

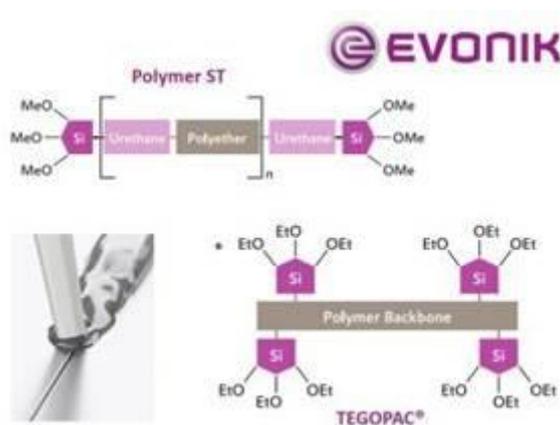
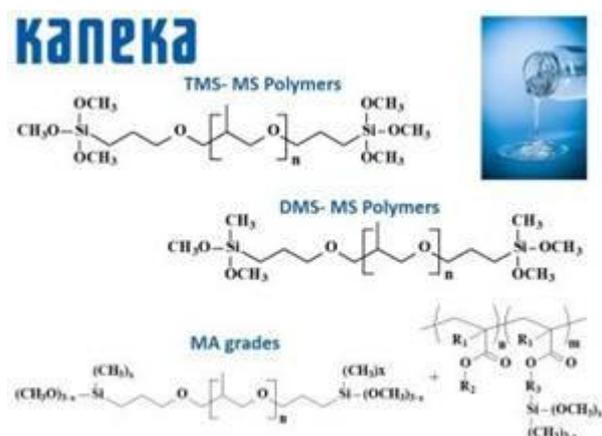
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SPECIFIC POLYMERS: Si-Polymers®

Let's adapt our chemistry to yours !

You are looking for grafting specific molecules on inorganic substrate or particles ? Coating glass substrates with a particular polymer ? Or you are developing hybrid sol-gel materials with innovative properties? **Si-Polymers®**, i.e. **Polymer functionalized with alkoxy silanes** can be the answer to your technical challenges. Indeed, alkoxy silanes present the ability to **create strong bonds with hydroxylated particles and surfaces** and can also be used as precursors in sol-gel formulation. Moreover, thanks to their specific structure, **Si-Polymers® can be used to bond organic and inorganic phases, avoiding phase segregation and limited performances**. They are thus a real step forward compared to non-functionalized compatibilizing agents and are a key topic in the development of tomorrow's materials. In this field, main industrial actors are **KANEKA with MS Polymers** and **EVONIK with Polymer ST and TEGOPAC®**. **Si-Polymers®** are of great interest for their adhesive and sealant properties and are used in many areas such as construction industry, coating industry, automotive or aeronautics.

