

ALKYLPHENOL ETHOXYLATES ALTERNATIVES



sasol

CEREWIN Series

Sasol Performance Chemicals offers three lines of biodegradable surfactant alternatives for Alkylphenol Ethoxylates (APEO). The CEREWIN T Ethoxylate line is based on 100 % branched C13 alcohol. CEREWIN S Ethoxylate products base on C12/13 alcohol, which are approximately 50 %, branched. The CEREWIN TXO Ethoxylate line uses a C11-13 semi-branched alcohol as base. All three lines are available with different grades of ethoxylation representing an ideal toolbox for finding the appropriate substitutes for APEO´s considering relevant parameters like wetting, emulsifying and foaming properties. Our surfactants are:

- Readily biodegradable and comply with the biodegradation criteria of the European Detergents Directive
- Provide excellent wetting properties
- Have similar HLB values and similar properties as APEOs
- Contain a minimal residual content of glycol and 1,4 dioxane
- EPA-listed as inert (food and non-food)
- Most compounds are liquid at room temperature

Ecological Properties

Examples of the types of biodegradation and environmental information available from Sasol Performance Chemicals are given below. Information for specific ethoxylates will be provided upon request.

Example of each line: CEREWIN T 60 CEREWIN TXO 60 CEREWIN S 6/50

Biodegradation

28 days, Degradation	> 60 %	> 60 %	> 60 %
Biodegradation status	Readily biodegradable ⁽¹⁾	Readily biodegradable ⁽¹⁾	Readily biodegradable ⁽¹⁾

Toxicological Data

LC 50, 96 hours, fish, mg/l	> 1 - 10 mg/l	> 1 - 10 mg/l	> 1 - 10 mg/l
EC 50, 72 hours, algae, mg/l	> 1 - 10 mg/l	> 1 - 10 mg/l	> 1 - 10 mg/l
EC 50, 48 hours, daphnia, mg/l	> 1 - 10 mg/l	> 1 - 10 mg/l	> 1 - 10 mg/l
LD 50, oral rat, mg/kg	> 5000 mg/kg	> 2000 mg/kg	> 2000 mg/kg

¹ 301B, Modified Sturm Test

Physical Properties

All of Sasol Performance Chemicals CEREWIN T, CEREWIN S and CEREWIN TXO Ethoxylate lines have a water content of <1 wt. %, a flash point of >100 °C, a free EO content of ≤ 1 ppm, and a pH value (1 % in water) of 6 - 8. Other physical properties are listed in the table below.

	Typical Data							
	Active content [%]	Appearance at 20 °C	Cloudpoint [°C]	Moles of EO	HLB	Solidification point [°C]	CAS no.	EPA-listed as inert
CEREWIN S 20	100	clear liquid	49 ⁽²⁾	2	6.2	ca. -12	160901-19-9	yes
Nonylphenol + 3EO	100	clear liquid	42 - 46 ⁽²⁾	3	7.3	< -20	127087-87-0	yes
CEREWIN S 30	100	clear to cloudy liquid	58 - 60 ⁽²⁾	3	8	ca. -7	160901-19-9	yes
CEREWIN T 30	100	clear to cloudy liquid	ca. 50 ⁽²⁾	3	8	< -20	69011-36-5	yes
Nonylphenol + 4EO	100	clear liquid	54 - 56 ⁽²⁾	4	8.9	< -20	127087-87-0	yes
CEREWIN T 40	100	clear to cloudy liquid	ca. 60 ⁽²⁾	4	9.4	< -10	69011-36-5	yes
CEREWIN S 50	100	clear to cloudy liquid	70 - 72 ⁽²⁾	5	10.5	ca. +3	160901-19-9	yes
CEREWIN T 50	100	clear to cloudy liquid	ca. 66 ⁽²⁾	5	10.5	ca. -5	69011-36-5	yes
Nonylphenol + 6EO	100	clear liquid	69 ⁽²⁾	6	10.7	< -20	127087-87-0	yes
CEREWIN TXO 5/50	100	cloudy liquid	63 - 65 ⁽²⁾	5.5	11.3	+10 ⁽³⁾	68439-54-3	yes
CEREWIN T 60	100	clear to cloudy liquid	ca. 71 ⁽²⁾	6	11.4	ca. +3	69011-36-5	yes
CEREWIN TXO 60	100	cloudy liquid	68 - 69 ⁽²⁾	6	11.7	+13 ⁽³⁾	68439-54-3	yes
CEREWIN S 6/50	100	clear to cloudy liquid	44 - 46 ⁽¹⁾	6.5	12	ca. +10	106901-19-9	yes
CEREWIN T 70	100	clear to cloudy liquid	ca. 74 ⁽²⁾	7	12.1	ca. +7	69011-36-5	yes
CEREWIN S 70	100	clear to cloudy liquid	54 - 56 ⁽¹⁾	7	12.2	ca. +11	160901-19-9	yes
Nonylphenol + 9EO	100	clear liquid	52 ⁽¹⁾	9	12.7	-5	127087-87-0	yes
CEREWIN T 80	100	turbid liquid	ca. 77 ⁽²⁾	8	12.8	ca. +11	69011-36-5	yes
CEREWIN S 90	100	turbid liquid, viscous	79 - 82 ⁽¹⁾	9	13	ca. +20	160901-19-9	yes
CEREWIN T 90	100	pasty liquid	ca. 57 ⁽¹⁾	9	13.3	ca. +13	69011-36-5	yes
Nonylphenol + 10EO	100	clear liquid	52 - 58 ⁽¹⁾	10	13.3	5	127087-87-0	yes
CEREWIN S 120	100	solid	81 ⁽¹⁾	12	13.5	ca. +23	160901-19-9	yes
CEREWIN TXO 90	100	cloudy liquid	54 - 56 ⁽¹⁾	9	13.6	+22 ⁽³⁾	68439-54-3	yes
CEREWIN T 100	100	pasty	ca. 75 ⁽¹⁾	10	13.7	ca. +17	69011-36-5	yes
Nonylphenol + 12EO	100	clear liquid	81 ⁽²⁾	12	14	+12	127087-87-0	yes
CEREWIN TXO 100	100	cloudy liquid	64 - 66 ⁽¹⁾	10	14.1	+25 ⁽³⁾	68439-54-3	yes
CEREWIN T 120	100	pasty	ca. 86 ⁽¹⁾	12	14.5	ca. +20	69011-36-5	yes

¹ 1 % deionized water ² 10 % in butyldiglycol solution ³ pour point

CONTACT INFORMATION

Sasol Performance Chemicals GmbH
Organics Division
 Anckelmannsplatz 1
 20537 Hamburg, Germany

 info@de.sasol.com
 Tel.: +49 40 636 84-1000
 Fax: +49 40 636 84-3700

For technical requests and samples, please contact:
 agrotech@eu.sasol.com

For sales and pricing information, please contact:
 agrosales@eu.sasol.com

Source reference: p. 1: iStock/portishead1

This information is based on our present knowledge and experience. However, it implies no liability or other legal responsibility on our part, including any existing third-party patent rights. In particular, no guarantee of properties in the legal sense is implied. We reserve the right to make any changes according to technological progress or further developments. The customer is not exempted from the obligation to conduct careful inspection and testing of incoming goods. Reference to trade names used by other companies is neither a recommendation, nor is it intended to suggest that similar products could not be used. All our business transactions shall be governed exclusively by our General Sales Conditions.