

MARLIPAL 24/20

Version: 10.02

Revision Date 23.04.2018

SECTION 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING**1.1 Product identifier**

Trade name	MARLIPAL 24/20
INCI	Laureth-2
REACH No.	01-2119487984-16-0000
Substance name (REACH / CLP)	Alcohols, C12-14(even numbered), ethoxylated

1.2 Relevant identified uses of the substance or mixture and uses advised against

Use	Industrial use raw material for cosmetic agents raw material for washing and cleaning agents emulsifying agent surface-active substance
Uses advised against	

1.3 Details of the supplier of the safety data sheet

Company	SASOL Germany GmbH Anckelmannsplatz 1 20537 Hamburg
	Telephone: +49 40 63684-1000 Telefax: +49 40 63684-3700
Information (Product safety):	Telephone: + 49 (0) 23 65 - 49 47 05 Telefax: + 49 (0) 23 65 - 49 92 40
E-mail address	msds-info.germany@de.sasol.com

1.4 Emergency telephone number

Emergency telephone number	+ 49 (0) 23 65 - 49 22 32
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SECTION 2: HAZARDS IDENTIFICATION**2.1 Classification of the substance or mixture****Classification (REGULATION (EC) No 1272/2008)**

Acute aquatic toxicity Category 1	Very toxic to aquatic life.
Chronic aquatic toxicity Category 3	Harmful to aquatic life with long lasting effects.

2.2 Label elements**Labelling (REGULATION (EC) No 1272/2008)****Hazard pictograms**

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Signal word	Warning
Hazard statements H410	Very toxic to aquatic life with long lasting effects.
Precautionary statements P273 P391 P501	Avoid release to the environment. Collect spillage. Dispose of contents/ container to an approved waste disposal plant.

2.3 Other hazards

Danger of slipping after spill or leakage.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

This product is a substance in the meaning of regulation (EC) 1907/2006.

COMPONENTS TO BE NAMED IN ACCORDANCE WITH REGULATION (EC) 1907/2006 AS WELL AS OTHER HAZARDOUS INGREDIENTS AND CONTAINED SUBSTANCES WITH WORK PLACE LIMIT VALUES**Alcohols, C12-14, ethoxylated (< 2.5 EO)**

content: >= 90 - <= 100 %	component type: Active ingredient
EC-No.: 500-213-3	Index-No.:
REACH No.: 01-2119487984-16-xxxx	CAS-No.: 68439-50-9
Substance name (REACH / CLP): Alcohols, C12-14 (even numbered), ethoxylated (< 2.5 EO)	
Classification (Regulation (EC) No 1272/2008):	Aquatic Acute 1 H400 Aquatic Chronic 3 H412

For the full text of the H-Statements mentioned in this Section, see Section 16.

Other data Synonyms: Alcohols, C10-16, ethoxylated; CAS-No.: 68002-97-1**SECTION 4: FIRST AID MEASURES****4.1 Description of first aid measures**

General advice	If you feel unwell, seek medical advice (show the label where possible). Take off all contaminated clothing immediately.
If inhaled	Remove from exposure, lie down. If breathing is irregular or stopped, administer artificial respiration. Monitor breathing, give oxygen if necessary. Consult a physician.
In case of skin contact	Wash off immediately with plenty of water. Consult a physician if necessary.
In case of eye contact	Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.
If swallowed	Consult a physician. Do not induce vomiting without medical advice. Never give

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anything by mouth to an unconscious person.

4.2 Most important symptoms and effects, both acute and delayed**Most important symptoms and effects, both acute and delayed**

Symptoms: No information available.

Risks: No information available.

4.3 Indication of any immediate medical attention and special treatment needed**Indication of any immediate medical attention and special treatment needed**

Treatment: No information available.

