

Version: 3.00 Revision Date 2014/08/22

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

1.1 Product identifier

Trade name GALENOL 1618 CS

INCI Cetearyl Alcohol (and) Sodium Cetearyl Sulfate

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

Use industrial use

raw material for cosmetic agents

emulsifying agent surface-active substance Thickening 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: 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)

Skin irritation Category 2 Causes skin irritation.

Eye irritation Category 2 Causes serious eye irritation.

Chronic aquatic toxicity Category 3 Harmful to aquatic life with long lasting effects.

Classification (67/548/EEC, 1999/45/EC)

Not a hazardous substance or mixture according to EC-directives 67/548/EEC or 1999/45/EC.

2.2 Label elements

Labelling (REGULATION (EC) No 1272/2008)

Hazard pictograms



Version: 3.00 Revision Date 2014/08/22

Signal word Warning

Hazard statements

H315 Causes skin irritation.
H319 Causes serious eye irritation.

H412 Harmful to aquatic life with long lasting effects.

Precautionary statements

P264 Wash skin thoroughly after handling.

P280 Wear face protection.

P273 Avoid release to the environment.

P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact

lenses, if present and easy to do. Continue rinsing.

P302 + P352 IF ON SKIN: Wash with plenty of soap and water.
P362 Take off contaminated clothing and wash before reuse.

P391 Collect spillage.

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

2.3 Other hazards

No hazards to be specially mentioned.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

This product is a mixture 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

Sulfuric acid, mono-C16-18-alkyl esters, sodium salts

content: <= 10 % component type: Active ingredient

EC-No.: 273-258-7 Index-No.: CAS-No.: 68955-20-4

REACH No.: 01-2119956652-31-xxxx

Substance name (REACH / CLP): Sulfuric acid, mono-C16-18-alkyl esters, sodium salts **Classification (Directive** R11: 67/548/EEC): Χi R36/38; Classification (Regulation Flam. Sol. 2 H228 (EC) No 1272/2008): Skin Irrit. 2 H315 Eye Irrit. H319 Aquatic Chronic 3 H412

Tetradecanol

content: < 2.5 % component type: Active ingredient

EC-No.: 204-000-3 Index-No.: CAS-No.: 112-72-1

REACH No.: 01-2119485910-33-0000

Substance name (REACH / CLP): tetradecanol

Classification (Directive Xi R36;

67/548/EEC):

EC-SAFETY DATA SHEET



GALENOL 1618 CS

Version: 3.00 Revision Date 2014/08/22

Classification (RegulationEye Irrit.2H319(EC) No 1272/2008):Aquatic Chronic1H410

Dodecan-1-ol

content: < 2.5 % component type: Active ingredient

EC-No.: 203-982-0 Index-No.: CAS-No.: 112-53-8

REACH No.: 01-2119485976-15-0000

Substance name (REACH / CLP): dodecan-1-ol

 Classification (Directive 67/548/EEC):
 Xi
 R36;

 67/548/EEC):
 N
 R50;

 Classification (Regulation (EC) No 1272/2008):
 Eye Irrit.
 2
 H319

 4 quatic Acute Aquatic Chronic A

For the full text of the R-phrases mentioned in this Section, see Section 16. 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).

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.

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

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



Version: 3.00 Revision Date 2014/08/22

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.

Special precautions No conditions to be specially mentioned.

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 upUse 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.

7.2 Conditions for safe storage, including any incompatibilities

Requirements for storage areas

and containers

No special storage conditions required.

Storage class (TRGS 510) 11: Combustible Solids

7.3 Specific end use(s)

Specific use(s) This information is not available.



