



# SILICONES

ADDITIVES



SOLUTIONS | TAILORMADE | WORLDWIDE

# FROM HUMBLE ROOTS IN LEATHER PROCESSING CHEMICALS ...

SCHILL+SEILACHER'S STORY BEGAN IN 1877, WHEN KARL SCHILL AND CHRISTOPH SEILACHER STARTED MANUFACTURING CHEMICALS FOR LEATHER PROCESSING IN HEILBRONN, GERMANY. IN 1925 SCHILL+SEILACHER OPENED A SECOND PRODUCTION SITE

> Following the Second World War, Schill+Seilacher moved its Heilbronn operation to Böblingen, a suburb of Stuttgart. Although both locations Hamburg and Böblingen are sharing the same name, they are serving different industries and working independently of each other. Schill+Seilacher ventured into the North American market in 1979 with the establishment of Struktol® Company of America. SCA is located at the heart of the American tire industry, just outside Akron, Ohio, and majorly supplies the plastic, rubber and tire industries. Schill+Seilacher Chemie GmbH, situated on the banks of the Elbe just south of Dresden was acquired in the early 1990s and serves as both a production and research facility for silicone based chemistry.

SNS Nanotech in Hudson, Ohio, specializes in developing complex nanofiber matrices and is the youngest member of the Schill+Seilacher Group. Their proprietary technology enables the fabrication of self-supporting mats that can entrap particles within a nanofiber matrix or encapsulate them within individual nanofibers.

# WORLDWIDE

# ... TO A GLOBAL PLAYER IN THE PRODUCTION OF INDUSTRIAL PROCESS ADDITIVES.

IN HAMBURG TO CATER TO THE EXPANDING NEEDS OF ITS GROWING CUSTOMER BASE AND SECURE BETTER ACCESS TO INTERNATIONAL MARKETS THROUGH THE CITY'S BUSTLING PORT.

#### ISO 9001: Our quality guarantee

The high quality standard of our products is guaranteed by our certified quality management system (ISO 9001), which integrates our highly qualified application experts, state of the art laboratories and testing equipment, and modern production methods into an effective and continually improving team.

#### ISO 14001: Our commitment to the environment

Our commitment to reducing waste and managing energy consumption efficiently has been at the core of our business for many years. By helping us work more efficiently and cost effective, our ISO 14001 certification promises better products through environmental responsibility.

#### SCHILL+SEILACHER "STRUKTOL" GMBH AT A GLANCE

RUBBER ADDITIVES
ANTIFOAMS
POLYDIS
LATEX ADDITIVES
SILICONES
RELEASE AGENTS

Amino silicone fluids	06-09
Silicone formulations for textile and fiber	10-11
Silicones for fiber fill	12-13
Silicones for hydrophilic applications	14-15
Silicones for textile and leather industry	16-17
Silicone antifoams	18-19
Silicone slip additives, lubricants, coatings	20-23

# TABLE OF CONTENTS

Silicone fluid emulsions	25
Silicones for construction industry	26
Wetting agents	27
Reactive silicone oligomers and plasticizers	28-29
Silanes and silicones for paint	30-33







# SILICONE ADDITIVES

Wherever classic products reach their physical limits, silicones are often able to provide at least an alternative solution. Silicones are particularly advantageous because of their high temperature stability, excellent lubrication properties, soft-touch and excellent hydrophilic or hydrophobic qualities.

Schill+Seilacher an acclaimed producer of additives and special auxiliaries is able to offer and produce customized products for a lot of applications. The use of Silicones as fluids, emulsions, dispersions and compounds offers cost efficient solutions, helping to minimize the use of chemical substances and optimizing the status to meet specific requirements. We respond proactively to individual demands and wishes of customers, by providing first class advice and technical support, also on-side locally.

