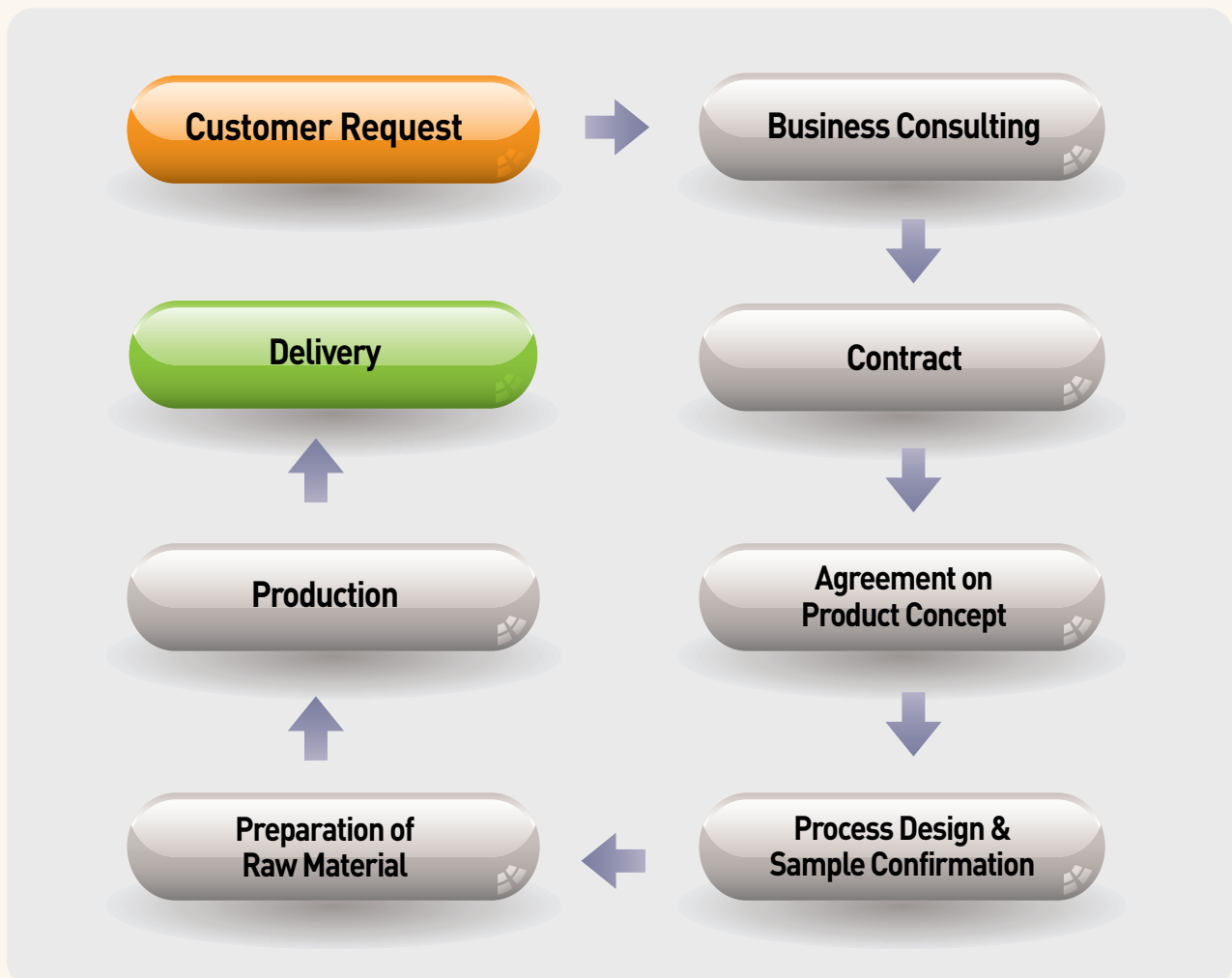
FT- Infrared Spectrophotometer

OEM & ODM

KOREA BIO-GEN Co., Ltd. is the fine chemical company specialized in silanes, coupling agents, cross-linking agents, functional silicone polymers, oils, resins, catalysts.

The goal of our research and production facilities is to develop and make highest quality products of chemical synthesis through **OEM (Original Equipment Manufacturing) & ODM (Original Development & Design Manufacturing)** system.

