NAFOL 1620

Version: *6*.07 **Revision Date 10.12.2018**

SECTION 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

1.1 Product identifier

Trade name **NAFOL 1620**

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

Use
Industrial use
raw material for washing and cleaning agents
raw material for textile auxiliary agents
raw material for synthesis processes in the chemical industry
raw material for lubricants and lubricant additives
anti-foaming agent

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) 5 51 - 1 92 40 (GIZ-Nord Poisons Centre)

SECTION 2: HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture

Classification (REGULATION (EC) No 1272/2008)

Long-term (chronic) aquatic hazard Category 3 Harmful to aquatic life with long lasting effects.

2.2 Label elements

Labelling (REGULATION (EC) No 1272/2008)

Hazard statements

H412 Harmful to aquatic life with long lasting effects.

Precautionary statements

P273 Avoid release to the environment.

P501 Dispose of contents/ container to an approved waste disposal plant.

2.3 Other hazards

None known.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

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

CHEMICAL CHARACTERIZATION

Alcohol blend, C16-20

Hexadecan-1-ol

component type: Active ingredient

EC-No.: 253-149-0 **Index-No.:** **CAS-No.:** 36653-82-4
REACH No.: 01-2119485905-24-0000
Substance name (REACH / CLP): hexadecan-1-ol

Octadecan-1-ol

component type: Active ingredient

EC-No.: 204-017-6 **Index-No.:** **CAS-No.:** 112-92-5
REACH No.: 01-2119485907-20-0000
Substance name (REACH / CLP): octadecan-1-ol

Icosan-1-ol

component type: Active ingredient

EC-No.: 211-119-4 **Index-No.:** **CAS-No.:** 629-96-9
REACH No.: 01-2119485909-16-0000
Substance name (REACH / CLP): icosan-1-ol

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

Tetradecanol

content: >= 1 - < 2,5 % **component type:** Impurity

EC-No.: 204-000-3	**Index-No.:**		**CAS-No.:** 112-72-1
Classification (Regulation (EC) No 1272/2008):	Eye Irrit. 2	H319	
	Aquatic Chronic 1	H410	

Dodecan-1-ol

content: >= 0,1 - < 0,25 % **component type:** Impurity

EC-No.: 203-982-0	**Index-No.:**		**CAS-No.:** 112-53-8
Classification (Regulation (EC) No 1272/2008):	Eye Irrit. 2	H319	
	Aquatic Acute 1	H400	
	Aquatic Chronic 2	H411	

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

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. Protect unharmed eye.
If swallowed	Consult a physician. Do not induce vomiting without medical advice. Never give 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	Use personal protective equipment. Wear self-contained breathing apparatus for firefighting if necessary.
Further information	Prevent fire extinguishing water from contaminating surface water or the ground water system.

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures

Personal precautions	Use personal protective equipment.
Special precautions	Forms slippery/greasy layers with water.

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	Use mechanical handling equipment. The material taken up must be disposed of in accordance with regulations. Molten form Allow to solidify, use mechanical handling equipment.

6.4 Reference to other sections

For personal protection see section 8.

SECTION 7: HANDLING AND STORAGE

7.1 Precautions for safe handling

Advice on safe handling	Wear personal protective equipment.
Advice on protection against fire and explosion	No special protective measures against fire required.
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	No special storage conditions required.
Further information on storage conditions	Protect from frost, heat and sunlight.
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.

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: hexadecan-1-ol			
End Use	**Exposure routes**	**Value**	**Note**

Workers	dermal, Acute/short-term exposure - systemic effects	125 mg/kg	based on body weight and day
	Inhalation, Acute/short-term exposure - systemic effects	220 mg/m3	
	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	125 mg/kg	based on body weight and day
	Inhalation, long-term exposure - systemic effects	220 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	75 mg/kg	based on body weight and day
	Inhalation, Acute/short-term exposure - systemic effects	65 mg/m3	
	Oral, Acute/short-term exposure - systemic effects	75 mg/kg	based on body weight and day
	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	75 mg/kg	based on body weight and day
	Inhalation, long-term exposure - systemic effects	65 mg/m3	
	Oral, long-term exposure - systemic effects	75 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