Our products fulfill the high quality demands of silicones, delivered to different industries, e. g. textile, leather, rubber, paint & coating and various other fields.



$$\begin{array}{l} \mathbf{R_1:} \ \textbf{-OH, -Me} \\ \mathbf{R_2:} \ \textbf{-CH}_2 \ \textbf{CH}_2 \ \textbf{CH}_2 \ \textbf{CH}_2 \ \textbf{NH}_2 \\ \quad \textbf{-CH}_2 \ \textbf{CH}_2 \ \textbf{CH}_2 \ \textbf{CH}_2 \ \textbf{NHCH}_2 \ \textbf{CH}_2 \ \textbf{NHCH}_2 \\ \end{array}$$

AMINO SILOXANES	AMINE NUMBER	VISCOSITY (mPa.s)	REACTIVITY
Struksilon F 561	0,12	3000	reactive
Struksilon F 531	0,31	1000	reactive
Struksilon F 538	0,24	250	reactive
Struksilon F 575	0,60	1000	reactive
Struksilon F 532	0,90	1000	reactive
Struksilon F 510	0,22	500	reactive
Struksilon F 571	0,18	500	non-reactive
Struksilon F 589	0,60	1000	non-reactive
Struksilon F 533	1,25	30	non-reactive
Struktol VP 5396	2,50	150	non-reactive
Struktol VP 5421	0,12	300	low-reactive

In the table above are mentioned different amino fluids. These are already available grades. Moreover we can construct to the customer's desire. Please ask for your special amino fluid.

# SUGGESTED FORMULATION - MICROEMULSION Ingredients in parts



1	7,5	Isotridecanol ethoxylate (5E0)
2	2,0	Butyldiglykol
3	15,0	Struksilon F 575
4	75,3	Water
5	0,2	Acetic Acid

Ingredient **1** to **3** are thoroughly mixed with each other. Then the mixture of **4** and **5** is added in portions until all ingredients are combined. Please mix well until the formulation is homogenous.

## **APPLICATIONS**

 ТЕХПІЕ	CONSTRUCTION	COATING	LEATHER	CAR WASH	нопон	HYDROPHOBIZING	WOOD PROTECTION
F 531	F 561	VP 5396	F 561	F 589	F 571	F 561	F 533
F 538	F 510	F 538	F 532	F 533	F 589	F 575	F 532
F 561	VP 5421	F 575		F 571	F 561	F 533	VP 5396
F 510							

# EMULSIONS BASED ON AMINO FUNCTIONAL SILICONE FLUIDS

In most cases amino siloxanes are formulated into either micro or macro emulsions. As an emulsion the non-water soluble amino siloxane can be incorporated into water based systems. The difference between micro and macro emulsion is the particle size and the content of stabilizing detergent. Micro emulsions can be made without big equipment, only by stirring. The high amount of detergent cares for very small particle sizes – sometimes even below 50 nm.

To formulate a macro emulsion high shear forces are necessary. The amount of stabilizing detergent is small. Depending on the formulation the particle size of macro emulsions ranges between 200 to 1000 nm. For the application on textile fabric macro emulsions are best choice. They consist mainly of active ingredient and contain minimal detergent.



#### **APPLICATIONS**

# MACRO EMULSIONS OF AMINO FLUID

Struksilon FA		<ul> <li>Standard softener</li> </ul>
· Non-ionic, pH 5	Active Content: 40 %	<ul> <li>Excellent touch</li> </ul>
Struksilon FB		<ul> <li>Standard softener concentrated</li> </ul>
• Non-ionic, pH 5	Active Content: 50 %	<ul> <li>Excellent touch</li> </ul>
Struksilon F 47		Softener
· Cationic, pH 6	Active Content: 40 %	<ul> <li>High exhausting properties</li> </ul>

## MICRO EMULSIONS OF AMINO FLUID

Struksilon F 84		Softener
· Non-ionic, pH 5	Active Content: 35 %	<ul> <li>Excellent gloss properties</li> </ul>
Struksilon F 39		Softener
• Non-ionic, pH 5	Active Content: 22 %	<ul> <li>Excellent gloss properties</li> </ul>
Struksilon F 90		<ul> <li>Softener</li> <li>Event glass properties</li> </ul>
· Non-ionic, pH 7,5	Active Content: 80 %	<ul> <li>Excellent gloss properties</li> </ul>