OEM & ODM development process



Product Catalog

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1. Silane Coupling Agents
 2. Silane Crosslinking Agents
 3. Reactive Silicone Fluids
 4. Silicone Resins, PSA & Release Coating
 5. Silicone Materials for LED Packaging and Conformal Coating, etc.
 6. Catalysts for Silicone Cure
 7. Polymerization Inhibitors and Fine Chemical Products
 8. Biochemical Products
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1. Silane Coupling Agents

Silane coupling agents are organosilicone compounds that are widely used to bond organic materials to inorganic materials. In many cases, these are materials that might otherwise be considered too dissimilar to form strong interactions. As a result, silane coupling agents are extensively used to greatly improve the interfacial adhesion in composites and other materials systems, significantly improving desirable qualities such as mechanical strength, moisture or chemical resistance, electrical properties, etc.

Functional Group	Chemical Name	Product Name	Chemical Formula
Amino	N-2-(Aminoethyl)-3-aminopropyl trimethoxysilane	DAS	$(\text{CH}_3\text{O})_3\text{SiC}_2\text{H}_4\text{NHC}_2\text{H}_4\text{NH}_2$
	3-Aminopropyl triethoxysilane	APTES	$(\text{C}_2\text{H}_5\text{O})_3\text{SiC}_2\text{H}_4\text{NH}_2$
	3-Aminopropyl trimethoxysilane	APTMS	$(\text{CH}_3\text{O})_3\text{SiC}_2\text{H}_4\text{NH}_2$
Vinyl	Vinyl trimethoxysilane	VTMS	$(\text{CH}_3\text{O})_3\text{Si}-\overset{\text{H}}{\text{C}}=\text{CH}_2$
	Vinyl triethoxysilane	VTES	$(\text{C}_2\text{H}_5\text{O})_3\text{Si}-\overset{\text{H}}{\text{C}}=\text{CH}_2$
Methacryloxy	3-Methacryloxypropyl trimethoxysilane	MEMO	$(\text{CH}_3\text{O})_3\text{SiC}_2\text{H}_4\text{O}-\overset{\text{O}}{\parallel}{\text{C}}-\underset{\text{CH}_3}{\text{C}}=\text{CH}_2$
Epoxy	3-Glycidoxypropyl trimethoxysilane	GPTMS	$(\text{CH}_3\text{O})_3\text{SiC}_2\text{H}_4\text{O}-\text{CH}_2\text{CH}(\text{O})\text{CH}_2$
	2-(3,4-Epoxy)cyclohexylethyl trimethoxysilane	ECETMS	$(\text{CH}_3\text{O})_3\text{SiC}_2\text{H}_4-\text{C}_6\text{H}_{10}\text{O}$
Mercapto	3-Mercaptopropyl trimethoxysilane	MCPTMS	$(\text{CH}_3\text{O})_3\text{SiC}_2\text{H}_4\text{SH}$
Isocyanate	3-Isocyanatopropyl trimethoxysilane	IC300	$(\text{CH}_3\text{O})_3\text{SiC}_2\text{H}_4\text{N}=\text{C}=\text{O}$
Fluoro	Heptadecafluorodecyltrisopropoxysilane	IFF	$(\text{C}_3\text{H}_7\text{O})_3\text{SiC}_2\text{H}_4-\text{C}_{17}\text{F}_{17}$
Chloro	3-Chloropropyltrimethoxysilane	OPTMS	$(\text{CH}_3\text{O})_3\text{SiC}_2\text{H}_4\text{Cl}$

Silane Coupling Agents

Storage and Handling : The products should be kept in a cool, dark, and dry place. The coupling agents may deteriorate when in contact with water or moisture, producing byproducts such as methanol or ethanol. These products should be handled with special care when kept in the open air. After opening, they should be tightly sealed to limit exposure to water or moisture.

Package : 20kg/pail, 200kg/drum or other packing on request.