Substance name: octadecan-1-ol			
End Use	**Exposure routes**	**Value**	**Note**
Workers	dermal, Acute/short-term exposure - systemic effects	125 mg/kg	based on body weight and day
	Inhalation, Acute/short-term exposure - systemic effects	220 mg/m3	
	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	125 mg/kg	based on body weight and day
	Inhalation, long-term exposure - systemic effects	220 mg/m3	
	dermal, long-term exposure - local effects		Not relevant / not applicable
	Inhalation, long-term exposure - local		Not relevant / not applicable

	effects		
Consumers	dermal, Acute/short-term exposure - systemic effects	75 mg/kg	based on body weight and day
	Inhalation, Acute/short-term exposure - systemic effects	65 mg/m3	
	Oral, Acute/short-term exposure - systemic effects	75 mg/kg	based on body weight and day
	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	75 mg/kg	based on body weight and day
	Inhalation, long-term exposure - systemic effects	65 mg/m3	
	Oral, long-term exposure - systemic effects	75 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

Substance name: tetradecanol			
End Use	**Exposure routes**	**Value**	**Note**
Workers	dermal, Acute/short-term exposure - systemic effects	125 mg/kg	based on body weight and day
	Inhalation, Acute/short-term exposure - systemic effects	220 mg/m3	
	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	125 mg/kg	based on body weight and day
	Inhalation, long-term exposure - systemic effects	220 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	75 mg/kg	based on body weight and day
	Inhalation, Acute/short-term exposure - systemic effects	65 mg/m3	
	Oral, Acute/short-term exposure - systemic effects	75 mg/kg	based on body weight and day
	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	75 mg/kg	based on body weight and day
	Inhalation, long-term exposure - systemic	65 mg/m3	

	effects		
	Oral, long-term exposure - systemic effects	75 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

Substance name: icosan-1-ol			
End Use	**Exposure routes**	**Value**	**Note**
Workers	dermal, Acute/short-term exposure - systemic effects	125 mg/kg	based on body weight and day
	Inhalation, Acute/short-term exposure - systemic effects	220 mg/m3	
	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	125 mg/kg	based on body weight and day
	Inhalation, long-term exposure - systemic effects	220 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	75 mg/kg	based on body weight and day
	Inhalation, Acute/short-term exposure - systemic effects	65 mg/m3	
	Oral, Acute/short-term exposure - systemic effects	75 mg/kg	based on body weight and day
	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	75 mg/kg	based on body weight and day
	Inhalation, long-term exposure - systemic effects	65 mg/m3	
	Oral, long-term exposure - systemic effects	75 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

Substance name: docosan-1-ol			
End Use	**Exposure routes**	**Value**	**Note**
Workers	dermal, Acute/short-term exposure - systemic effects	125 mg/kg	based on body weight and day

	Inhalation, Acute/short-term exposure - systemic effects	220 mg/m3	
	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	125 mg/kg	based on body weight and day
	Inhalation, long-term exposure - systemic effects	220 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	75 mg/kg	based on body weight and day
	Inhalation, Acute/short-term exposure - systemic effects	65 mg/m3	
	Oral, Acute/short-term exposure - systemic effects	75 mg/kg	based on body weight and day
	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	75 mg/kg	based on body weight and day
	Inhalation, long-term exposure - systemic effects	65 mg/m3	
	Oral, long-term exposure - systemic effects	75 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

Substance name: dodecan-1-ol			
End Use	**Exposure routes**	**Value**	**Note**
Workers	dermal, Acute/short-term exposure - systemic effects	125 mg/kg	based on body weight and day
	Inhalation, Acute/short-term exposure - systemic effects	220 mg/m3	
	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	125 mg/kg	based on body weight and day
	Inhalation, long-term exposure - systemic effects	220 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 -	75 mg/kg	based on body weight and

	systemic effects		day
	Inhalation, Acute/short-term exposure - systemic effects	65 mg/m3	
	Oral, Acute/short-term exposure - systemic effects	75 mg/kg	based on body weight and day
	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	75 mg/kg	based on body weight and day
	Inhalation, long-term exposure - systemic effects	65 mg/m3	
	Oral, long-term exposure - systemic effects	75 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: hexadecan-1-ol		
Environmental Compartment	**Value**	**Note**
Fresh water	0,00156 mg/l	
Marine water	0,000156 mg/l	
intermittent release		Not relevant / not applicable
treatment plant	0,00013 mg/l	
Fresh water sediment	4,8 mg/kg	based on dry weight
Marine sediment	0,48 mg/kg	based on dry weight
Soil	4 mg/kg	based on dry weight
food		Not relevant / not applicable