# EMULSIONS FOR TEXTILE APPLICATIONS (HYDROPHOBIC EFFECT)

Struksilon FA	÷	<ul> <li>Very efficient hydrophobic softener for textiles</li> </ul>
	Active Content: 40 %	
Struksilon FB	Active Content: 50 %	<ul> <li>Very efficient hydrophobic softener for textiles</li> </ul>
Struksilon 72	Active Content: 35 %	<ul><li>Simple softener</li><li>Easy to use</li><li>With conditioning effect</li></ul>
Struksilon F 47	Active Content: 40 %	<ul> <li>Cationic softener with high exhausting properties</li> </ul>



# EMULSIONS FOR TEXTILE APPLICATIONS (HYDROPHOBIC EFFECT)



Struksilon VP 5444	
	Active Content: 5 %

Emulsion	with	strong	hydro	nhohic	offect
EITIUISION	WILLI	Suong	nyuru	priopic	enect

- Extra ordinary soft
  - Ready for use

#### Struksilon VP 5446

Active Content: 30 %

- Emulsion with strong hydrophobic effect
- Extra ordinary soft
- Concentrate

# SILICONES FOR SYNTHETIC FIBER FILL MATERIALS

Synthetic fibers are mostly made from synthesized polymers, e. g. mainly polyester, some polyamide or polypropylene. These fibers are used as filling or insulating material for pillows, cushions, winter garments as well as in quilting applications. Silicones dramatically increase the performance of these fibers by giving better touch, bulkiness and recovery.

#### **ONE COMPONENT SYSTEMS**







# THREE COMPONENT SYSTEMS

Struksilon F 57		
<ul> <li>Emulsion of an aminoorgano silicone polymer</li> </ul>	Active Content: 40 %	
Struksilon F 58	Active Content: 40 %	<ul><li>Silky</li><li>Smooth</li><li>Excellent bulkiness</li></ul>
:	: :	
Struksilon 69		
· Catalyst	Active Content: 100 %	· · · · · · · · · · · · · · · · · · ·

# HYDROPHILIC SILICONE SOFTENER

In textile and fiber industry, silicones positively boost the touch. In some applications, e. g. terry towels, undergarments and sportswear a strong hydrophilicity is needed. Struksilon silicones can provide this effect and help to improve the wearability of clothing.



	SOLID CONTENT	HYDROPHILIC PROPERTY	WATER SOLUBILITY	PERMANENCE	SOFT TOUCH	SLIPPERY
Struksilon 8431	<b>100</b> %	3	1	2	2	1
Struksilon 8432	100 %	2	1	3	3	1
Struksilon 8434	<b>100</b> %	1	•	3	3	2
Struksilon 8371	<b>100</b> %	5	1	1	1	1
Struksilon 8372	<b>100</b> %	3	-	1	1	2
Struksilon VP 5417	80 %	2	1	3	4	3
Struktol VP 5523	70 %	5	1	3	4	4

1: ACCEPTABLE 2: EFFECTUAL 3: GOOD 4: VERY GOOD 5: EXTRAORDINARY

# GUIDE FORMULATION TO PREPARE A MICROEMULSION WITH 25 % ACTIVE CONTENT



NOILISOA	PARTS	PRODUCT	PRODUCER
1	10	<b>Struksilon</b> 8434 / 8372	Schill+Seilacher
2	1,3	Propylene glycol <sup>1)</sup>	Chemical trader
3	2,7	Genapol X050	Clariant
4	26	demineralized Water	

 Instead of Propylene glycol other glycols such as Di-propylene glycol, Butyl-di-glycol, Glycerine, PEG 400 and so on could be used.

For preparation at first propylene glycol is added to position 1 and stirred for about 10 minutes, in the next step surfactant is added and stirred for another 10 minutes, after that water can slowly be added by stirring continuously. The result is a microemulsion intended for immediate use, another biocide has to be added.

# SILICONES FOR TEXTILE AND LEATHER INDUSTRY

Beyond amino siloxanes and their emulsions, there are other siloxanes, organic modified, non-modified and/or emulsified, which are excellent additives for textile applications.