Molecular Weight	Refractive Index	Flash Point (°C)	EINECS No.	CAS No.
222.4	1.442	128.0	212-164-2	1760-24-3
221.4	1.420	98.0	213-048-4	919-30-2
179.3	1.424	92.0	237-511-5	13822-56-5
148.2	1.391	23.0	220-449-8	2768-02-7
190.4	1.397	44.0	201-081-7	78-08-0
248.4	1.430	92.0	219-785-8	2530-85-0
236.3	1.426	110.0	219-784-2	2530-83-8
246.4	1.451	146.0	222-217-1	3388-04-03
196.4	1.440	93.0	224-588-5	4420-74-0
205.3	1.419	108.0	239-415-9	15396-00-6
652.5	1.424	160.0	N/A	246234-80-0
198.7	1.464	84.0	219-787-9	2530-87-2

2. Silane Crosslinking Agents

KOREA BIO-GEN Co., Ltd.'s silanes can be used to crosslink polymers such as silicones, acrylates, polyethers, polyurethanes, and polyesters to improve tear resistance, elongation at the break, tear propagation resistance and abrasion resistance.

Selecting the right cross-linking agent is an important factor in determining the properties of the sealant formulation. KOREA BIO-GEN Co., Ltd. supplies the sealant industry with the broadest range of oxime-type, neutral cure cross-linking agents.

Functional Group	Chemical Name	Product Name	Chemical Formula
Oxime	Methyltris-(methylethylketoxime)silane	MOS	
	Vinyltris-(methylethylketoxime)silane	VOS	
	Tetra-(methylethylketoxime)silane	TOS	
	Phenyltris(methylethylketoxime)Silane	POS	
	OximeSilane Blends MEKO Free & Low MEKO Silane		
Acetoxy	Methyltriacetoxysilane	MAS	
	Vinyl triacetoxysilane	VAS	
Amide	Bis-(N-Methylbenzamid) methyl ethoxysilane	MBAES	
Alkoxy	Methyltrimethoxysilane	MTMS	$(\text{CH}_3\text{O})_3\text{SiCH}_3$
	Tetraethoxysilane	TEOS	$(\text{C}_2\text{H}_5\text{O})_4\text{Si}$
	1,3,5-Tris-(Trimethoxysilylpropyl)isocyanurate	TM-CP30	
	Phenyltrimethoxysilane	PTMS	$(\text{CH}_3\text{O})_3\text{Si-C}_6\text{H}_5$
	Diphenyldimethoxysilane	DPDMS	
	Phenylmethyldimethoxysilane	PMDMS	$(\text{CH}_3\text{O})_2\text{Si-C}_6\text{H}_5\text{-CH}_3$
	Dimethyldimethoxysilane	DMDMS	$(\text{CH}_3\text{O})_2\text{Si}(\text{CH}_3)_2$

Silane Crosslinking Agents

Storage and Handling : The products should be kept in a cool, dark, and dry place. The Crosslinking agents may deteriorate when in contact with water or moisture, producing byproducts such as methanol or ethanol. These products should be handled with special care when kept in the open air. After opening, they should be tightly sealed to limit exposure to water or moisture.

Package : 20kg/pail, 200kg/drum or other packing on request.


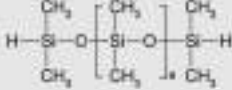
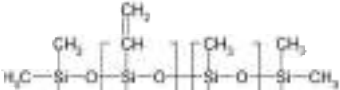
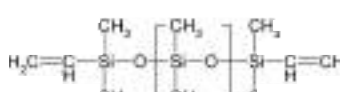
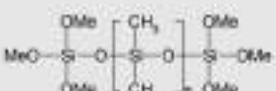
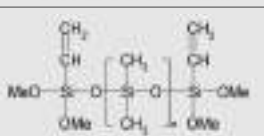

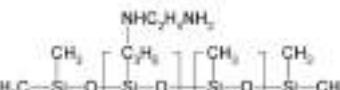
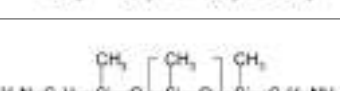
Molecular Weight	Refractive Index	Flash Point (°C)	EINECS No.	CAS No.
301.5	1.455	86.0	345-366-4	22984-54-9
313.5	1.464	62.0	218-747-8	2224-33-1
372.5	1.483	4.0	251-882-0	34206-40-1
363.5	1.489	106.0	N/A	34036-80-1
220.3	1.522	85.0	224-221-9	4253-34-3
232.3	1.422	88.0	223-943-1	4130-08-9
356.5	1.553	208.2	240-354-5	16230-35-6
136.3	1.369	11.0	214-685-0	1185-55-3
208.3	1.382	46.0	201-083-8	78-10-4
615.9	1.461	102.0	247-465-8	26115-70-8
198.3	1.474	70.0	221-066-9	2996-92-1
244.4	1.545	121.0	229-929-1	6843-66-9
182.3	1.479	76.0	221-192-4	3027-21-2
120.22	1.369	10.0	214-189-4	1112-39-6