Substance name: octadecan-1-ol		
Environmental Compartment	**Value**	**Note**
Fresh water	0,00156 mg/l	
Marine water	0,000156 mg/l	
intermittent release		Not relevant / not applicable
treatment plant	0,000011 mg/l	
Fresh water sediment	16 mg/kg	based on dry weight
Marine sediment	1,6 mg/kg	based on dry weight
Soil	13 mg/kg	based on dry weight
food		Not relevant / not applicable

Substance name: tetradecanol		
Environmental Compartment	**Value**	**Note**
Fresh water	0,00032 mg/l	
Marine water	0,000032 mg/l	
intermittent release		Not relevant / not applicable
treatment plant	0,0019 mg/l	
Fresh water sediment	0,36 mg/kg	based on dry weight
Marine sediment	0,036 mg/kg	based on dry weight
Soil	0,28 mg/kg	based on dry weight
food		Not relevant / not applicable

Substance name: icosan-1-ol		
Environmental Compartment	**Value**	**Note**
Fresh water	0,00156 mg/l	
Marine water	0,000156 mg/l	

intermittent release		Not relevant / not applicable
treatment plant	0,000027 mg/l	
Fresh water sediment	82 mg/kg	based on dry weight
Marine sediment	8,2 mg/kg	based on dry weight
Soil	66 mg/kg	based on dry weight
food		Not relevant / not applicable

Substance name: docosan-1-ol		
Environmental Compartment	**Value**	**Note**
Fresh water	0,00156 mg/l	
Marine water	0,000156 mg/l	
intermittent release		Not relevant / not applicable
treatment plant	0,000036 mg/l	
Fresh water sediment	82 mg/kg	based on dry weight
Marine sediment	8,2 mg/kg	based on dry weight
Soil	66 mg/kg	based on dry weight
food		Not relevant / not applicable

Substance name: dodecan-1-ol		
Environmental Compartment	**Value**	**Note**
Fresh water	0,0028 mg/l	
Marine water	0,00028 mg/l	
intermittent release		Not relevant / not applicable
treatment plant	0,021 mg/l	
Fresh water sediment	1,1 mg/kg	based on dry weight
Marine sediment	0,11 mg/kg	based on dry weight
Soil	0,888 mg/kg	based on dry weight
Air		No hazard identified
food		Not relevant / not applicable

8.2 Exposure controls

ENGINEERING MEASURES

Provide sufficient air exchange and/or exhaust in work rooms.

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: Nitrile rubber/nitrile latex Break through time: >= 480 min Layer thickness: 0,35 mm Material: butyl-rubber Break through time: >= 480 min Layer thickness: 0,5 mm
Eye protection	Tightly fitting safety goggles
Skin and body protection	Wear suitable protective equipment.
Hygiene measures	Handle in accordance with good industrial hygiene and safety practice. Keep away from food, drink and animal feedingstuffs.
Protective measures	Avoid contact with 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.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

Physical state	solid; 20 °C; 1.013 hPa
Form	solid
Colour	colourless
Odour	characteristic
Odour Threshold	No data available
pH	Justification:, Not applicable, insoluble
Melting point/range	ca. 47 - 54 °C
Boiling point/boiling range	ca. 300 - 355 °C
Flash point	ca. > 155 °C; DIN 51758
Evaporation rate	Not relevant / not applicable Justification: Solid
Flammability (solid, gas)	No data available

Lower explosion limit	Not applicable Justification: Solid
Upper explosion limit	Not applicable Justification: Solid
Vapour pressure	ca. < 1,000 hPa; 20 °C
Relative vapour density	Not applicable, Justification: Solid
Density	ca.0,8 g/cm3; 60 °C; DIN 51757
Relative density	No data available
Water solubility	insoluble
Partition coefficient: n-octanol/water	not applicable (mixture)
Ignition temperature	ca. 235 °C
Auto-ignition temperature	Not applicable solid with a melting point < 160°C
Viscosity, dynamic	ca. 11,0 mPas; 60 °C
Explosive properties	Constituents do not contain chemical groups associated with explosivity.
Oxidizing properties	not expected based on structure and functional groups

9.2 Other data

None known.

SECTION 10: STABILITY AND REACTIVITY

10.1 Reactivity

Note	Stable at normal ambient temperature and pressure.

10.2 Chemical stability

Note	No decomposition if stored and applied as directed.