SECTION 5: FIREFIGHTING MEASURES**5.1 Extinguishing media****Suitable extinguishing media**Water spray, Dry powder, Foam, Carbon dioxide (CO₂)**5.2 Special hazards arising from the substance or mixture****Specific hazards during firefighting**

Dangerous gases or fumes may occur in case of fire.

5.3 Advice for firefighters**Special protective equipment for firefighters**

Wear self-contained breathing apparatus for firefighting if necessary.

Further information

Standard procedure for chemical fires.

SECTION 6: ACCIDENTAL RELEASE MEASURES**6.1 Personal precautions, protective equipment and emergency procedures****Personal precautions**

Use personal protective equipment.

6.2 Environmental precautions**Environmental precautions**Avoid subsoil penetration.
Do not flush into surface water or sanitary sewer system.**6.3 Methods and materials for containment and cleaning up****Methods for cleaning up**

Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust). The material taken up must be disposed of in accordance with regulations.

6.4 Reference to other sections

For personal protection see section 8.

SECTION 7: HANDLING AND STORAGE**7.1 Precautions for safe handling**

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Advice on safe handling	Wear personal protective equipment. Avoid contact with skin and eyes.
Advice on protection against fire and explosion	Normal measures for preventive fire protection. Do not spray on a naked flame or any incandescent material.
Fire-fighting class	B: Fires involving liquids or liquid containing substances. Also includes substances which become liquid at elevated temperatures.

7.2 Conditions for safe storage, including any incompatibilities

Requirements for storage areas and containers	Keep tightly closed in a dry and cool place.
Storage class (TRGS 510)	10-13: German Storage Class 10 to 13
Other data	Stable at normal ambient temperature and pressure.

7.3 Specific end use(s)

Specific use(s)	This information is not available.
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SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION**8.1 Control parameters****COMPONENTS WITH WORKPLACE CONTROL PARAMETERS****National occupational exposure limits**

No data available

EUROPEAN OCCUPATIONAL EXPOSURE LIMITS

No data available

DERIVED NO EFFECT LEVEL (DNEL)

Substance name: Alcohols, C12-14 (even numbered), ethoxylated (< 2.5 EO)			
End Use	Exposure routes	Value	Note
Workers	dermal, Acute/short-term exposure - systemic effects		Not relevant / not applicable
	Inhalation, Acute/short-term exposure - systemic effects		Not relevant / not applicable
	dermal, Acute/short-term exposure - local effects		Not relevant / not applicable
	Inhalation, Acute/short-term exposure - local effects		Not relevant / not applicable
	dermal, long-term exposure - systemic effects	2080 mg/kg	based on body weight and day
	Inhalation, long-term exposure - systemic effects	294 mg/m3	
	dermal, long-term exposure - local effects		Not relevant / not applicable
	Inhalation, long-term exposure - local effects		Not relevant / not applicable
Consumers	dermal, Acute/short-term exposure - systemic effects		Not relevant / not applicable
	Inhalation, Acute/short-term exposure -		Not relevant / not applicable

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	systemic effects		
	Oral, Acute/short-term exposure - systemic effects		Not relevant / not applicable
	dermal, Acute/short-term exposure - local effects		Not relevant / not applicable
	Inhalation, Acute/short-term exposure - local effects		Not relevant / not applicable
	dermal, long-term exposure - systemic effects	1250 mg/kg	based on body weight and day
	Inhalation, long-term exposure - systemic effects	87 mg/m3	
	Oral, long-term exposure - systemic effects	25 mg/kg	based on body weight and day
	dermal, long-term exposure - local effects		Not relevant / not applicable
	Inhalation, long-term exposure - local effects		Not relevant / not applicable

PREDICTED NO EFFECT CONCENTRATION (PNEC)

Substance name: Alcohols, C12-14 (even numbered), ethoxylated (< 2.5 EO)		
Environmental Compartment	Value	Note
Fresh water	0,074 mg/l	
Marine water	0,007 mg/l	
intermittent release	0,004 mg/l	
treatment plant	10 g/l	
Fresh water sediment	66,67 mg/kg	based on dry weight
Marine sediment	6,66 mg/kg	based on dry weight
Soil	1 mg/kg	based on dry weight
food		Not relevant / not applicable