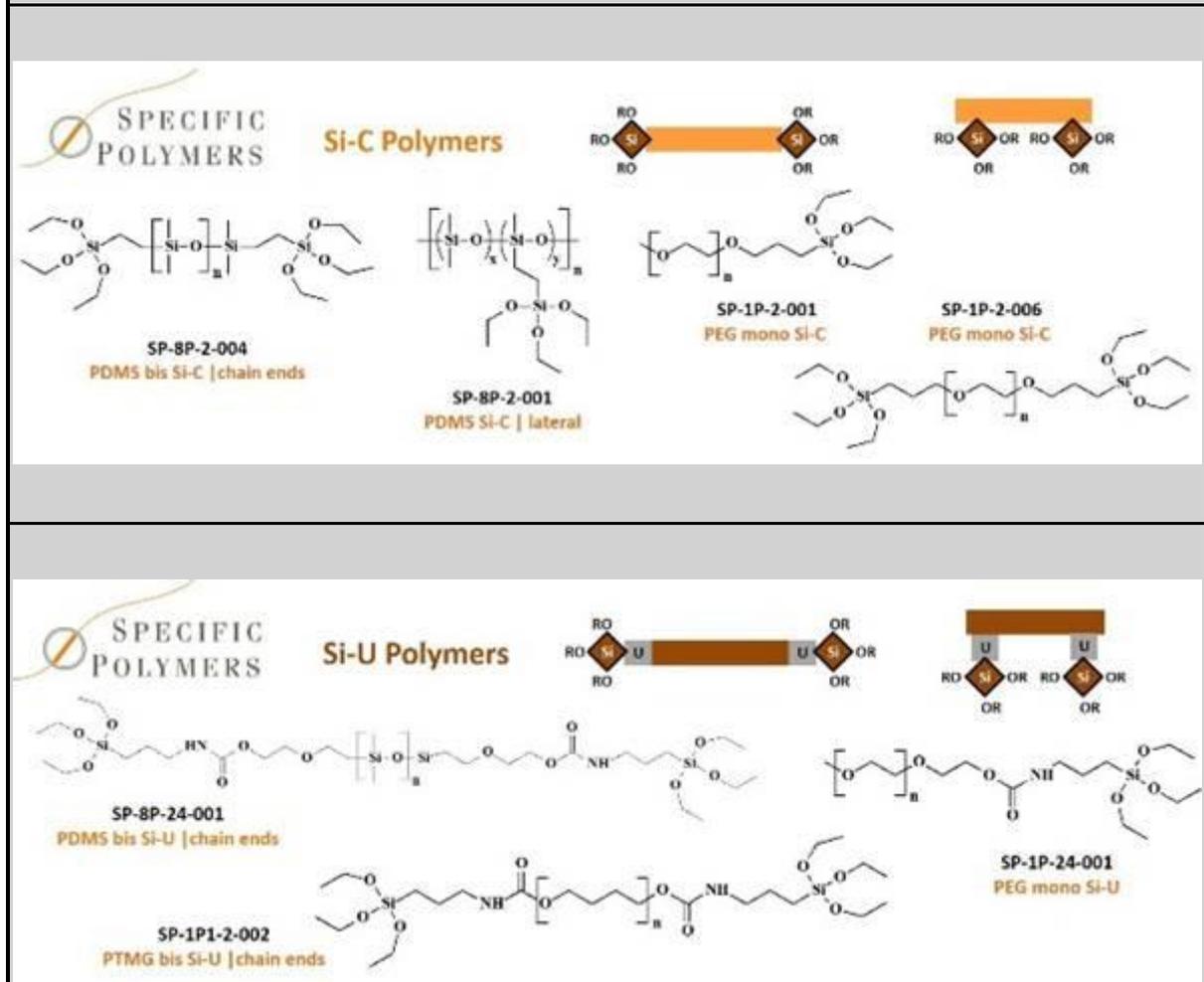


KANEKA MS Polymers are mainly PPG and Poly(meth)acrylic polymers functionalized with alkoxy silane functions. The covalent linkage between the polymer chain and the alkoxy silane is an Alkyl chain. Alkyl spacer offer good processability, superior stability in hot and cold water as well as heat resistance.

EVONIK Polymers ST and TEGOPAC® are PPG polymers functionalized with alkoxy silanes functions. TEGOPAC® exhibit lateral functionality and Alkyl spacer. Polymer ST are functionalized on chains ends with urethane linkages. The latters bring higher viscosity and enhanced mechanical properties.

Si-Polymers®

SPECIFIC POLYMERS masters both isocyanate alcoholysis (**Si-U Polymers**) and hydrosilylation reaction (**Si-C Polymers**) and can apply these reaction processes to a **wide range of polymeric precursors** like Polyethylene glycol (PEG), Polytetrahydrofuran (PolyTHF), PDMS, Polybutadiene, Polyester polyols, etc. Depending on customer's needs, the Si-functionalization can be oriented on the chain ends or on the lateral chains. Some example of Si-Polymers® from our catalog are represented here. **Besides, these chemistries can be extended to a large range of polymers and we can offer custom synthesis to specifically answer the requirements of your application.**



**Looking a specific Si-Polymer for your application ?
SPECIFIC POLYMERS offers CUSTOM SYNTHESIS programs**

- SPECIFIC POLYMERS produces **from grams to hundred grams** depending on the targeted molecule.
- All products are delivered with a **synthesis report** including experimental details and analyses.
- Report on the project progress by **regular phone meeting**

- **Feasibility evaluation** can be proposed depending on customer wishes (targeted structures, quantities)

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