10.3 Possibility of hazardous reactions

Hazardous reactions	Incompatible with oxidizing agents. Hazardous decomposition products formed under fire conditions.

10.4 Conditions to avoid

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

10.5 Incompatible materials to avoid

Materials to avoid	Strong oxidizing agents;

10.6 Hazardous decomposition products

Hazardous decomposition products	No decomposition if stored and applied as directed.
Thermal decomposition	Stable under normal conditions.

SECTION 11: TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects

Acute toxicity

Acute oral toxicity

Hexadecan-1-ol:
LD50 Rat: > 5.000 mg/kg; OECD Test Guideline 401
(literature value)
Based on available data, the classification criteria are not met.

Octadecan-1-ol:
LD50 Rat: > 5.000 mg/kg; OECD Test Guideline 401
(literature value)
Based on available data, the classification criteria are not met.

Icosan-1-ol:
LD50 Rat: > 5.000 mg/kg; OECD Test Guideline 401
Based on available data, the classification criteria are not met.

Tetradecanol:
LD50 Rat: > 5.000 mg/kg
Based on available data, the classification criteria are not met.

Acute inhalation toxicity

Hexadecan-1-ol:
LC50 Rat: > 1,5 mg/l; 1 h
maximal attainable concentration
The data are derived from the evaluations or test results achieved with similar products (conclusion by analogy).
Test substance: 1-Tetradecanol
Based on available data, the classification criteria are not met.

Octadecan-1-ol:
Obtaining data is technically impossible.
Justification:
The LC50 is expected to be greater than the saturated vapour concentration based on weight of evidence across category.

Icosan-1-ol:
The study is not necessary.
Justification:
The LC50 is expected to be greater than the saturated vapour concentration based on weight of evidence across category.

Tetradecanol:
LC50 Rat: > 1,5 mg/l; 1 h
Based on available data, the classification criteria are not met.

Acute dermal toxicity

Hexadecan-1-ol:
LD50 Dermal Rabbit: > 5.000 mg/kg;
Symptoms: Erythema, Emaciation, Weakness
The data are derived from the evaluations or test results achieved with similar products (conclusion by analogy).
Test substance: 1-Tetradecanol
Based on available data, the classification criteria are not met.

Octadecan-1-ol:
LD50 Dermal Rabbit: > 5.000 mg/kg;
Symptoms: Erythema, Emaciation, Weakness
The data are derived from the evaluations or test results achieved with similar products (conclusion by analogy).
Test substance: 1-Tetradecanol
Based on available data, the classification criteria are not met.

Icosan-1-ol:
LD50 Rabbit: > 5.000 mg/kg;
(literature value)
Based on available data, the classification criteria are not met.

Tetradecanol:
LD50 Rabbit: > 5.000 mg/kg;

Target Organs: Skin
Symptoms: Local irritation
Based on available data, the classification criteria are not met.

Skin corrosion/irritation

Skin irritation

Hexadecan-1-ol:
Rabbit: not irritating; OECD Test Guideline 404
(literature value)
Based on available data, the classification criteria are not met.

Octadecan-1-ol:
Rabbit: not irritating; OECD Test Guideline 404
(literature value)
Based on available data, the classification criteria are not met.

Icosan-1-ol:
Rabbit: not irritating; OECD Test Guideline 404
(literature value)
The data are derived from the evaluations or test results achieved with similar products (conclusion by analogy).
Test substance: Docosan-1-ol
Based on available data, the classification criteria are not met.

Tetradecanol:
Human: not irritating; OECD Test Guideline 404
(literature value)
Based on available data, the classification criteria are not met.

Human experience -Skin contact

Hexadecan-1-ol:
not irritating

Octadecan-1-ol:
not irritating

Serious eye damage/eye irritation

Eye irritation

Hexadecan-1-ol:
Rabbit: not irritating; OECD Test Guideline 405
(literature value)
Based on available data, the classification criteria are not met.

Octadecan-1-ol:
Rabbit: not irritating; OECD Test Guideline 405
(literature value)
Based on available data, the classification criteria are not met.

Icosan-1-ol:
Rabbit: not irritating; OECD Test Guideline 405
(literature value)
The data are derived from the evaluations or test results achieved with similar products (conclusion by analogy).
Test substance: Docosan-1-ol
Based on available data, the classification criteria are not met.

Tetradecanol:
Rabbit: irritating; OECD Test Guideline 405
Causes serious eye irritation.