8.2 Exposure controls**PERSONAL PROTECTIVE EQUIPMENT****Respiratory protection**

No personal respiratory protective equipment normally required. In inadequately ventilated areas, where workplace limits are exceeded, where unpleasant odours exist or where aerosols are in use, or smoke and mist occur, use self-contained breathing apparatus or breathing apparatus with a type A filter or appropriate combined filter (e.g. where aerosols are in use, or smoke and mist occur, A-P2 or ABEK-P2), in compliance with EN 141.

Hand protection

The choice of an appropriate glove does not only depend on its material but also on other quality features and is different from one producer to the other. Please observe the instructions regarding permeability and breakthrough time which are provided by the supplier of the gloves. Also take into consideration the specific local conditions under which the product is used, such as the danger of cuts, abrasion, and the contact time. Be aware that in daily use the durability of a chemical resistant protective glove can be notably shorter than the break through time measured according to EN 374, due to the numerous outside influences (e.g. temperature).

gloves suitable for permanent contact:
Material: butyl-rubber

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Break through time: ≥ 480 min
Layer thickness: $\geq 0,7$ mm

gloves suitable for splash protection:

Material: Nitrile rubber/nitrile latex
Break through time: ≥ 30 min
Layer thickness: $\geq 0,4$ mm

Eye protection	Tightly fitting safety goggles, Safety glasses with side-shields
Skin and body protection	Wear suitable protective equipment.
Hygiene measures	Avoid contact with the skin and the eyes. Handle in accordance with good industrial hygiene and safety practice. Keep away from food, drink and animal feedingstuffs. When using do not eat, drink or smoke.
Protective measures	Avoid contact with the skin and the eyes. Wear suitable gloves and eye/face protection.

ENVIRONMENTAL EXPOSURE CONTROLS

General advice	Avoid subsoil penetration. Do not flush into surface water or sanitary sewer system.
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SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES**9.1 Information on basic physical and chemical properties**

Physical state	liquid; 20 °C; 1.013 hPa
Form	liquid
Colour	colourless
Odour	mild
Odour Threshold	No valid method available
pH	7; 50 g/l; 20 °C; DIN EN 1262
Melting point/range	8 - 15 °C; ASTM D 97-09
Initial boiling point and boiling range	ca. 290 °C
Flash point	137 °C; EN 22719
Evaporation rate	No data available
Flammability (solid, gas)	not applicable (liquid)
Lower explosion limit	No data available
Upper explosion limit	No data available
Vapour pressure	0,01 hPa; 38 °C; ASTM D 2879-86
Relative vapour density	> 1
Density	0,8732 g/cm ³ ; 20 °C; DIN 51757
Water solubility	< 50 mg/l; ; ASTM E 1148

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Partition coefficient: n-octanol/water	log Pow: > 6; OECD Test Guideline 117
Ignition temperature	251 °C; ASTM E 659
Auto-ignition temperature	not auto-flammable
Viscosity, kinematic	25 mm ² /s; 20 °C
Explosive properties	not expected based on structure and functional groups
Oxidizing properties	not expected based on structure and functional groups

9.2 Other data

Additional advice	no data
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SECTION 10: STABILITY AND REACTIVITY

10.1 Reactivity

Note	Stable at normal ambient temperature and pressure.
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10.2 Chemical stability

Note	No decomposition if stored and applied as directed.
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10.3 Possibility of hazardous reactions

Hazardous reactions	None known.
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10.4 Conditions to avoid

Conditions to avoid	Direct heating, dirt, chemical contamination, sunlight, UV or ionising radiation.
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10.5 Incompatible materials to avoid

Materials to avoid	Strong acids and oxidizing agents;
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10.6 Hazardous decomposition products

Hazardous decomposition products	No decomposition if stored and applied as directed.
Thermal decomposition	Hazardous decomposition products formed under fire conditions.