Struksilon E 35		<ul> <li>Silicone fluid emulsion based on 350 cst.</li> <li>Silicone fluid</li> </ul>		
	Active Content: 35 %	<ul> <li>Slip additive for fibers and easy ironing agent</li> </ul>		
		<ul> <li>Also available with rust inhibitor (Struksilon E 35 R)</li> </ul>		
Struksilon VP 5348		<ul> <li>Emulsion of organic modified silicone</li> </ul>		
	Active Content: 32 %	<ul> <li>Hydrophobic softener, non yellowing</li> </ul>		
Struksilon 72		<ul> <li>Silicone polymer emulsion based on high viscous fluids</li> </ul>		
	Active Content: 35 %	<ul> <li>Slip additive and lubricant for fibers</li> </ul>		
		<ul> <li>Also available with rust inhibitor (Struksilon E 72 R)</li> </ul>		
Struksilon 8307		<ul> <li>Organo-functional silicone based on polyglycol</li> </ul>		
	Active Content: 100 %	<ul> <li>Slip, flow and leveling agent, increased scratch</li> </ul>		
		<ul> <li>Resistance for coated surfaces</li> </ul>		

# **SPECIALITIES**

P 5444		<ul> <li>Water based emulsions based on org</li> <li>modified cilicopo</li> </ul>
	Waterbased liquid	<ul> <li>Strong water repellency and soft touc with permanence on natural fibers ar fabrics</li> <li>Liquid</li> </ul>
P 5487		<ul> <li>Water based emulsions based on org modified silicone</li> </ul>
	Waterbased paste	<ul> <li>Strong water repellency and soft touc with permanence</li> </ul>

# SPECIAL LEATHER PRODUCTS



Leather is a precious, natural material. It's needed for clothing, furniture, shoes, handbags and car seats. Nowadays also leather imitation materials as e. g. PU provide us with the advantages of leather.

To improve the properties of leather in terms of touch and hydrophobicity the following products are recommended.

Struktol VP 5233	Active Content: 50 %	<ul> <li>Emulsion of epoxy functional silicone</li> <li>Hydrophobic agent for leather and synthetic leather</li> </ul>
Struksilon 8403	Active Content: 100 %	<ul> <li>Epoxy functional silicone fluid</li> <li>Hydrophobic agent for leather, usually combined with natural/organic oils and hydrophobic emulsifiers</li> </ul>
Struksilon 28	Active Content: 100 %	<ul> <li>Fatty acid ester organo-functional silicone polymer</li> <li>Hydrophobic agent leather, used in wet-treatment, provide softening effect</li> </ul>
Struktol VP 5446	Active Content: 30 %	<ul> <li>Emulsion of an organo functional silicone</li> <li>Strong water repellant with excellent touch modification and permanence</li> </ul>
Struktol VP 5454	Active Content: 85 %	<ul> <li>Self-emulsifying silicone paste</li> </ul>

Always where different product streams come together or different formulations are agitated, foam can occur. Most often these foams are not desired, they can disturb the performance or decrease capacities significantly. To protect systems from building foam or destroy already built foam, antifoams are used. The below products represent our silicone antifoams portfolio.

#### ANTIFOAM DISPERSIONS/EMULSIONS

Struksilon D 52	Active Content: 20 %	<ul> <li>Dilution stable, high efficient, temperature stable</li> <li>Textile and leather application, industrial field</li> </ul>
Struksilon DA	Active Content: 45 %	<ul><li>Concentrated version, easy to dilute</li><li>Textile application</li></ul>
Struksilon D 85	Active Content: 45 %	<ul><li>Concentrated dispersion, easy to dilute</li><li>General applications</li></ul>
Struksilon D 420	Active Content: 30 %	<ul> <li>Cosmetics, e. g. toothpaste, lotions, soap, cleaners</li> </ul>
Struktol VP 5382	Active Content: 20 %	<ul> <li>Highly effective, no contamination in inline-systems, formulated with a low silicone peak, especially for foaming media in complicated machinery</li> </ul>



Active Content: 20 %
Active Content: 15 %

- Gas sweetening process, high efficient, especially for gases with high loads of sulfur
- Gas sweetening process, newest development soluble in hot process water effective in various media
- Very good dispersible antifoam emulsion, extreme low contamination in inline systems, very good allocation, therefor highly effective

## SILICONE COMPOUNDS

Struksilon DZ	
	Active Content: 100 %
Struksilon DE	
	Active Content: 100 %

- Cleaning products, textile and leather and general industrial application
- Viscosity (mPas): 2000
- Viscosity (mPas): 1500, compound for the use in cosmetics

# SLIP ADDITIVES + COATINGS FOR EPDM RUBBER PROFILES AND O-RINGS

The surface of rubber articles such as profiles most often is blunt and non gliding. This makes profiles hard to assemble or to get in place. Slip additives provide the gliding that is needed to handle rubber profiles easily.

