

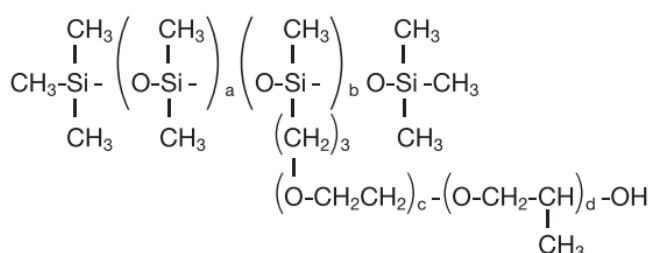
## KORASILON® Additive PS

### Short Description

**KORASILON® Additive PS** are so-called polyether siloxanes. They belong to the large group of modified siloxanes and combine properties typical of silicone (e. g. low surface tension and excellent release and sliding behavior) with properties which are not typical of silicone (e. g. water solubility and system compatibility).

### Product Properties

The general chemical structure of **KORASILON® Additive PS** is shown below; there is also a distinction between two basic types:



#### Multi structure:

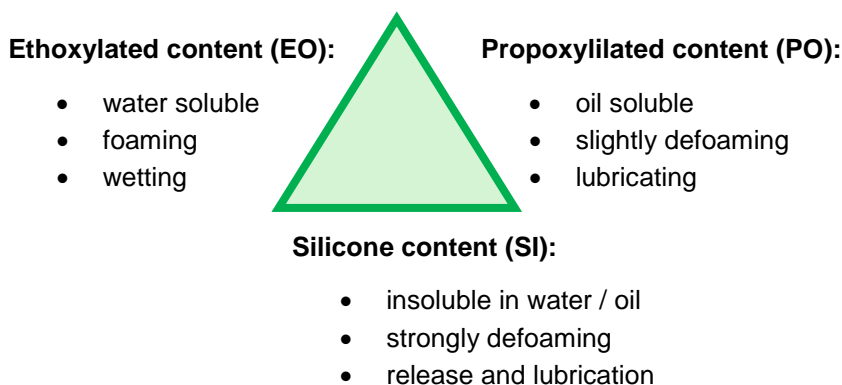
Parameters a; b; c; d are variable

#### Trisiloxane (special case of multi structure):

Parameters a = 0; b = 1; c; d are variable

The parameters a; b; c; d can be varied depending on the product and the desired properties. Of course, the ethoxylated (EO) or propoxylated (PO) side chains are of particular importance. In addition, the end group of the polyether side chain (shown above as a hydroxyl group) can be modified, so at this point in the molecule e. g. a methoxy group is also possible.

The **KORASILON® Additive PS** can also be viewed as a compromise between three different molecules or structures:



These almost infinite possibilities of modification result in numerous possible applications in a wide variety of branches and industries. The **KORASILON® Additive PS** are therefore real "all-rounders and problem solvers" for a wide variety of applications.

## KORASILON® Additive PS

### Product data

Please note that the following product data are only informative values and are not suitable for binding specifications.

### General information:

KORASILON® Additiv	CAS-Nummer	Basic structure	Modification	End group
PS 1	27306-78-1	Trisiloxan	EO	Methoxy
PS 2	67674-67-3	Trisiloxan	EO	Hydroxy
PS 3	68937-54-2	Multi	EO	Hydroxy
PS 4	68937-54-2	Multi	EO	Hydroxy
PS 5	68937-54-2	Multi	EO	Hydroxy
PS 6	68937-55-3	Multi	EO + PO	Hydroxy
PS 7	68937-55-3	Multi	EO + PO	Hydroxy
PS 8	n.a. (mixture)	Multi	EO + PO	Hydroxy

\* Further products with individual tailored structures could be requested if required.

### Chemical-physical properties:

KORASILON® Additiv	Appearance	Viscosity at 25°C	Cloud point 1% in water	Surface tension 0,1% in water
PS 1	beige, clear liquid	25 mPas	< 25 °C	20,8 mN/m
PS 2	beige, clear liquid	40 mPas	< 25 °C	21,1 mN/m
PS 3	beige, clear liquid	250 mPas	= 60 °C	28,0 mN/m
PS 4	yellow, clear liquid	200 mPas	< 25 °C	36,2 mN/m
PS 5	beige, clear liquid	100 mPas	= 50 °C	21,8 mN/m
PS 6	beige, clear liquid	400 mPas	< 25 °C	30,6 mN/m
PS 7	yellow, clear liquid	2.000 mPas	= 40 °C	32,9 mN/m
PS 8	yellow, clear liquid	600 mPas	= 40 °C	---

## KORASILON® Additive PS

### Application-information (I):

KORASILON® Additiv	Aktivgehalt	Anwendungs- konzentrationen	Foaming behaviour 1% in water (without additives)	Foaming behaviour 1% in surfactant- solution (anionic)
PS 1	100 %	0,01 – 0,1 %	+	+
PS 2	100 %	0,01 – 0,1 %	+	+
PS 3	100 %	1,0 - 5,0 %	+	0
PS 4	100 %	0,05 – 2,0 %	0	-
PS 5	100 %	1,0 - 5,0 %	+	0
PS 6	100 %	0,1 - 1,0 %	0	-
PS 7	100 %	0,5 - 2,0 %	+	0
PS 8	55 % in Glykol	1,0 – 4,0 %	+	0

\* Evaluation of foam behaviour: 0 = no or little effect // + foam-reinforcing // - foam-reducing

### Application-information (II):

KORASILON® Additiv	Solubility 1% in water	Solubility 1% in n-Heptane	Solubility 1% in iso-Propanol	Correspondence BfR XV
PS 1	dispersible	dispersible	soluble	no
PS 2	dispersible	dispersible	soluble	no
PS 3	soluble	dispersible	soluble	yes
PS 4	dispersible	dispersible	soluble	yes
PS 5	soluble	dispersible	soluble	yes
PS 6	dispersible	dispersible	soluble	yes
PS 7	soluble	dispersible	soluble	yes
PS 8	soluble	dispersible	soluble	no

\* Further information regarding the regulatory and food law status of the products is available on request.