SECTION 11: TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects**Acute toxicity**

Acute oral toxicity	Alcohols, C12-14, ethoxylated (< 2.5 EO): LD50 Rat: > 2,000 mg/kg; OECD Test Guideline 401 (literature value) Based on available data, the classification criteria are not met.
Acute inhalation toxicity	Alcohols, C12-14, ethoxylated (< 2.5 EO): LC50 Rat: > 1,6 mg/l; 4 h; OECD Test Guideline 403 Symptoms: Lachrymation, Nasal discharge, reduced body weight gain maximal attainable concentration

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Acute dermal toxicity		Category approach Based on available data, the classification criteria are not met.
Skin corrosion/irritation		
Skin irritation		Alcohols, C12-14, ethoxylated (< 2.5 EO): LD50 Rabbit: > 2.000 mg/kg; OECD Test Guideline 402 (literature value) Category approach Based on available data, the classification criteria are not met.
Serious eye damage/eye irritation		
Eye irritation		Alcohols, C12-14, ethoxylated (< 2.5 EO): Rabbit: No eye irritation; OECD Test Guideline 405 (literature value) Based on available data, the classification criteria are not met.
Respiratory or skin sensitisation		
Sensitisation		Alcohols, C12-14, ethoxylated (< 2.5 EO): Maximisation Test Guinea pig: not sensitizing; OECD Test Guideline 406 (literature value) Based on available data, the classification criteria are not met.
Germ cell mutagenicity		
Genotoxicity in vitro		Alcohols, C12-14, ethoxylated (< 2.5 EO): In vitro tests did not show mutagenic effects (literature value) Category approach
Genotoxicity in vivo		Alcohols, C12-14, ethoxylated (< 2.5 EO): In vivo tests did not show mutagenic effects (literature value) Category approach
Remarks		Alcohols, C12-14, ethoxylated (< 2.5 EO): Based on available data, the classification criteria are not met.
Carcinogenicity		
Carcinogenicity		Alcohols, C12-14, ethoxylated (< 2.5 EO): The substance has been shown to be not genotoxic, therefore it is not expected to have a carcinogenic potential.
Reproductive toxicity		
Reproductive toxicity		Alcohols, C12-14, ethoxylated (< 2.5 EO): Two-generation reproductive toxicity: Rat; Dermal; OECD Test Guideline 416 No toxicity to reproduction (literature value) Category approach
Remarks-Reproductive toxicity		Alcohols, C12-14, ethoxylated (< 2.5 EO): Based on available data, the classification criteria are not met.
Teratogenicity		Alcohols, C12-14, ethoxylated (< 2.5 EO): Rat; Dermal; OECD Test Guideline 416 Did not show teratogenic effects in animal experiments. (literature value) Category approach
Remarks-Teratogenicity		Alcohols, C12-14, ethoxylated (< 2.5 EO):

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Based on available data, the classification criteria are not met.

STOT - single exposure**Remarks**

Alcohols, C12-14, ethoxylated (< 2.5 EO):
The substance or mixture is not classified as specific target organ toxicant, single exposure.

STOT - repeated exposure**Remarks**

Alcohols, C12-14, ethoxylated (< 2.5 EO):
The substance or mixture is not classified as specific target organ toxicant, repeated exposure.