Version: 3.00 Revision Date 2014/08/22

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 Control parameters

COMPONENTS WITH WORKPLACE CONTROL PARAMETERS

NATIONAL OCCUPATIONAL EXPOSURE LIMITS

Control parameters / Substance name	Тур	Control parameters	Update	Basis
ALFOL (EPAL) 16 ALCOHOL (95-97% 1-HEXADECANOL)	ST ESL	100	12 2010	TX ESL
ALFOL (EPAL) 16 ALCOHOL (95-97% 1-HEXADECANOL)	AN ESL	200	12 2010	TX ESL
OCTADECANOL, 1-	ST ESL	100	12 2010	TX ESL
ALFOL (EPAL)18	AN ESL	10	12 2010	TX ESL
EICOSANOL, 1-	ST ESL	100	12 2010	TX ESL
EICOSANOL, 1-	AN ESL	10	12 2010	TX ESL
SURFOL 14 (FATTY ALCOHOL; N- TETRADECANOL)	ST ESL	100	12 2010	TX ESL
SURFOL 14 (FATTY ALCOHOL; N- TETRADECANOL)	AN ESL	10	12 2010	TX ESL
EPAL 12 (LAURYL ALCOHOL)	ST ESL	15	12 2010	TX ESL
	Screening levels the the air at which the	nat have the odor de odor would be a ne	esignations represe	ent the levels of constituents in
EPAL 12 (LAURYL ALCOHOL)	AN ESL	100	12 2010	TX ESL
		nat have the odor de odor would be a n		ent the levels of constituents in
DODECAN-1-OL (LANGKETTIGE ALKOHOLE)	AGW AGW	155 mg/m3 20 ppm	09 2012 09 2012	Germany TRGS 900
	Category I: substar	nces for which the lessensitizing effect in	ocalized effect has respiratory passag	an assigned OEL or for ges.
TETRADECANOL (LANGKETTIGE ALKOHOLE)	AGW AGW	178 mg/m3 20 ppm	08 2010 08 2010	Germany TRGS 900
		nces for which the lessensitizing effect in		an assigned OEL or for ges.
HEXADECAN-1-OL (LANGKETTIGE ALKOHOLE)	AGW AGW	200 mg/m3 20 ppm	09 2012 09 2012	Germany TRGS 900
	Category I: substances for which the localized effect has an assigned OEL or for substances with a sensitizing effect in respiratory passages.			
OCTADECAN-1-OL (LANGKETTIGE ALKOHOLE)	AGW AGW	224 mg/m3 20 ppm	09 2012 09 2012	Germany TRGS 900
		I nces for which the le sensitizing effect in		an assigned OEL or for ges.



Version: 3.00 Revision Date 2014/08/22

EUROPEAN OCCUPATIONAL EXPOSURE LIMITS

No data available

DERIVED NO EFFECT LEVEL (DNEL)

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 - 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	



Version: 3.00 Revision Date 2014/08/22

	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: 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 -	65 mg/m3	



Version: 3.00 Revision Date 2014/08/22

systemic effects		
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 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

EC-SAFETY DATA SHEET



GALENOL 1618 CS

Version: 3.00 Revision Date 2014/08/22

Inhalation, long-term exposure - local effects		Not relevant / not applicable
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Version: 3.00 Revision Date 2014/08/22

PREDICTED NO EFFECT CONCENTRATION (PNEC)

Substance name: dodecan-1-ol			
Environmental Compartment	Value	Note	
Fresh water	0.0028 mg/l		
Marine water	0.00038 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	
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: 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	



Version: 3.00 Revision Date 2014/08/22

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

8.2 Exposure controls

ENGINEERING MEASURES

If possible, use material transfer/filling, metering and blending plants that are closed.

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 dust, fibres and smoke occur, use self-contained breathing apparatus or breathing apparatus with a type P2 or P3 filter, in compliance with EN

143.

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 Material thickness: 0.35 mm

Material: butyl-rubber

Break through time: >= 480 min Material thickness: 0.5 mm

Eye protection Tightly fitting safety goggles

Skin and body protection Protective suit

Hygiene measures Avoid contact with eyes. Handle in accordance with good industrial hygiene and

safety practice. Keep away from food, drink and animal feedingstuffs. Wear

suitable gloves and eye/face protection.

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.



Version: 3.00 Revision Date 2014/08/22

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 white

Odour characteristic

Odour Threshold No valid method available

 pH
 ca. 7 - 8; 10 g/l

 Melting point/range
 ca. 47 - 53 °C

 Flash point
 ca. > 180 °C

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

DensityNo data availableWater solubilityNo data available

Partition coefficient: n-

octanol/water

not applicable (mixture)

Ignition temperature ca. 235 °C

Viscosity, dynamic not applicable, Justification: Solid

Explosive properties not expected based on structure and functional groups

Oxidizing properties No data available

9.2 Other data

None known.

SECTION 10: STABILITY AND REACTIVITY

10.1 Reactivity

Note No decomposition if stored and applied as directed.

10.2 Chemical stability

Note Stable under normal conditions.

10.3 Possibility of hazardous reactions

Hazardous reactions None known.