The standard slip additives are emulsions out of particular silicone fluids and special detergents. The silicone fluids provide gliding, the detergents care for good wetting. All detergents in Struksilon slip additives cause no stress corrosion. Thus sensitive polycarbonate, macrolon glasses can also be used in assembling.

## **COATINGS FOR EPDM PROFILES**

Struksilon P 128		<ul> <li>Mixture of high + low viscosity particular</li> </ul>			
	Active Content: 35 %	<ul> <li>Silicones, special detergents</li> <li>Concentrate with strong wettability</li> <li>Compatible with PMMA + PC</li> </ul>			
Struksilon P 144		<ul> <li>High viscosity particular silicone, special detergents</li> </ul>			
	Active Content: 35 %	<ul><li>Concentrate</li><li>Compatible with PMMA + PC</li></ul>			
Struksilon P 125		<ul> <li>Mixture of high + low viscosity particular</li> </ul>			
	Active Content: 20 %	<ul> <li>Ready for use</li> <li>Compatible with PMMA + PC</li> </ul>			





There are also sophisticated applications, such as assembling "Bio" or "Active" glass. These glasses have a special self cleaning surface. This surface could be disturbed by migrating silicone fluids, related to standard slip additives. Slip polymers such as Struktol VP 5289 or VP 5379, are the best choice for these applications. Slip polymers build up a long lasting slip coating on the surface of rubber profiles without creation of any disturbance.

#### **PERMANENT PROFILE COATING**

Struktol VP 5289		<ul> <li>Slip polymer</li> </ul>
	Active Content: 100 %	<ul><li>Long lasting coa</li><li>Excellent wettal</li><li>Compatible with</li></ul>

Struktol VP 5379

Active Content: 20 %

ating

- bility
- h PMMA + PC

Slip polymer 

- Long lasting coating on basis of VP 5289
- Water based emulsion
- Compatible with PMMA + PC

## COATINGS FOR O-RINGS, GASKETS AND ROLLERS



O-rings and gaskets are made of rubber formulations or special plastics. These materials most often are blunt and non gliding. Coatings can effectively modify the surface to get desired properties. For example, treated O-rings and gaskets become slick, slippery and can easily be assembled. The coating can also provide a protection against environmental impacts.

Special coatings on rollers for printers or photocopiers can help in printing process to transport papers and pigments cleanly.

These are only some aspects that can be achieved by coating rubber articles.

#### Struktol VP 5204

- Reactive polymer emulsion
- Permanent coating and slip
- Glossy appearance

#### Struktol VP 5307

- Reactive polymer emulsion
- Water based emulsion
- Mat appearance
- Fit-up aid

#### Struksilon K 502

- Silicone modified acrylic copolymer
- Shiny appearance

## Struksilon K 511

- Silicone modified acrylic copolymer
- Shiny appearance

Increased slippery

# Struksilon K 512 Silicone modified acrylic copolymer Mat appearance Fast crosslinking



÷



# EMULSIONS OF POLYDIMETHYLSILOXANES



Silicone fluids and their emulsions are used in a wide range of applications.

The advantage of a silicone fluid emulsions is the exact dosage of the silicone fluid and the dilution stability. An easy adjustment for an recommended concentration can be done, simply by adding water to the emulsion prior to application. All emulsions have excellent wetting and spreading properties.