Repeated dose toxicity

Alcohols, C12-14, ethoxylated (< 2.5 EO):
Rat; Oral; 90-day
NOAEL: 500 mg/kg (based on body weight and day); OECD Test Guideline 408 (literature value)
Category approach

Aspiration hazard**Aspiration toxicity**

Alcohols, C12-14, ethoxylated (< 2.5 EO):
Not applicable

Toxicological information

Alcohols, C12-14, ethoxylated (< 2.5 EO):
Toxicokinetics
The substance is predicted to be bioavailable via the oral route.
The substance is poorly absorbed via skin.
The substance is metabolised and excreted.
(literature value)
Category approach

SECTION 12: ECOLOGICAL INFORMATION**12.1 Toxicity****Toxicity to fish**

Alcohols, C12-14, ethoxylated (< 2.5 EO):
LC50 (96 h) Danio rerio (zebra fish): > 1 - 10 mg/l ; static test; Tested according to Directive 92/69/EEC.

Toxicity to fish - Chronic toxicity

Alcohols, C12-14, ethoxylated (< 2.5 EO):
NOEC (30 d) Lepomis macrochirus (Bluegill sunfish): > 0,1 - 1 mg/l; Growth rate; flow-through test (literature value)
Category approach

Alcohols, C12-14, ethoxylated (< 2.5 EO):
NOEC (10 d) Lepomis macrochirus (Bluegill sunfish): > 0,1 - 1 mg/l; mortality; flow-through test (literature value)
Category approach

Alcohols, C12-14, ethoxylated (< 2.5 EO):
NOEC (30 d) Pimephales promelas (fathead minnow): > 0,1 - 1 mg/l; reproduction rate; flow-through test (literature value)
Category approach

Toxicity to daphnia and other aquatic invertebrates

Alcohols, C12-14, ethoxylated (< 2.5 EO):
EC50 (48 h) Daphnia magna (Water flea): > 0,1 - 1 mg/l ; static test; Tested according to Directive 92/69/EEC.

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Toxicity to daphnia and other aquatic invertebrates - Chronic toxicity	Alcohols, C12-14, ethoxylated (< 2.5 EO): NOEC (21 d) Daphnia magna (Water flea): > 0,1 - 1 mg/l; reproduction rate; flow-through test; (literature value) Category approach
Toxicity to aquatic plants	Alcohols, C12-14, ethoxylated (< 2.5 EO): ErC50 (72 h) Desmodesmus subspicatus (green algae): > 0,1 - 1 mg/l ; static test; OECD Test Guideline 201; (literature value) Alcohols, C12-14, ethoxylated (< 2.5 EO): EC20 (72 h) Desmodesmus subspicatus (green algae): > 0,1 - 1 mg/l ; OECD Test Guideline 201; (literature value)
Toxicity to bacteria	Alcohols, C12-14, ethoxylated (< 2.5 EO): EC10 (17 h) Pseudomonas putida: > 10.000 mg/l; Cell multiplication inhibition test; DIN 38 412 Part 8 The substance is not to be considered to be inhibitory to bacteria.
Toxicity to soil dwelling organisms	Alcohols, C12-14, ethoxylated (< 2.5 EO): LC50 (14 d) Eisenia fetida (earthworms): > 1.000 mg/kg; mortality; artificial soil (literature value) Category approach
Toxicity to terrestrial flora	Alcohols, C12-14, ethoxylated (< 2.5 EO): emergence, growth; NOEC (19 d): 100 mg/kg; Triticum aestivum (wheat), Lepidium sativum (cress), Brassica alba (mustard); OECD Test Guideline 208
Toxicity for other terrestrial non-mammalian fauna	Alcohols, C12-14, ethoxylated (< 2.5 EO): The study is not necessary. Justification: Direct exposure to soil is unlikely. Readily biodegradable.
12.2 Persistence and degradability	
Biodegradability	Alcohols, C12-14, ethoxylated (< 2.5 EO): Readily biodegradable.; > 60 %; 28 d; aerobic; OECD Test Guideline 301F (literature value)
12.3 Bioaccumulative potential	
Bioaccumulation	Alcohols, C12-14, ethoxylated (< 2.5 EO): Pimephales promelas (fathead minnow); 72 h; Bioconcentration factor (BCF): 12,7 - 237 (literature value) Category approach Does not significantly accumulate in organisms.
12.4 Mobility in soil	
Mobility	Alcohols, C12-14, ethoxylated (< 2.5 EO): Adsorption/Soil; Koc: 2245; QSAR 1-Dodecanol Slightly mobile in soils Alcohols, C12-14, ethoxylated (< 2.5 EO): Adsorption/Soil; Koc: 464,2; QSAR Alcohols, C12, ethoxylated (2 EO) Moderately mobile in soils Alcohols, C12-14, ethoxylated (< 2.5 EO): Adsorption/Soil; Koc: 7064; QSAR 1-Tetradecanol immobile Alcohols, C12-14, ethoxylated (< 2.5 EO): Adsorption/Soil; Koc: 1617; QSAR Alcohols, C14, ethoxylated (2 EO) Slightly mobile in soils