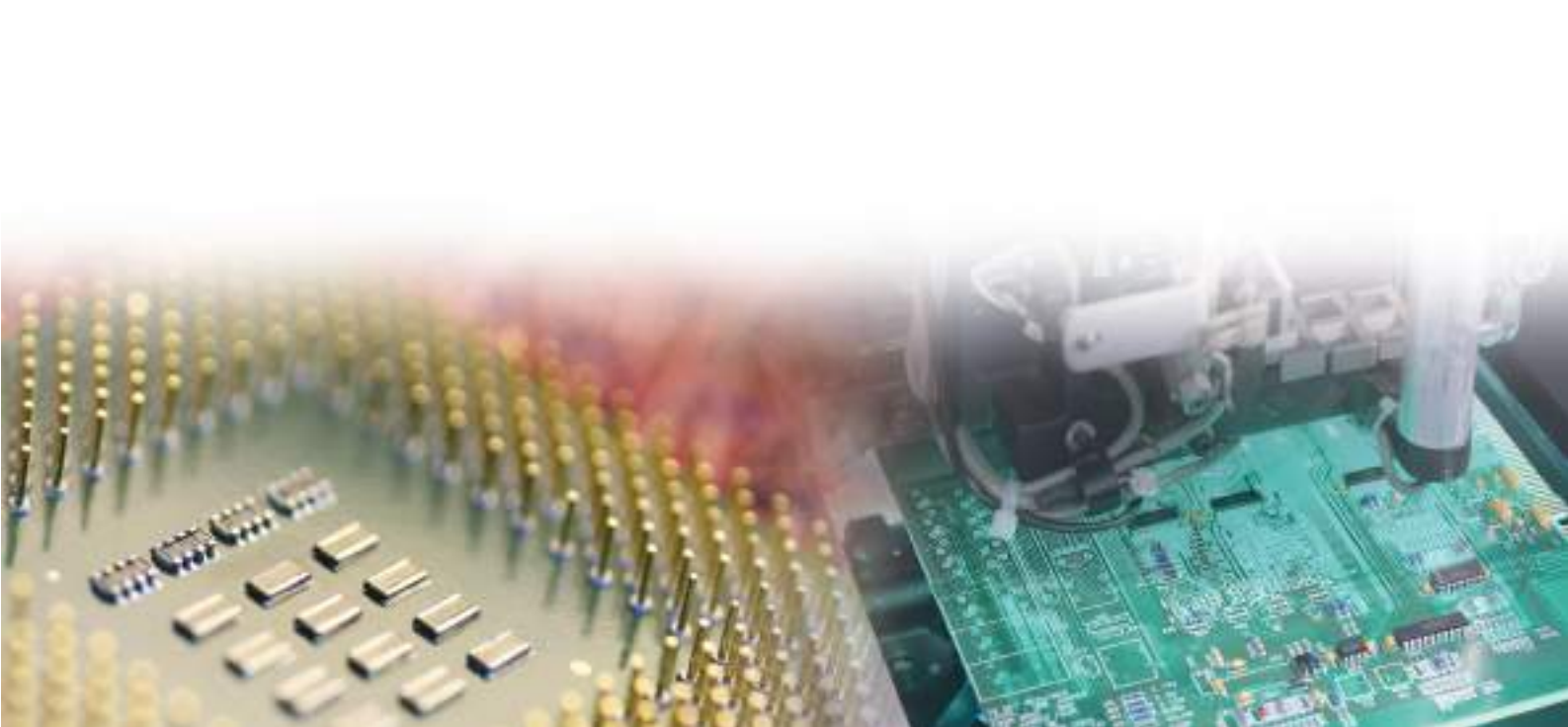
3. Reactive Silicone Fluids

KOREA BIO-GEN Co., Ltd.'s reactive silicone fluids consist of hydride, vinyl, alkoxy, amino, epoxy, phenyl functional silicone fluids and co-polymers thereof. The reactive silicone fluids substitute some of the methyl groups on a silicone polymer with various organic groups attached to some of the silicone atoms.