Respiratory or skin sensitisation

Sensitisation

Hexadecan-1-ol:
Maximisation Test Guinea pig: not sensitizing; OECD Test Guideline 406
(literature value)
Based on available data, the classification criteria are not met.

Octadecan-1-ol:
Maximisation Test Guinea pig: not sensitizing; OECD Test Guideline 406
(literature value)
Based on available data, the classification criteria are not met.

Icosan-1-ol:
Maximisation Test Guinea pig: not sensitizing; OECD Test Guideline 406
Based on available data, the classification criteria are not met.

Tetradecanol:
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

Hexadecan-1-ol:
In vitro tests did not show mutagenic effects
(literature value)
Category approach

Octadecan-1-ol:
In vitro tests did not show mutagenic effects
(literature value)

Icosan-1-ol:
In vitro tests did not show mutagenic effects
(literature value)
Category approach

Tetradecanol:
In vitro tests did not show mutagenic effects
(literature value)
Category approach

Genotoxicity in vivo

Hexadecan-1-ol:
In vivo tests did not show mutagenic effects
(literature value)

Octadecan-1-ol:
In vivo tests did not show mutagenic effects
(literature value)

Icosan-1-ol:
In vivo tests did not show mutagenic effects
(literature value)
Category approach

Tetradecanol:
In vivo tests did not show mutagenic effects
(literature value)
Category approach

Remarks

Hexadecan-1-ol:
Based on available data, the classification criteria are not met.

Octadecan-1-ol:
Based on available data, the classification criteria are not met.

Icosan-1-ol:
Based on available data, the classification criteria are not met.

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

Carcinogenicity

Carcinogenicity

Hexadecan-1-ol:
The study is not necessary.
Justification:
The substance has been shown to be not genotoxic, therefore it is not expected to have a carcinogenic potential.
Category approach

Octadecan-1-ol:
The study is not necessary.
Justification:

The substance has been shown to be not genotoxic, therefore it is not expected to have a carcinogenic potential.
Category approach

Icosan-1-ol:
The substance has been shown to be not genotoxic, therefore it is not expected to have a carcinogenic potential.
Category approach

Tetradecanol:
The substance has been shown to be not genotoxic, therefore it is not expected to have a carcinogenic potential.
Category approach

Reproductive toxicity

Reproductive toxicity

Hexadecan-1-ol:
Rat; Oral; 90-day
No toxicity to reproduction
Category approach

Octadecan-1-ol:
Rat; Oral; 55-day; OECD Test Guideline 422
No toxicity to reproduction
(literature value)

Icosan-1-ol:
Rat; Oral; 182-day
No toxicity to reproduction
(literature value)
The data are derived from the evaluations or test results achieved with similar products (conclusion by analogy).
Test substance: Docosan-1-ol

Tetradecanol:
Rat; Oral; 55-day
NOAEL ((parents)): 2.000 mg/kg (based on body weight and day)
NOAEL (F1): 2.000 mg/kg (based on body weight and day)
(literature value)
The data are derived from the evaluations or test results achieved with similar products (conclusion by analogy).
Test substance: dodecan-1-ol

RemarksReproductive toxicity

Hexadecan-1-ol:
Based on available data, the classification criteria are not met.

Octadecan-1-ol:
Based on available data, the classification criteria are not met.

Icosan-1-ol:
Based on available data, the classification criteria are not met.

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

Teratogenicity

Hexadecan-1-ol:
Rat; Oral; OECD Test Guideline 422
Did not show teratogenic effects in animal experiments.
(literature value)
The data are derived from the evaluations or test results achieved with similar products (conclusion by analogy).
Test substance: dodecan-1-ol

Octadecan-1-ol:
Rat; Oral; OECD Test Guideline 422
Did not show teratogenic effects in animal experiments.
(literature value)

Icosan-1-ol:
Rabbit; Oral; OECD Test Guideline 414
Did not show teratogenic effects in animal experiments.
(literature value)

The data are derived from the evaluations or test results achieved with similar products (conclusion by analogy).
Test substance: Docosan-1-ol

Tetradecanol:
Rat; Oral
NOAEL: 2.000 mg/kg (based on body weight and day); OECD Test Guideline 422 (literature value)
The data are derived from the evaluations or test results achieved with similar products (conclusion by analogy).
Test substance: dodecan-1-ol

Remarks-Teratogenicity

Hexadecan-1-ol:
Based on available data, the classification criteria are not met.

Octadecan-1-ol:
Based on available data, the classification criteria are not met.

