

Special Silicone Solutions for your Industry

#### The Only Truth that Brings the Present into the Future



Our business approach aim is to supply high quality products timely with optimum prices with a wide range of products under own trade name series.

OxoChem which develops and optimizes the innovative silicone products according to the industry feedbacks and market needs, provides full technical service to all our valuable customers for all OxoChem's products.

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#### We instill and Sustain Confidence in Our Customers

#### At OxoChem;

We are working to preserve a culture wherein behaviors and decisions at all levels are in line with OxoChem's foundational values and business principles.

We make endeavors to improve ourselves, we support innovation and we do our work passionately. Through our technical infrastructure we create value and enable our customers to purchase products that are most suitable for their portfolios, therefore fulfilling their needs.



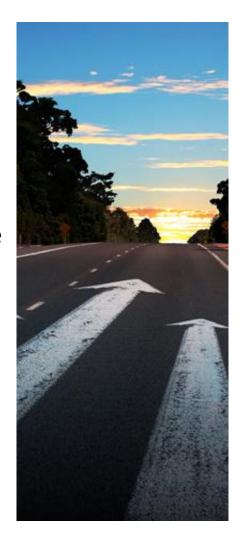
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#### We are the Pioneers who Re-define Our Lost Values

We create value and grab opportunities by uniting our commercial reliability with our world-wide and unique supplier access. With our favorable prices and flexibility, we always strive to become your solution partner, beyond being a supplier.

Our purpose is to become your most flexible and valueadding partner who provides the most creative solutions.



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**OxoChem Products Introduction** 



#### OxoChem Products Introduction



OxoChem serves its wide range of products to the companies from different industries. Being safe to environment and health, our products can be applied in many fields, such as textile & nonwoven, construction, agriculture, polyurethane, food processing, paint & coatings, auto care, elastomer, metalworking lubricants, pulp & paper, detergents and rubber applications.

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#### OxoChem Products Introduction



Furthermore we have been able to have many decades of experience developing and manufacturing silicone based antifoams solutions, mould release agents, textile softeners, organic silicone, mixing additives, surface active chemicals, polymer dispersion agents, water repellents, macro silicone emulsions and other additives to the different industries.

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**Our Consultancy Service** 



#### **Our Consultancy Service**



OxoChem is an advanced company that provides consulting services for clients worldwide.

Through a deep knowledge of market forces, the changing competitive landscape, and customer needs, OxoChem helps clients grow and invest successfully. Leading chemicals firms around the globe benefit from the depth and breadth of OxoChem's industry expertise.

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#### **Our Consultancy Service**

We have over 10 years of experience working in all segments of the chemical industry., including;

- Special Chemicals
- Polyester Poliol Manufacturing
- Agricultural Chemicals
- Release agents
- Macro, Micro and Hydrophilic
  Silicone

- Textile Chemicals
- Water Repellents
- Auto Care Chemicals
- Hygiene Chemicals
- Basic and Intermediate chemicals

We make the chemicals industry better by creating sustainable business value. We are dedicated to maintaining our position as the world's leaders

✓ Please contact as at <u>info@oxochem.com</u> for additional information.

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#### All Aspects of Silicone & Carbon Chemistry







Products list by Application/ Market



#### Agenda

#### Industries/ Markets

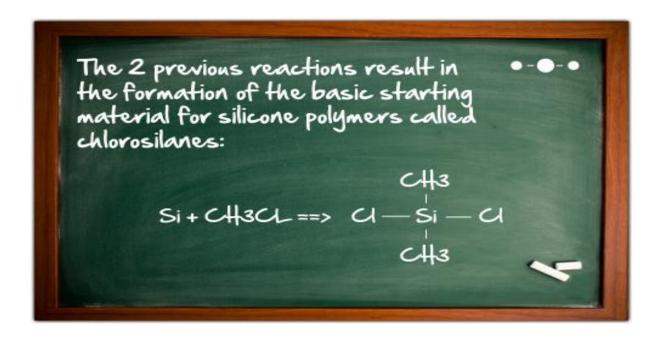
- Mould Release Agents
- Antifoams & Defoamers
- Agricultural Chemicals
- Auto & Shoe Care
- Textile & Nonwoven

- Construction
- Special Chemicals
- Silanes
- Water Treatment Chemicals
- Industrial Chemicals

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#### Silanes



- ✓ Silanes are 2 step reaction chemical which most of them are monomer.
- ✓ Silanes contain "Silanol" group, which is very reactive as well as easy to bond to substrates or fillers, is function of adhesion promoter to the substrates or coupling/dispersing agent to the fillers.