This adds organic benefits without losing the valuable properties associated with traditional dimethyl siloxanes.

Package : 20kg/pail, 200kg/drum or other packing on request.

Functional	Product Name	Type	Structure	Application
Hydride	RF-HD	Side Chain		Water repellency of textiles Water repellency of masonry Particle treatment (pigments, fire extinguisher powders)
		Dual End		
Vinyl	RF-WN	Side Chain		Pigment dispersions of color-master batches for silicone rubber Silicone LSR polymer To produce 2-component addition cure RTV
		Dual End		
Alkoxy	RF-AK	Dual End		High weatherability coating agents Modifiers for heat-resistant plastics Coupling agents for organic-inorganic composite materials Surface modification agents
		Dual End Di Vinyl		
	SLPU-MC3370	Dual End Polyurethane backbone		
Amino	RF-AM	Side Chain		Cures to a tough elastomeric film Auto-polish additive Personal care: ammodimethicone Unique textile softener
		Dual End		



Functional	Product Name	Type	Structure	Application
Epoxy	RF-EX	Side Chain	$ \begin{array}{c} \text{O} \\ \parallel \\ \text{OCH}_2\text{CHCH}_2 \\ \\ \text{CH}_3 \\ \text{H}_3\text{C}-\text{Si}-\text{O}-\text{Si}-\text{O}-\text{Si}-\text{O}-\text{Si}-\text{CH}_3 \\ \quad \quad \quad \\ \text{CH}_3 \quad \text{C}_2\text{H}_5 \quad \text{CH}_3 \quad \text{CH}_3 \end{array} $	Textile softener Resin modification Paint additive Additives for electronics materials
		Dual End	$ \begin{array}{c} \text{O} \quad \text{O} \\ \parallel \quad \parallel \\ \text{CH}_2\text{CHCH}_2 \quad \text{O}-\text{C}_2\text{H}_5 \quad \text{CH}_3 \quad \text{CH}_3 \quad \text{CH}_3 \\ \quad \quad \quad \quad \\ \text{CH}_3 \quad \text{CH}_3 \quad \text{CH}_3 \quad \text{CH}_3 \quad \text{CH}_3 \end{array} $	
Phenyl	MF-PN	Side Chain	$ \begin{array}{c} \text{CH}_3 \\ \\ \text{H}_3\text{C}-\text{Si}-\text{O}-\text{Si}-\text{O}-\text{Si}-\text{O}-\text{Si}-\text{CH}_3 \\ \quad \quad \quad \\ \text{CH}_3 \quad \text{C}_6\text{H}_5 \quad \text{CH}_3 \quad \text{CH}_3 \end{array} $	High/low temp lubricant Hydraulic/damping fluids Personal care imparting water repellency & gloss
Acryl & Methacryl	RF-MAC	Side Chain	$ \begin{array}{c} \text{CH}_3 \quad \text{R} \\ \quad \\ \text{H}_3\text{C}-\text{Si}-\text{O}-\text{Si}-\text{O}-\text{Si}-\text{O}-\text{Si}-\text{CH}_3 \\ \quad \quad \quad \\ \text{CH}_3 \quad \text{CH}_3 \quad \text{CH}_3 \quad \text{CH}_3 \\ \text{R} = \text{Acryl or Methacryl} \end{array} $	UV hard coating UV release coating
		Dual End	$ \begin{array}{c} \text{CH}_3 \quad \text{CH}_3 \quad \text{CH}_3 \\ \quad \quad \\ \text{R}-\text{Si}-\text{O}-\text{Si}-\text{O}-\text{Si}-\text{R} \\ \quad \quad \\ \text{CH}_3 \quad \text{CH}_3 \quad \text{CH}_3 \\ \text{R} = \text{Acryl or Methacryl} \end{array} $	
Hydroxy	RF-MOH	Side Chain Dual End	$ \begin{array}{c} \text{CH}_3 \quad \text{CH}_3 \quad \text{CH}_3 \\ \quad \quad \\ \text{HO}-\text{Si}-\text{O}-\text{Si}-\text{O}-\text{Si}-\text{CH}_3 \\ \quad \quad \\ \text{CH}_3 \quad \text{CH}_3 \quad \text{CH}_3 \end{array} $	Structural sealants for bw modulus type Non-staining sealants for natural stone and marble

4. Silicone Resins, PSA & Release Coating

Silicone resins are a type of silicone material which is formed by branched, cage-like diglysiloxanes with the general formula of $R_nSiX_mO_y$, where R is a non reactive substituent, usually Me or Ph, and X is a functional group H, OH, Cl or OR. These groups are further condensed in many applications, to give highly crosslinked, insoluble polysiloxane networks.