Icosan-1-ol:
Based on available data, the classification criteria are not met.

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

STOT - single exposure

Remarks

Hexadecan-1-ol:
The substance or mixture is not classified as specific target organ toxicant, single exposure.

Octadecan-1-ol:
The substance or mixture is not classified as specific target organ toxicant, single exposure.

Icosan-1-ol:
The substance or mixture is not classified as specific target organ toxicant, single exposure.

Tetradecanol:
The substance or mixture is not classified as specific target organ toxicant, single exposure.

STOT - repeated exposure

Remarks

Hexadecan-1-ol:
The substance or mixture is not classified as specific target organ toxicant, repeated exposure.

Octadecan-1-ol:
The substance or mixture is not classified as specific target organ toxicant, repeated exposure.

Icosan-1-ol:
The substance or mixture is not classified as specific target organ toxicant, repeated exposure.

Tetradecanol:
The substance or mixture is not classified as specific target organ toxicant, repeated exposure.

Repeated dose toxicity

Hexadecan-1-ol:
Rat; Oral; Subchronic toxicity
NOAEL: > 4.000 mg/kg (based on body weight and day)
(literature value)

Octadecan-1-ol:
Rat; Oral; Subacute toxicity
NOAEL: 1.000 mg/kg (based on body weight and day); OECD Test Guideline 407 (literature value)

Icosan-1-ol:
Rat; Oral; Subchronic toxicity
NOAEL: 1.000 mg/kg (based on body weight and day); OECD Test Guideline 408

(literature value)
The data are derived from the evaluations or test results achieved with similar products (conclusion by analogy).
Test substance: Docosan-1-ol

Tetradecanol:
Rat; oral feed; 90-day
NOAEL: 3.548 mg/kg (based on body weight and day)
(literature value)
The data are derived from the evaluations or test results achieved with similar products (conclusion by analogy).
Test substance: Alcohols, C14-15- branched and linear

Aspiration hazard

Aspiration toxicity

Hexadecan-1-ol:
Not applicable

Octadecan-1-ol:
Not applicable

Icosan-1-ol:
Not applicable

Tetradecanol:
Not applicable

Toxicological information

Hexadecan-1-ol:
Toxicokinetics
The substance is poorly absorbed via skin.
Components of the product may be absorbed into the body by ingestion.
The substance is metabolised and excreted.

Octadecan-1-ol:
Toxicokinetics
The substance is poorly absorbed via skin.
Components of the product may be absorbed into the body by ingestion.
The substance is metabolised and excreted.

Icosan-1-ol:
Toxicokinetics, metabolism and distribution
The substance is poorly absorbed via skin.
Components of the product may be absorbed into the body by ingestion.
The substance is metabolised and excreted.

Tetradecanol:
Toxicokinetics
The substance is poorly absorbed via skin.
The substance is metabolised and excreted.

SECTION 12: ECOLOGICAL INFORMATION

12.1 Toxicity

Toxicity to fish

Hexadecan-1-ol:
(96 h) Salmo gairdneri ; semi-static test; OECD Test Guideline 203
(literature value)
In the range of water solubility not toxic under test conditions.

Octadecan-1-ol:
(96 h) Oncorhynchus mykiss (rainbow trout) ; semi-static test; OECD Test Guideline 203
In the range of water solubility not toxic under test conditions.