### **Amino Silane Coupling Agents**

- ✓ According to the quantities of aminos, amino and modified amino silane coupling agents can be divided into single amine, double aminos, three aminos and multi aminos.
- ✓ These silane coupling agents are universally applied, which can have coupling effects with all kinds of resins, except polyester resins.
- ✓ We are offering the best solutions and technical support to the our customers.



#### **Amino Silane Coupling Agents**

#### ✓ The main application areas are:

- ✓ Used for the surface treatment of glass fiber, which can improve the strength, electric, water resistance, weatherability of glass fiber composites, as well as the mechanical properties in the wet condition.
- ✓ Used for plastics padding of inorganic fillers, which can improve the dispersity and bonding force of the fillers in the resins. And they can also improve process performance and mechanical, electrical performance and weather resistance of filled plastics (including rubbers).
- ✓ Used as tackifier, which can improve the bonding strength and water, high temperature, climate resistance of sealants, adhesives and coatings.
- ✓ Used as textile auxiliary, which is blending with organic silicone emulsion to improve the usability of wool fabric, so that they can be comfortable, anti-wrinkling, anti-scratching, waterproof, antistatic and washable.
- ✓ Used in biochemistry and environmental protection. This can produce silicon resin pancreatic enzyme carriers to make the pancreatic enzyme attach to the surface of the glass substrate so that it can be used again, which would increase the efficiency of enzyme and avoid pollution and waste.



### Amino Silane Coupling Agents

Products	Description	Cas No
Lavidasil® AN 110 AS	3-Aminopropyltriethoxysilane	919-30-2
Lavidasil® AN 111 AS	3-Aminopropyltrimethoxysilane	13822-56-5
Lavidasil® AN 112 AS	N-(2-Aminoethyl-3- aminopropyl)trimethoxysilane	1760-24-3
Lavidasil® AN 210 AS	3-Aminopropylmethyldiethoxysilane	3179-76-8
Lavidasil® AN 211 AS	3-Aminopropylmethyldimethoxysilane	3663-44-3
Lavidasil® AN 212 AS	N-(2-Aminoethyl-3- aminopropyl)methyldimethoxysilane	3069-29-2
Lavidasil® AN 083 AS	N-Phenyl-y-aminopropyltrimethoxysilane	3068-76-6



# **Epoxy Silane Coupling Agents**

- They are silanes of epoxy functional groups. γ-Glycidoxypropyltrimethoxysilane is a major variety of silane coupling agents, which is widely used in polymeric materials to improve the adhesion, hydrophobicity and weather resistance of materials, such as epoxy resin, phenolic resin, polyurethane, melamine resin, chlorinated polyether, polyester, polycarbonate, polystyrene, polypropylene and nylon.
- ✓ They are also used to produce epoxy alkyl adhesive coatings, synthesize epoxy hydroxyl silicone oil and tackifier of room temperature vulcanized silicone rubber.
- ✓ Please contact us to select the right solution for your needs.



### Methacryloxy Silane Coupling Agents

- ✓ They are easily soluble in many kinds of organic solvents, hydrolyzing and condensing to form polysiloxane, especially in overheating, illumination and peroxide conditions.
- ✓ They are mainly used as tackifier of polymeric materials, and got widely applications in thermosetting resins, like AS,PET,crosslinking PE,DAP,BR, thermoplastic resins, like ABS,PE,PP,PS, and elastomers, like acrylic rubbers and butyl rubbers.
- Methacryloyloxy silane coupling agents have great effects on glass fiber reinforcing bending strength of polyester plastics and can improve the mechanical properties of polyester concrete.