Silicone resins form coatings with outstanding heat resistance, weather resistance, electrical insulative properties, and water repellency. They generally dissolve in organic solvents, and are used in diverse applications to improve durability, safety, and reliability.

Package : 200kg/drum or other packing on request.

Type	Product Name	Appearance	Viscosity (cP, 25°C)	Non-volatile matter content(%)	Solvent	Application
MQ Resin	SILREN-MQ010	Colorless to pale yellow transparent liquid	10~40	49~51	Xylene	PSA, PDMS Modifier, Paper coating, LSR/HTV reinforcement
Vinyl MQ Resin	SILREN-VMQ010	Colorless to pale yellow transparent liquid	10~40	49~51	Xylene	PSA, PDMS Modifier, Paper coating, LSR cross linker, LSR/HTV reinforcement
Silicone Resin Intermediate Methoxy Functional	SILREN-MI010	Clear liquid	60~80	Min. 95	None	Heat resistant paint, Modification of Polyester, Epoxy, P.U. & Alkyds
	SILREN-MI050	Clear liquid	100~150	Min. 95	None	
	SILREN-MI070	Clear liquid	100~150	Min. 95	None	
Pure Silicone Resin Silanol Function	SILREN-HXR50	Colorless to pale yellow transparent liquid	30~60	49~51	Xylene	Binder for Heat Resistant Coating
	SILREN-HXR120	Colorless to pale yellow transparent liquid	120~180	49~51	Xylene	
Silicone PSA	SILREN-PSA-PT	Colorless to pale yellow transparent liquid	10,000~100,000	50~100	Xylene None	Adhesive tapes, labels protective tapes, films Electronic, Automotive, Aerospace
Silicone Release Coating	SILREN-CR	Colorless to pale yellow transparent liquid	10,000~100,000	50~100	Xylene None	Self adhesive labels & tapes Paper or film release
Silicone Functional Materials	For UV curing system		We supply various kinds of functional materials for UV curing system according to customer's specific demands.			
	Adhesion Promoters, Anchorages, Primers					

5. Silicone Materials for LED Packaging and Conformal Coating, etc.

LED Packaging

Silicone based materials have attracted considerable attention from Light Emitting Diode (LED) manufacturers for use as encapsulants and lenses for many next generation LED device designs. Silicones can function in several roles that include protective lenses, stress relieving encapsulants, mechanical protection and light path materials.^[1]

Conformal coating

Conformal coating material is applied to electronic circuitry to act as protection against moisture, dust, chemicals, and temperature extremes that, if uncoated (non-protected), could result in damage or failure of the electronics to function. When electronics must withstand harsh environments and added protection is necessary, most circuit board assembly houses coat assemblies with a layer of transparent conformal coating rather than potting.^[2]

Silicone coatings range from elastoplastic (tough, abrasion-resistant) to soft, elastomeric (stress-relieving) materials.

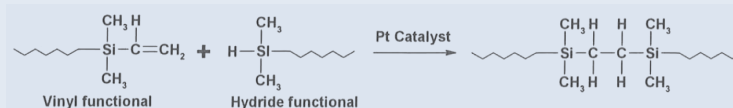
The Chemical Nature of Silicone Materials

Silicones can be considered a "molecular hybrid" between glass and organic linear polymers. When there is an absence of R groups, only oxygen attached to the silicon atom, the structure is essentially an inorganic glass (called a Q-type Si). If one oxygen is substituted for an R group (i.e. methyl, ethyl, phenyl, etc.) a resin or silsequioxane (T-type Si) material is formed. The silsequioxanes are more flexible than the Q-type materials. Finally, if two oxygen atoms are replaced by organic groups, a very flexible linear polymer (D-type Si) is obtained. The last structure shown (M-type Si) has three oxygen atoms replaced by R groups, resulting in a polymer chain terminating group. By varying the nature and number of R substituents in the molecular structure, it is possible to control and tailor the optical and mechanical properties of the cured network.^[1]

