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SAFOL23 E9 90

Technical Data Sheet No. 5129 – September 2024

Product Description

SAFOL 23E E9 90 is a fatty alcohol polyethyleneglycol ether, based on SAFOL 23 and ethylene oxide (about 9 moles) and diluted with 10 weight% water. It is manufactured in Terranova dei Passerini (LO) plant. The chemical structure is the following:

$$R - CH_2 - O - (CH_2 - CH - O)_9 - H$$
$$R = C_{11}H_{23} \text{ or } C_{12}H_{25} \text{ (mixture of linear and branched)}$$

CAS registry no.	160901-19-9
EINECS no.	931-954-4
INCI	C12-13 PARETH-9, C12-13 ALKETH-9

Sales Specification

	Property	Test Method	Unit	Guaranteed Value[1]
√	Appearance at 20°C	ASTM E284	-	Clear liquid
√	Colour	EN 1557	APHA	≤ 50
√	Cloud point (1% in water) (+)	EN 1890	°C	79 – 82
√	pH (5%) (+)	EN 1262	-	5,0 – 7,0
√	Free Water (Karl Fischer)	EN 13267	% mass	9,0 – 11,0

√ value reported on inspection certificate.
[1] specification No. 1244 rev. 1 of October 1st 2024.
(+) values referred to the product not diluted

Additional Properties

Property	Test Method	Unit	Typical Value
Ethylene Oxide content (+)	Calculated	%w/w	67
HLB (+)	Calculated	-	13,4
Hydroxyl number (+)	EN 13926	mg KOH / g	96
Molecular weight (+)	Calculated	g/mol	584
Polyethylene glycols (+)	EN 12582	% mass	≤ 2,0
Pour point	ASTM D 97	°C	10
Viscosity at 25°C	ASTM D7042	cSt	110
Viscosity at 40°C	ASTM D7042	cSt	49
Density at 25°C	ASTM D7042	kg/m^3	1.017
Flash point	ASTM D 93	°C	Not applicable as aqueous solution

Further information

Heavy metal

Arsenic (As) less than 1 mg/kg	Cadmium (Cd) less than 1 mg/kg
Cobalt (Co) less than 1 mg/kg	Chromium (Cr) less than 1 mg/kg
Copper (Cu) less than 1 mg/kg	Iron (Fe) less than 2 mg/kg
Manganese (Mn) less than 1 mg/kg	Nickel (Ni) less than 1 mg/kg
Lead (Pb) less than 1 mg/kg	Tin (Sn) less than 1 mg/kg
Strontium (Sr) less than 1 mg/kg	Zinc (Zn) less than 1mg/kg

Heavy metal content is periodically checked (ICP method); data given here have to be considered as typical.

Preservative

SAFOL 23E E9 90 does not contain any preservative. SAFOL 23E E9 90 is not susceptible to microbial growth because of low water content.

Property	Test Method	Unit	Typical Value
Total Aerobic Microbial Count	Eu.Ph. 5.1.4	CFU/g	< 100
Total Yeasts/Moulds Count	Eu.Ph. 5.1.4	CFU/g	< 10

Microbiological control test is periodically done; data given here have to be considered as typical.

Antioxidants

SAFOL 23E E9 90 does not contain any antioxidant.

Pesticides

SAFOL 23E E9 90 does not contain any pesticide.

Product origin

SAFOL 23E E9 90 is manufactured from following raw materials:
- Alcohols C_{12} – C_{13} linear and branched with synthetic origin
- Ethylene oxide with synthetic origin

Main Applications

SAFOL 23E E9 90 can be used as detergent product in the wool scouring process, as degreasing in leather treatment, as emulsifier in agrochemicals and agriculture applications.
In the detergency field SAFOL 23E E9 90 is used in HDL formulations due to its high emulsification property at medium-low temperature.

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Handling and Storage

SAFOL 23E E9 90 should preferably be stored in stainless steel tanks.
It is suggested to keep the product at temperature below 40°C, it is preferable to avoid heating above 60°C and to store under nitrogen in order to minimise yellowish phenomena.
SAFOL 23E E9 90 is a clear liquid at room temperature becomes a solid wax at temperature lower than 10°C.
At room temperature SAFOL 23E E9 90 is water soluble up to 25 weight%.
Shelf-life is 36 months from production date for product in its original and sealed packaging.

Packaging

SAFOL 23E E9 90 is generally supplied in plastic drums, details on available packaging can be obtained from sales department.

Data regarding safety, transport classes, toxicology and biodegradability of the product can be obtained from the corresponding material safety data sheet.

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