## Methacryloxy Silane Coupling Agents

- ✓ They also play an significant role in improving the infiltration and dispersion of inorganic fillers to plastics, rubbers and coatings, the mechanical properties and processabilities of products, and stablizng the electrical properties of damp products. In addition, they can be used as wet crosslinking agents of polyolefin, as well as crosslinking agents of acrylic coatings to solidify room temperature and improve the adhesion and hydrophobicity of optical fibre coatings.
- ✓ Please contact us to select the right solution for your needs.



#### **Epoxy Silane Coupling Agents**

Products	Description	Cas No
Lavidasil® AN 187 ES	3-(2, 3- Epoxypropoxy)propyltrimethoxysilane	2530-83-8
Lavidasil® AN 041 ES	3-(2,3-Epoxypropyloxy)propyltriethoxysila ne	2602-34-8
Lavidasil® AN 042 ES	Diethoxy(3-glycidyloxypropyl)methylsilane	2897-60-1
Lavidasil® AN 186 ES	2-(3,4- epoxycyclohexyl)ethyltrimethoxysilane	3388-04-3

# Methacryloxy Silane Coupling Agents

Products	Description	Cas No
Lavidasil® AN 174 MS	3-Methacryloxypropyltrimethoxysilane	2530-85-0



# Vinyl Silane Coupling Agents

- ✓ They are mainly used for plastic strengthening, which can improve the affinity of glass fiber, inorganic fillers and resins reacting with vinyl, and improve the materials' electric properties and mechanical strength in wet condition.
- ✓ Vinyl silane coupling agents play a role as coupling agent and crosslinking agent, which are suitable for plastics of polyethylene, polypropylene and unsaturated polyester. We often use silane to crosslink polyethylene cables and pipes.
- ✓ Please contact us to select the right solution for your needs



#### Mercapto Silane Coupling Agents

- ✓ At present, most of the silane coupling agents used in tire industry. Mercapto Silane Coupling Agents, especially polysulfide.
- ✓ In the application of tire tread, the alkoxy of sulfur silane coupling agents combines with the silicon hydroxyl on the surface of white carbon black and the sulfur combines with the rubber, which forms a strong network structure to reduce the rolling resistance of tyre.
- ✓ From the catalogue, patents and literature of the major manufacturers, we can find that these products mainly include triethoxysilylpropyl TESPT, triethoxysilylpropyl TESPB, γ-mercaptopropyltrimethoxysilane, among which polysulfide silane has the largest dosage.
- ✓ Please contact us to select the right solution for your needs.



### Vinyl Silane Coupling Agents

Products	Description	Cas No
Lavidasil® AN 151 VS	Vinyltriethoxysilane	78-08-0
Lavidasil® AN 171 VS	Vinyltrimethoxysilane	2768-02-7
Lavidasil® AN 172 VS	Vinyltri(β-methoxyethoxy)silane	1067-53-4

# Mercapto Silane Coupling Agents

Products	Description	Cas No
Lavidasil® AN 189 MS	γ-Mercaptopropyltrimethoxysilane	4420-74-0



## Time for Change



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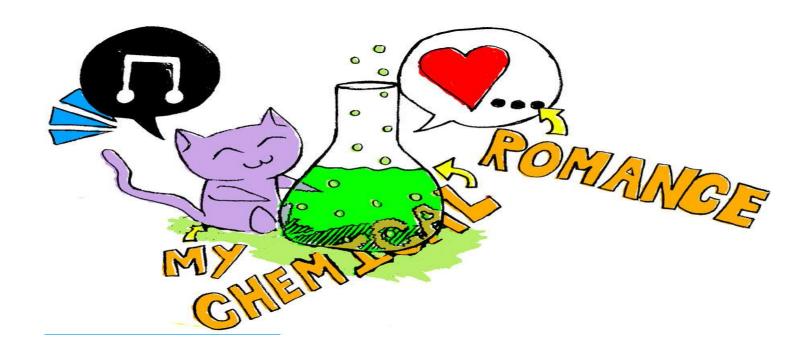
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