12.5 Results of PBT and vPvB assessment

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Results of PBT assessment

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

Results of PBT assessment

Alcohols, C12-14, ethoxylated (< 2.5 EO):
Based on available data, the classification criteria are not met.

12.6 Other adverse effects**General advice**

Alcohols, C12-14, ethoxylated (< 2.5 EO):
Very toxic to aquatic life.
Harmful to aquatic life with long lasting effects.

SECTION 13: DISPOSAL CONSIDERATIONS**13.1 Waste treatment methods****Product**

Can be incinerated, when in compliance with local regulations.

waste code of the European Union: EWC

A waste code in accordance with the European Waste Catalogue (EWC) may not be assigned to this product since it admits of a classification only when the consumer uses it for some purpose. The waste code must be determined in agreement with the regional waste disposal authority or company.

SECTION 14: TRANSPORT INFORMATION**14.1 UN number**

ADR	3082
RID	3082
ADN	3082
IMDG	3082
ICAO/IATA	3082

14.2 Proper shipping name

ADR	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Fatty alcohol polyethoxylated)
RID	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Fatty alcohol polyethoxylated)
ADN	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Fatty alcohol polyethoxylated)
IMDG	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Fatty alcohol polyethoxylated)
ICAO/IATA	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Fatty alcohol polyethoxylated)

14.3 Transport hazard class

ADR	9
RID	9
ADN	9
IMDG	9
ICAO/IATA	9

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14.4 Packing group

ADR	III
RID	III
ADN	III
IMDG	III
ICAO/IATA	III

14.5 Environmental hazards

ADR	Environmentally hazardous	yes
RID	Environmentally hazardous	yes
ADN	Environmentally hazardous	yes
IMDG	Marine pollutant	yes
ICAO/IATA	Environmentally hazardous	yes

14.6 Special precautions for user

ADR	Hazard Identification Number	90
	Labels	9
	Tunnel restriction code	(-)
IMDG	Labels	9
	EmS Number 1	F-A
	EmS Number 2	S-F
ICAO/IATA	Labels	9MI

14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Remarks	No information available.
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SECTION 15: REGULATORY INFORMATION**15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture****NATIONAL/OTHER REGULATIONS****Legislation on the control of major-accident hazards involving dangerous substances**

Seveso III: Directive 2012/18/EU of the European Parliament and of the Council on the control of major-accident hazards involving dangerous substances.

list entry in the directive: ENVIRONMENTAL HAZARDS; E1

Qualifying quantity 1: 100 t; Qualifying quantity 2: 200 t;

Other regulations

This surfactant complies with the biodegradability criteria as laid down in Regulation (EC) No.648/2004 on detergents. Data to support this assertion are held at the disposal of the competent authorities of the Member States and will be made available to them, at their direct request or at the request of a detergent manufacturer.