STRUKSILON	%	VISCOSITY OF SILICONE (mPa.s)	REACTIVE	RELEASE	Release + protect	HSIJO	NON-IRONING	TEXTILE
E 35	35	350		1		1	1	
E 35 R	35	350		1	1			
E 60	60	350		1		1	1	1
E 50	50	1000		1		1		1
90	40	2000		1		1		1
72	35	500.000	1	1				
E 72 R	35	500.000	1	1	1			
E 5280	60	100.000	1	1				
E 376	5	1.500.000	1	1		1	1	

Rock, stone or glass wool are used in several applications. It ranges from insulation to construction with their general and special applications, such as bracing in rubber or plastic articles, plantation and other fields. To provide the wool with particular properties the products below were developed.

#### HYDROPHOBIZING OF ROCK AND GLASS WOOL

Struksilon E 5182						
	<ul><li>Reactive silicone fluid emulsion</li><li>Water repellant and lubricant insulation wool</li></ul>					
Struktol VP 5334						
	<ul><li>Amino alkylsilane solution in water</li><li>Finish an coupling agent for mineral wool</li></ul>					

Construction materials should be water repellent and at the same time vapor permeable. Silanes and siloxanes can provide this performance already at low concentration. These products can be used during the production of building materials or even in post treatment process for already erected structures.

#### HYDROPHOBING AGENTS FOR BUILDINGS AND BUILDING MATERIALS

Struktol VP 5230		<ul> <li>Emulsion of alkylsilane</li> </ul>
	Active Content: 50 %	<ul> <li>Water repellant for natural stone and concrete</li> </ul>
Struktol VP 5393		<ul> <li>Reactive silicone fluid</li> </ul>
	Active Content: 100 %	<ul> <li>Composition for marble coating and natural stone, salt blocking agent</li> </ul>

# SUPER WETTING AGENTS FOR AGROCHEMICALS AND COATINGS



Struksilon super wetting agents are silicone products based on a trisiloxane structure. Their very strong spreading behaviour makes them ideal agents to wet hydrophobic surfaces. Struksilon trisiloxane spread an order of magnitude better than conventional organic or more expensive fluorocarbon surfactants. Often the efficiency of formulations is significantly improved, e. g. the content of actives can be lowered.

Struksilon trisiloxane wetting agents often achieve their full performance at very low concentrations ranging below 0.1 %. Their spreading and wetting behaviour is partly caused by the surfactants ability to dramatically lower the equilibrium surface tension.

#### Struksilon 8381

Spreading agent for agrochemicals, wetting agent in coatings

#### Struksilon 8385

Spreading agent for agrochemicals, especially for applications at higher temperatures

# **REACTIVE SILICONE OLIGOMERS**



Struksilon H-type reactive silicone products are hydrogen functional silicone compounds of different molecular weights, Si-H content and function. Struksilon H 1106, H 1136 and H 1185 can be applied as chain extender in addition curing silicone rubber systems.

Due to the Si-H functionality these products are able to react in a catalysed hydrosilation reaction with compounds bearing carbon-carbon double bonds in 1-position, e. g. vinyl siloxanes, alpha olefins or other unsaturated compounds.

Common hydrosilation reaction catalysts are group VIII metal compounds, especially platinum compounds. In compounding addition curing silicone elastomers chain extenders reduce the crosslink density and thus the hardness of the resulting elastomer. The use of chain extenders allows compounding elastomers with relatively low shore hardness using low viscosity and easy to process vinyl silicone polymers in the formulation.

The Struksilon H 1260 series of products allows manufacturers of room temperature addition curing silicone elastomers to choose from a variety of crosslinkers allowing different crosslink densities.

#### Struksilon H 1106

Terminal Si-H-substituted
 Polysiloxane

#### Struksilon H 1136

 Terminal Si-H-substituted Polysiloxane

#### Struksilon H 1185

Terminal Si-H-substituted
 Polysiloxane

÷

- Chain extender for RTV II addition cure systems 2.6 mmole SiH/g, 5 mm<sup>2</sup>/s
- Chain extender for RTV II addition cure systems 0.7 mmole SiH/g, 30 mm<sup>2</sup>/s
- Chain extender for RTV II addition cure systems 0.30 mmole SiH/g, 90 mm<sup>2</sup>/s