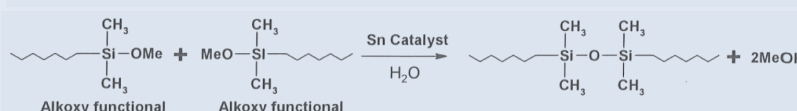
Cure chemistry

An advantage of silicone chemistry is the wide variety of cure systems available including UV, condensation, and addition types. In LED packaging materials, the dominant cure system is addition cure.^[1] Silicone conformal technology has developed with two different cure chemistries: addition cure (or platinum-cure) formulations and condensation cure (moisture-cure) materials.^[3]

- Additional Reaction:



- Condensation Reaction:



Conclusion

KOREA BIO-GEN Co., Ltd. offer a broad range of raw materials for LED packaging and conformal coating.

Functional	Product
Phenyl	PMDMS (Phenylmethyl dimethoxysilane), PTMS (Phenyl trimethoxysilane), DPDMS (Diphenyl dimethoxysilane), MF-PN (Phenyl-modified polymers)
Resin	SILREN-VMQ (Vinyl MQ resins), SILREN-VPMQ (VMQ resin & Vinyl polymer)
Vinyl	Vinyl polymers & Oligomers
Hydride	Hydride polymers & Oligomers
Catalyst	CPT0XX (Platinum catalysts for additional reaction), CSN (Tin catalysts for condensation reaction), CTI010 (Titanium isopropoxide)
Others	Anchorage, Adhesion Promoters, Primers

References

1. E. Vanlathem, A. W. Norris, M. Bahadur, J. DeGroot, M. Yoshitake, "Novel Silicone Materials for LED Packaging and Opto-electronics devices", Organic Optoelectronics and Photonics II, edited by P. L. Horemans, M. Muccini, E. A. Meulenkamp, Proc. of SPIE Vol. 6192, 619202, (2006).
2. "Conformal coating" (http://en.wikipedia.org/wiki/Conformal_coating), Retrieved 2012-10-04.
3. K. J. Wall, "Advanced Development in Silicone Conformal Coatings" (<http://www.dowcorning.com/content/publishedlit/orbcard.pdf>), Retrieved 2012-10-04.



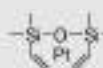
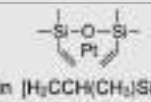
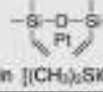


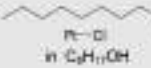
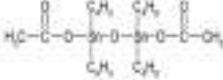
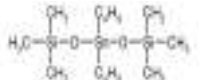
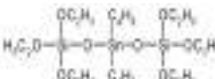
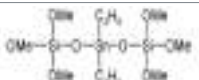
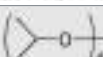
6. Catalysts for Silicone Cure

Hydrosilylation is a reaction widely used in the silicones industry for the preparation of monomers, containing silicon-carbon bonds, and for cross-linking polymers, and results in a variety of products. Hydrosilylation reactions are catalyzed by highly active platinum catalysts.

Typical catalysts for condensation curing are organotin compounds. They catalyze the reaction between α, ω -dihydroxy polydimethyl siloxanes and silicic acid esters. Water has a strong accelerating effect on the rate of reaction.

KO REA BIO-GEN Co., Ltd. offers a broad range of organometallic compounds and provide solutions in catalysis.

Package : 5kg, 25kg, 50kg can/drum or other packing on request

Metal	Chemical Name	Product Name	Chemical Formula	Metal (wt%)	CAS No.	Remark
Platinum (Pt)	Chloroplatinic acid	CPT010	$H_2[PtCl_6] \cdot 6H_2O$	37.7	18497-13-7	Speier's catalyst
	Pt-Divinyltetramethyldisiloxane complex in Xylene	CPT020		2	68478-92-2	Karstedt catalyst Room Temp. Cure
		CPT025	in $C_6H_4(CH_3)_2$	2	68478-92-2	Karstedt catalyst High transparency grade
	Pt-Divinyltetramethyldisiloxane complex in Divinyl tetramethyl disiloxane	CPT030		2	68478-92-2	Karstedt catalyst High Temp. Cure
	Pt-Divinyltetramethyldisiloxane complex in Octamethyl cyclotetrasiloxane	CPT035		2	68478-92-2	Karstedt catalyst High Temp. Cure
	Pt-Divinyltetramethyldisiloxane complex in Vinyl terminated polydimethylsiloxane	CPT037		2	68478-92-2	Karstedt catalyst High Temp. Cure
	Pt-Methyl vinyl cyclic complex in Vinyl methyl cyclosiloxane	CPT040		2	68585-32-0	Ashby's catalyst High Temp. Cure
Pt Chlorooctanol complexes in Octanol	CPT050		2	68412-56-6	Lamoreaux catalyst High Temp. Cure	
Tin (Sn)	1,3-Diacetoxy-1,1,3,3-Tetrabutyl distannoxane	CSN-S100		39.6	5967-09-9	Slow & Selective Cure
	Dibutyltin di(trimethylsiloxide)	CSN-M200		28.9		Medium Cure
	Dibutyltin di(triethoxysiloxide)	CSN-M300		20.1		Medium Cure
	Dibutyltin di(trimethoxysiloxide)	CSN-M400		23.4		Medium Cure
Titanium (Ti)	Titanium isopropoxide	CTI010		16.8	546-68-9	Transesterification catalyst