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NOTIFICATION STATUS

Switzerland. Consolidated Inventory	CH INV	listed (product or constituents are listed)
US. Toxic Substances Control Act	TSCA	listed (product or constituents are listed)
Canada. Canadian Environmental Protection Act (CEPA). Domestic Substances List (DSL)	DSL	listed (product or constituents are listed)
Australia. Industrial Chemical (Notification and Assessment) Act	AICS	listed (product or constituents are listed)
Japan. Kashin-Hou Law List	ENCS (JP)	listed (product or constituents are listed)
Japan. Industrial Safety & Health Law (ISHL) List	ISHL (JP)	listed (product or constituents are listed)
Korea. Existing Chemicals Inventory (KECI)	KECI (KR)	listed (product or constituents are listed)
Philippines. The Toxic Substances and Hazardous and Nuclear Waste Control Act	PICCS (PH)	listed (product or constituents are listed)
China. Inventory of Existing Chemical Substances	INV (CN)	listed (product or constituents are listed)

Please note: the names and CAS numbers which are used for this product in the stated inventories may deviate from the information which is listed in chapter 3.

15.2 Chemical safety assessment**Alcohols, C12-14 (even numbered), ethoxylated (< 2.5 EO)**

A Chemical Safety Assessment has been carried out for this substance.

SECTION 16: OTHER INFORMATION**Full text of H-Statements referred to under sections 2 and 3.**

H400	Very toxic to aquatic life.
H412	Harmful to aquatic life with long lasting effects.

Safety datasheet sections which have been updated:

8. Exposure controls/personal protection
Annex

Further information:

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.
This safety datasheet only contains information relating to safety and does not

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replace any product information or product specification.

Key or legend to abbreviations and acronyms used in the safety data sheet

ADN	Accord européen relatif au transport international des marchandises dangereuses par voie de navigation intérieure
ADR	Accord européen relatif au transport international des marchandises Dangereuses par Route
AICS	Australian Inventory of Chemical Substances
ANSI	American National Standards Institute
ASTM	American Society of Testing and Materials (US)
BCF	Bioconcentration factor
CLP	Regulation on Classification, Labelling and Packaging of Substances and Mixtures
DIN	Deutsches Institut für Normung
DNEL	Derived No-Effect Level
DSL	Domestic Substances List
EC...	Effect concentration ... %
ENCs	Existing Notified Chemical Substances (Japan)
EWC	European Waste Catalogue
IATA	International Air Transport Association
IBC	Intermediate Bulk Container
ICAO	International Civil Aviation Organization
IMDG	International Maritime Dangerous Goods
IMO	International Maritime Organization
ISHL	Industrial Safety and Health Law (Japan)
ISO	International Organization for Standardization
IUPAC	International Union of Pure and Applied Chemistry
KECI	Korea Existing Chemicals Inventory
LC...	Lethal Concentration, ...%
LD...	Lethal Dose, ...%
MARPOL	International Convention for the Prevention of Pollution From Ships
NDSL	Non-Domestic Substances List
NOAEL	no observable adverse effect level
NOEL/NOEC	No Observed-effect level/concentration
NZIoC	New Zealand Inventory of Chemicals
OECD	Organisation for Economic Co-operation and Development
PBT	persistent, bioaccumulative, toxic
PICCS	Philippine Inventory of Chemicals and Chemical Substances
PNEC	Predicted No-Effect Concentration
REACH	Registration, Evaluation, Authorisation and Restriction of Chemicals
RID	Règlement concernant le transport international ferroviaire de marchandises dangereuses
TG	Test Guideline
TRGS	Technische Regeln für Gefahrstoffe
TSCA	Toxic Substances Control Act
vPvB	very persistent, very bioaccumulative
WGK	Wassergefährdungsklasse

Annex

Attachments to the safety data sheet and/or lists of the identified uses for the listed substances can be downloaded using the internet links below.

Alcohols, C12-14 (even numbered), ethoxylated (< 2.5 EO)

http://www.sasolgermany.de/fileadmin/doc/productsafety/Annex/000000015270_EN_01.pdf