# **REACTIVE SILICONE OLIGOMERS**

Struksilon H 1261		Crosslinker for RTV II addition cure systems 7.0 mmole SiH/g, 6 mm²/s
Struksilon H 1262	•	Crosslinker for RTV II addition cure systems 7.0 mmole SiH/g, 40 mm²/s
Struksilon H 1263	•	Crosslinker for RTV II addition cure systems 0.86 mmole SiH/g, 75 mm²/s
Struksilon H 1264	-	Crosslinker for RTV II addition cure systems 4.3 mmole SiH/g, 50 mm²/s
Struksilon H 1265	•	Crosslinker for RTV II addition cure systems 7.02 mmole SiH/g, 30 mm²/s
Struksilon H 1266	-	Crosslinker for RTV II addition cure systems 2.00 mmole SiH/g, 200 mm²/s
Struksilon H 1301	•	Crosslinker for RTV II addition cure systems 1.4 mmole SiH/g, 30 mm²/s

29

Struksilon organofunctional silanes are used as adhesion promoters or coupling agents between inorganic materials, e. g. minerals, silica, glass, metal and organic polymers. Another important use is the modification of inorganic or organic surfaces. Last but not least Struksilon organofunctional silanes are useful starting materials for chemical synthesis, e. g. of aminosilicone fluids, which are widely used as softening agents in the textile industry.

#### SILANE FORMULATIONS





## SILANE FORMULATIONS

Struksilon S 51         • Methyltriethoxysilane         (CH <sub>3</sub> CH <sub>2</sub> O) <sub>3</sub> Si – CH <sub>3</sub>	<ul><li>Crosslinker</li><li>Chemical synthesis</li></ul>
Struksilon S 55 $\cdot$ n-Octyltriethoxysilane (CH <sub>3</sub> CH <sub>2</sub> O) <sub>3</sub> Si – (CH <sub>2</sub> ) <sub>7</sub> – CH <sub>3</sub>	<ul> <li>Additive for hydrophobing construction and material</li> <li>Strong hydrophobicity</li> </ul>
Struksilon S 90 · 3-Mercaptopropyltrimethoxysilane (H <sub>3</sub> CO) <sub>3</sub> Si – (CH <sub>2</sub> ) <sub>3</sub> – SH	<ul> <li>Coupling agent</li> <li>Crosslinker</li> <li>Chemical synthesis</li> </ul>
Struksilon S 134	<ul> <li>Waterbased solution of an aminosilan oligomer</li> <li>Reactive</li> <li>Adhesion promoter</li> <li>Good performance on metal surfaces</li> </ul>

Nowadays paints and coatings are sophisticated compositions of special ingredients to meet the needs and desires of different applications. There are particular paints for automotive, for construction, navy or other applications. Each field has its unique requirements. Listed below are products specifically designed to provide their inimitable effects in high performance compositions.

#### **DE-AERATION AGENTS**

To bring a coating directly into contact with the surface it's meant for, degassing is inevitable. Air bubbles and other gases that could be source of interruption must be diverted from the formulation to get the best possible connection to the surface.

Struksilon 8310	
• Dosage: 0,5 – 3 %	<ul><li>Polyether modified polydimethylsiloxane</li><li>For solvent based systems</li></ul>
Struksilon D 52	
• Dosage: 1 – 3 %	<ul><li>Silicone emulsion with silica for dispersion paints</li><li>For water based systems</li></ul>
Struktol VP 5382	
· Dosage: 1 – 5 %	<ul> <li>Antifoam dispersion, combination of organic polymers and low amounts of silicones</li> <li>For water based systems</li> </ul>

#### **SURFACE ADDITIVES**

Formation of a homogenous and continuous film requires an appropriate wetting of the surface. To improve the wetting and support the coating process especially constructed silicones are very helpful. With their different parts in polymer structure, they lower the surface tension of the liquid coating and thus professionally assist the wetting as well as levelling out the coating. Struktol surface additives provide excellent wetting properties.