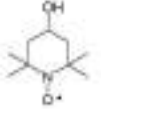

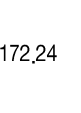
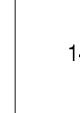
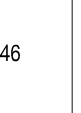
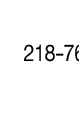
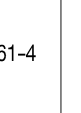
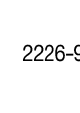
7. Polymerization Inhibitors and Fine Chemical Products

Polymerization is initiated by free radicals. The function of an inhibitor is to tie up these free radicals by reacting with them to form stable compounds. KOREA BIO-GEN Co., Ltd.'s polymerization inhibitors form these stable compounds in the presence of oxygen. The free radical reacts with oxygen to form a peroxy-free radical. The inhibitor reacts with this peroxy-free radical to form a free radical complex. The complex then reacts with another peroxy-free radical to form stable compounds.

KOREA BIO-GEN Co. Ltd. offers a series of polymerization inhibitors that are practical storage and in-process inhibitors when used by themselves or in combinations. Inhibitor selection should be based on evaluation in your specific system or application.

Application : Polymerization Inhibitor of Styrene, Acrylates & Acrylics, etc.

Package : 200kg/drum, Road tank lorry or other packing on request.

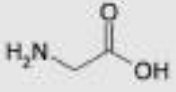
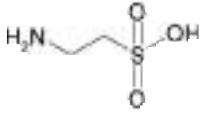
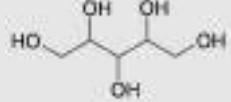
Chemical Name	Product Name	Chemical Formula	Molecular Weight	Flash Point (°C)	EINECS No.	CAS No.
4-Hydroxy-TEMPO SFR (Stable Free Radical)	IHP		172.24	146	218-761-4	2226-96-2
4-Oxo-TEMPO SFR (Stable Free Radical)	IOP		170.23	109.5	220-778-7	2896-70-0
2-Sec-butyl-4,6-Dinitrophenol	IBP		240.21	> 100	201-861-7	88-85-7
4,6-Dinitro-o-cresol	DNOC		198.13	149.2	208-601-1	534-52-1
2,6-Dinitro-p-cresol	DNPC		198.13	117.7	210-203-8	609-93-8
p-Nitrosophenol	ISP		123.11	114.6	203-251-6	104-91-6
Phenothiazine	PTZ		199.27	178.2	202-196-5	92-84-2
Hydroquinone Monomethyl Ether	MEHQ		124.14	133	205-769-8	150-76-5
Effective Mixture of Retarder and Inhibitor	IXP					

8. Biochemical Products

KOREA BIO-GEN Co., Ltd.'s biochemical products are produced with strict quality control and the know-how of many years. Our products are known as best quality in the world market including JAPAN, USA, EU, etc.

Application : Foods, drinks, animal feed, cosmetics and toiletries.

Package : 20kg/bag or other packing on request.

Chemical Name	Chemical Formula	Molecular Weight	Melting Point (°C)	CAS No.	Purity (%)
Glycine		75,07	233	56-40-6	Min. 98,5
Taurine		125,15	305,11	107-35-7	Min. 99,0
Xylitol		152,15	92-96	87-99-0	Min. 98,5



Memo

Memo

Innovation of Fine Chemicals & Silicone Solution Partner

 **KOREA BIO-GEN Co., Ltd.**

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