	(literature value) Icosan-1-ol: (96 h) Oncorhynchus mykiss (rainbow trout) ; semi-static test; OECD Test Guideline 203 In the range of water solubility not toxic under test conditions. (literature value) The data are derived from the evaluations or test results achieved with similar products (conclusion by analogy). Test substance: Octadecan-1-ol Tetradecanol: LC50 (96 h) Oncorhynchus mykiss (rainbow trout) ; semi-static test; OECD Test Guideline 203 In the range of water solubility not toxic under test conditions. (literature value)
Toxicity to fish - Chronic toxicity	Hexadecan-1-ol: The study is not necessary. Sufficient information is available to predict no toxicity at the limit of solubility. Octadecan-1-ol: Sufficient information is available to predict no toxicity at the limit of solubility. Icosan-1-ol: The study is not necessary. Sufficient information is available to predict no toxicity at the limit of solubility.
Toxicity to daphnia and other aquatic invertebrates	Hexadecan-1-ol: (48 h) Daphnia magna (Water flea) ; calculated; QSAR (literature value) In the range of water solubility not toxic under test conditions. Octadecan-1-ol: (48 h) Daphnia magna (Water flea) ; static test; OECD Test Guideline 202 In the range of water solubility not toxic under test conditions. (literature value) Icosan-1-ol: (48 h) Daphnia magna (Water flea) ; calculated; QSAR In the range of water solubility not toxic under test conditions. (literature value) Tetradecanol: EC50 (48 h) Daphnia magna (Water flea) ; semi-static test; OECD Test Guideline 202 In the range of water solubility not toxic under test conditions. (literature value)
Toxicity to daphnia and other aquatic invertebrates - Chronic toxicity	Hexadecan-1-ol: The study is not necessary. Sufficient information is available to predict no toxicity at the limit of solubility. Octadecan-1-ol: NOEC (21 d) Daphnia magna (Water flea); reproduction rate; flow-through test; EPA OPPTS 850.1300; (literature value) In the range of water solubility not toxic under test conditions. Test substance: Octadecanol, branched Icosan-1-ol: The study is not necessary. Sufficient information is available to predict no toxicity at the limit of solubility. Tetradecanol: NOEC (21 d) Daphnia magna (Water flea): > 0,001 - 0,01 mg/l; reproduction rate; semi-static test; OECD Test Guideline 211; (literature value)
Toxicity to aquatic plants	Hexadecan-1-ol: (96 h) Desmodesmus subspicatus (green algae) ; static test; OECD Test Guideline 201; (literature value) In the range of water solubility not toxic under test conditions.

Octadecan-1-ol:
(96 h) Desmodesmus subspicatus (green algae) ; static test; OECD Test Guideline 201; In the range of water solubility not toxic under test conditions.
(literature value)

Icosan-1-ol:
EC50 (72 h) ; calculated; In the range of water solubility not toxic under test conditions.
(literature value)
Category approach

Tetradecanol:
EL50 (96 h) Desmodesmus subspicatus (green algae) ; static test; In the range of water solubility not toxic under test conditions.
(literature value)

Toxicity to bacteria

Hexadecan-1-ol:
No data available

Octadecan-1-ol:
No data available

Icosan-1-ol:
The study is not necessary.
Readily biodegradable.
The substance is not to be considered to be inhibitory to bacteria.

Tetradecanol:
No data available

Toxicity to soil dwelling organisms

Hexadecan-1-ol:
No data available

Octadecan-1-ol:
No data available

Icosan-1-ol:
The study is not necessary.
The substance does not pose a chronic hazard to soil organisms.
exposure considerations

Tetradecanol:
LC50 (72 h) Caenorhabditis elegans, Worm (Nematoda): > 1.000 mg/kg; mortality
(literature value)

Tetradecanol:
EC50 (7 d) Folsomia candida, Arthropod (Collembola): 530 mg/kg; Immobilization
(literature value)

Toxicity to terrestrial flora

Icosan-1-ol:
The study is not necessary.
The substance does not pose a chronic hazard to soil organisms.
exposure considerations

Toxicity for other terrestrial non-mammalian fauna

Icosan-1-ol:
The study is not necessary.
Studies on birds do not need to be conducted due to large mammalian dataset.

12.2 Persistence and degradability

Biodegradability

Hexadecan-1-ol:
Readily biodegradable.; > 60 %; 28 d; aerobic; OECD Test Guideline 301B
(literature value)

Hexadecan-1-ol:
Biodegradable; > 60 %; 28 d; anaerobic
(literature value)

Octadecan-1-ol:
Readily biodegradable.; > 60 %; 28 d; aerobic; OECD Test Guideline 301B
(literature value)

Icosan-1-ol:

Readily biodegradable.; > 60 %; 28 d; aerobic; OECD Test Guideline 301B (literature value)

Tetradecanol:
Readily biodegradable.; > 60 %; 28 d; aerobic; OECD Test Guideline 301B (literature value)

12.3 Bioaccumulative potential

Bioaccumulation

Hexadecan-1-ol:
Bioaccumulation is unlikely.

Octadecan-1-ol:
Bioaccumulation is unlikely.

Icosan-1-ol:
Bioaccumulation is unlikely.

Tetradecanol:
Bioaccumulation is unlikely.

12.4 Mobility in soil

Mobility

Hexadecan-1-ol:
Adsorption/Soil; Koc: 143000; log Koc: 5,15; calculated
immobile
strong adsorption to soil
The substance and its relevant degradation products decompose rapidly.