## KORASILON® Additive PS

### Product applications and special features

#### **KORASILON® Additiv PS 1:**

- Particularly powerful and effective super spreader for highest requirements
- Improves the wetting of aqueous and non-aqueous formulations on almost all substrates
- Textile application → Wetting of fibers by treatment agents and deeper penetration into the fiber
- Application of crop protection → Wetting of leaves with herbicides and thus reduced consumption
- Use of release agents → Formation of even and thin release films
- Application of paints / varnishes → Levelling for uniform coatings without surface defects

#### **KORASILON® Additiv PS 2:**

- Powerful super spreader with a good price / performance ratio for high requirements
- Improves the wetting of aqueous and non-aqueous formulations on almost all substrates
- Textile application → Wetting of fibers by treatment agents and deeper penetration into the fiber
- Application of crop protection → Wetting of leaves with herbicides and thus reduced consumption
- Use of release agents → Formation of even and thin release films
- Application of paints / varnishes → Levelling for uniform coatings without surface defects

#### **KORASILON® Additiv PS 3:**

- Particularly good water solubility and improved hydrolysis resistance compared to PS 1 and PS 2
- Improves the wetting, especially of aqueous formulations
- Textile application → Wetting of fibers by treatment agents and deeper penetration into the fiber
- Application emulsions → Emulsifier for (silicone) oil in water emulsions
- Application paper → Levelling additive for functional and decorative paper coatings
- Application of paints / varnishes → Levelling for uniform water-based coatings without surface defects

#### **KORASILON® Additiv PS 4:**

- Suitable for use in both solvent-based and aqueous formulations (self-emulsifying)
- Application leather → Reinforcement of soft handle and lubrication as well as wetting
- Textile application → Wetting of fibers by treatment agents and deeper penetration into the fiber
- Application of emulsions → Emulsifier for (silicone) oil in water emulsions (also as secondary emulsifier)
- Automotive application → Enhancement of the gloss and lubricating properties of the formulations
- Application of paints / varnishes → Resistance to abrasion and dirt as well as improved levelling

#### **KORASILON® Additiv PS 5:**

- Universally applicable to improve wetting in numerous applications and formulations
- Photo application → Levelling additive for functional and decorative film coatings
- Application emulsions (I) → Emulsifier for the production of stable oil in water emulsions
- Application emulsions (II) → Particularly suitable for emulsifying silicone oils in water
- Application emulsions (III) → Uniform, strong wetting of surfaces with the emulsion
- Application of paints / varnishes → Levelling for uniform water-based coatings without surface defects

## KORASILON® Additive PS

### KORASILON® Additiv PS 6:

- Suitable for use in both solvent-based and aqueous formulations
- Textile application → Wetting of fibers by treatment agents and improved penetration into the fiber
- Application of defoamers → Improvement of the knockdown effect, ventilation and product stability
- Automotive application → Improvement of the gloss and lubricating properties of the formulations
- Application of paints / varnishes (I) → Levelling for uniform coatings without surface defects
- Application of paints / varnishes (II) → Resistance to abrasion and soiling, slight defoaming

### KORASILON® Additiv PS 7:

- Particularly suitable for use in aqueous and alcoholic formulations
- Textile application → Wetting of fibers by treatment agents and increased lubrication
- Use of paper → Improvement of the defoaming effect of brown plastic defoamers
- Automotive application → Enhancement of gloss and improvement of compatibility with aqueous systems
- Use of release agents → Formation of even and thin release films
- Application of surface treatment → Improved distribution of the treatment agent on the surface

### KORASILON® Additiv PS 8:

- Particularly suitable for use in aqueous and alcoholic formulations
- Reduced active content for particularly easy incorporation and rapid distribution in the system
- Good price / performance ratio for relatively simple applications
- Automotive application → Enhancement of the gloss and lubricating properties of the formulations
- Use of release agents → Formation of even and thin release films
- Application of surface treatment → Improved distribution of the treatment agent on the surface

### Storage

**KORASILON® Additive PS** have a shelf life of **36** months after date of manufacturing when correctly stored in its original unopened container at storage temperatures between **+10 °C** and **+40 °C**.

Storage beyond to the period indicated on the product label does not automatically mean that the product is unusable. However, an inspection of the property values necessary for the intended use is essential due to quality assurance reasons.

**Further information on product safety and handling is given in the Material Safety Data Sheet.**

This information and our technical advice – whether verbal, in writing or by way of trials – are given in good faith but without warranty, and this also applies where proprietary rights of third parties are involved. Our advice does not release you from the obligation to check its validity and to test our products as to their suitability for the intended processes and uses. The application, use and processing of our products and the products manufactured by you on the basis of our technical advice are beyond our control and, therefore, entirely your own responsibility. Our products are sold in accordance with our General Conditions of Sale and Delivery; this is not valid for our trial products

\*Informative properties not intended to be used as product specification

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