Struksilon 8301	
	<ul><li>Basically used for water based systems</li><li>Top-coatable</li></ul>
Struksilon 8307	
· Cloud point: 20 °C	<ul><li>Enhances flow and levelling</li><li>Increases mar resistance</li></ul>

Struksilon 8302	
• Dosage: 0,05 – 0,4 %	<ul> <li>Mainly for solvent based systems</li> </ul>
Struksilon 8308	
<ul> <li>Cloud point: &lt; 5 °C</li> </ul>	<ul><li>Enhances flow and levelling</li><li>Increases mar resistance</li></ul>
Struksilon 8303	
<ul> <li>Cloud point: 73 °C</li> <li>&lt; 73 °C moderate foamer / &gt; 73 °C antifoam agent</li> </ul>	
Struksilon 8314	
<ul> <li>Cloud point: 34 °C</li> <li>&lt; 34 °C moderate foamer /</li> <li>&gt; 34 °C antifoam agent</li> </ul>	<ul> <li>Water soluble</li> </ul>

#### SILICONE WAXES

Silicone waxes are polymers combining organic as well as inorganic characteristics. Alkyl modified silicones are made by substitution of methyl groups by long chained alkyl groups. Due to this special structure silicone waxes combine the properties of both. Thus silicone waxes are perfectly appropriate for polishes of each kind of surfaces. They provide a shiny/glossy surface and a long lasting surface protection.

Struksilon 8421	
<ul> <li>Melting point: 3 °C</li> <li>Dosage: 1 – 10 %</li> </ul>	<ul><li>High spreading ability</li><li>Colourless</li></ul>
Struksilon 8422	
<ul> <li>Melting point: 39 °C</li> <li>Dosage: 1 – 10 %</li> </ul>	<ul> <li>Soluble in alcohols and common solvents</li> </ul>
Struksilon 8423	
<ul> <li>Melting point: 51 °C</li> <li>Dosage: 1 – 10 %</li> </ul>	<ul> <li>Soluble in alcohols and common solvents</li> </ul>

33

# SCHILL+SEILACHER AT A GLANCE

→ HAMBURG **SPECIALITY CHEMICALS FOR:** 

RUBBER ANTIFOAMS POLYDIS LATEX SILICONES **RELEASE AGENTS** 

→ STOW / OHIO / USA **SPECIALITY CHEMICALS FOR:** 

PLASTICS **WOOD COMPOSITES** RUBBER LEATHER

→ BÖBLINGEN **SPECIALITY CHEMICALS FOR:** 

FIBRES TEXTILES LEATHER PAPER COSMETICS FINE CHEMICALS

→ PIRNA **SPECIALITY CHEMICALS FOR:** 

SILICONES **PU INDUSTRY** PAPER TEXTILES COSMETICS

→ HUDSON / OHIO / USA PRODUCER OF:

NANOFIBRE MATRICES







We at Schill+Seilacher "Struktol" GmbH have met all our REACH registration obligations for 2010 and 2013. We are still active in our consortia and have begun preparations for the 2018 deadline. We also work closely with our suppliers to make sure that all our raw materials are also REACH compliant. For further information, please contact our Regulatory Affairs Department at REACH@struktol.de

#### WWW.STRUKTOL.DE

#### Disclaimer:

The information in this product brochure is based on the present state of our knowledge and experience. Our technical advice and recommendations whether verbal, in writing or by way of trials do not absolve the customer, on account of the many outside influences which may affect the product use and application, from their own testing and trials. A legally binding assurance based on the information contained herein regarding particular properties or the suitability for definite customer applications cannot be assumed. The customer bears the responsibility for the observation of possible patent and trademark rights in addition to relevant laws and regulations relating to the products.

# Schill+Seilacher

#### **Any Questions?**

Our service team will be pleased to answer any questions and to assist you with advice and information at all times. We can also advise you of the contact data of our local offices and agencies. Data sheets and samples of our products are available upon request.

For more information please contact:

#### Schill+Seilacher "Struktol" GmbH

Moorfleeter Strasse 28 22113 Hamburg (Germany) Phone: + 49 40 733 62-0 Fax: + 49 40 733 62-194 E-Mail: info@struktol.de

#### Schill+Seilacher Chemie GmbH

Alt-Neundorf 13 01796 Pirna (Germany) Phone: + 49 3501 78 83-87 Fax: + 49 3501 78 83-88 E-Mail: struksilon@struktol.de

Visit also our site: www.struktol.de