Octadecan-1-ol:
Adsorption/Soil; Koc: 471350; log Koc: 5,67; OECD Test Guideline 106
immobile
strong adsorption to soil

Icosan-1-ol:
Adsorption/Soil; Koc: 112000; calculated
immobile
strong adsorption to soil
The substance and its relevant degradation products decompose rapidly.

Tetradecanol:
Adsorption/Soil; Koc: 50828; log Koc: 4,71; calculated
immobile
strong adsorption to soil
The substance and its relevant degradation products decompose rapidly.

12.5 Results of PBT and vPvB assessment

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

Hexadecan-1-ol:
Based on available data, the classification criteria are not met.
This substance is not considered to be persistent, bioaccumulating and toxic (PBT).

Octadecan-1-ol:
Based on available data, the classification criteria are not met.
This substance is not considered to be persistent, bioaccumulating and toxic (PBT).

Icosan-1-ol:
Based on available data, the classification criteria are not met.
This substance is not considered to be persistent, bioaccumulating and toxic (PBT).

Tetradecanol:
This substance is not considered to be persistent, bioaccumulating and toxic (PBT).
This substance is not considered to be very persistent and very bioaccumulating

(vPvB).

12.6 Other adverse effects

General advice	Hexadecan-1-ol: None known. Octadecan-1-ol: None known. Icosan-1-ol: None known. Tetradecanol: Very toxic to aquatic life with long lasting effects.
Environmental distribution	Hexadecan-1-ol: Predicted distribution to environmental compartments After release, adsorbs onto soil. Octadecan-1-ol: Predicted distribution to environmental compartments After release, adsorbs onto soil.

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	The waste code must be determined in agreement with the regional waste disposal authority or company. 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.

SECTION 14: TRANSPORT INFORMATION

14.1 UN number

ADR	Not dangerous goods
RID	Not dangerous goods
ADN	Not dangerous goods
IMDG	Not dangerous goods
ICAO/IATA	Not dangerous goods

14.2 Proper shipping name

ADR	Not dangerous goods
RID	Not dangerous goods
ADN	Not dangerous goods
IMDG	Not dangerous goods
ICAO/IATA	Not dangerous goods

14.3 Transport hazard class

ADR	Not dangerous goods
RID	Not dangerous goods

ADN	Not dangerous goods
IMDG	Not dangerous goods
ICAO/IATA	Not dangerous goods

14.4 Packing group

ADR	Not dangerous goods
RID	Not dangerous goods
ADN	Not dangerous goods
IMDG	Not dangerous goods
ICAO/IATA	Not dangerous goods

14.5 Environmental hazards

ADR	Environmentally hazardous	no
RID	Environmentally hazardous	no
ADN	Environmentally hazardous	no
IMDG	Marine pollutant	no
ICAO/IATA	Environmentally hazardous	no

14.6 Special precautions for user

Not classified as dangerous in the meaning of transport regulations.

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

Remarks	No information available.

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:: Not applicable

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

hexadecan-1-ol

A Chemical Safety Assessment has been carried out for this substance. An annex to the MSDS is not required.

octadecan-1-ol

A Chemical Safety Assessment has been carried out for this substance. An annex to the MSDS is not required.

icosan-1-ol

A Chemical Safety Assessment has been carried out for this substance. An annex to the MSDS is not required.

tetradecanol

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.

H319	Causes serious eye irritation.
H400	Very toxic to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.
H411	Toxic to aquatic life with long lasting effects.
H412	Harmful to aquatic life with long lasting effects.

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Version: *6*.07 **Revision Date 10.12.2018**

Safety datasheet sections which have been updated:

2. Hazards identification
3. Composition/information on ingredients
8. Exposure controls/personal protection
9. Physical and chemical properties
11. Toxicological information
12. Ecological information
15. Regulatory information

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 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
IUAPC	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.

hexadecan-1-ol

http://www.sasolgermany.de/fileadmin/doc/productsafety/Annex/000000000062_EN_01.pdf

octadecan-1-ol

http://www.sasolgermany.de/fileadmin/doc/productsafety/Annex/000000000063_EN_01.pdf

icosan-1-ol

http://www.sasolgermany.de/fileadmin/doc/productsafety/Annex/000000000108_EN_01.pdf

tetradecanol

http://www.sasolgermany.de/fileadmin/doc/productsafety/Annex/000000000101_EN_01.pdf