Version: 3.00 Revision Date 2014/08/22

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 Incompatible with acids and bases.;

10.6 Hazardous decomposition products

Hazardous decomposition

products

No decomposition if stored normally.

SECTION 11: TOXICOLOGICAL INFORMATION

Sulfuric acid, mono-C16-18-alkyl esters, sodium salts:

Category approach

11.1 Information on toxicological effects

Acute toxicity

Acute oral toxicity Sulfuric acid, mono-C16-18-alkyl esters, sodium salts:

LD50 rat: > 2,000 mg/kg

(literature value)

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

Tetradecanol:

LD50 rat: > 2,000 mg/kg; OECD Test Guideline 401

(literature value)

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

Hexadecan-1-ol:

LD50 rat: > 2,000 mg/kg; OECD Test Guideline 401

(literature value)

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

Octadecan-1-ol:

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 Sulfuric acid, mono-C16-18-alkyl esters, sodium salts:

No data available

Tetradecanol:

LC50 rat: > 1.5 mg/l; 1 h

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

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.



Version: 3.00 Revision Date 2014/08/22

Acute dermal toxicity Sulfuric acid, mono-C16-18-alkyl esters, sodium salts:

LD50 rat: > 2,000 mg/kg; OECD Test Guideline 402

(literature value)

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

Tetradecanol:

LD50 rabbit: > 2,000 mg/kg; Target Organs: Skin Symptoms: Local irritation

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

Hexadecan-1-ol:

LD50 Dermal rabbit: > 2,000 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.

Skin corrosion/irritation

Skin irritation Sulfuric acid, mono-C16-18-alkyl esters, sodium salts:

rabbit: irritating; OECD Test Guideline 404

(literature value) Causes skin irritation.

Tetradecanol:

human: not irritating; OECD Test Guideline 404

(literature value)

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

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.

Human experience -Skin

contact

Hexadecan-1-ol: not irritating

Octadecan-1-ol: not irritating

Serious eye damage/eye irritation

Eye irritation Sulfuric acid, mono-C16-18-alkyl esters, sodium salts:

rabbit: May cause irreversible eye damage.; OECD Test Guideline 405

(literature value)

Causes serious eye damage.

Tetradecanol:

rabbit: irritating; OECD Test Guideline 405

Causes serious eye irritation.

Hexadecan-1-ol:

rabbit: not irritating; OECD Test Guideline 404

(literature value)

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



Version: 3.00 Revision Date 2014/08/22

Octadecan-1-ol:

rabbit: not irritating; OECD Test Guideline 404

(literature value)

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

Respiratory or skin sensitisation

Sensitisation Sulfuric acid, mono-C16-18-alkyl esters, sodium salts:

Maximisation Test (GPMT) guinea pig: not sensitizing; OECD Test Guideline 406

(literature value)

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

Tetradecanol:

Draize Test guinea pig: not sensitizing; OECD Test Guideline 406

(literature value)

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

Hexadecan-1-ol:

Maximisation Test (GPMT) 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 (GPMT) 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 vitroSulfuric acid, mono-C16-18-alkyl esters, sodium salts:

In vitro tests did not show mutagenic effects

(literature value)

Tetradecanol:

In vitro tests did not show mutagenic effects

(literature value) Category approach

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)

Genotoxicity in vivo Sulfuric acid, mono-C16-18-alkyl esters, sodium salts:

In vivo tests did not show mutagenic effects

(literature value)

Tetradecanol:

In vivo tests did not show mutagenic effects

(literature value) Category approach

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)

Remarks Sulfuric acid, mono-C16-18-alkyl esters, sodium salts:

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

Tetradecanol:

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

Hexadecan-1-ol:

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



Version: 3.00 Revision Date 2014/08/22

Octadecan-1-ol:

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

Carcinogenicity

Carcinogenicity Sulfuric acid, mono-C16-18-alkyl esters, sodium salts:

Did not show carcinogenic effects in animal experiments.

(literature value)

Tetradecanol:

The substance has been shown to be not genotoxic, therefore it is not expected to

have a carcinogenic potential.

Category approach

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

Reproductive toxicity

Reproductive toxicity Sulfuric acid, mono-C16-18-alkyl esters, sodium salts:

This information is not available.

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

Hexadecan-1-ol:

rat; Oral; 90-day

NOAEL ((parents)): 2,000 mg/kg (based on body weight and day)

Hexadecan-1-ol: rat; Oral; 90-day

NOAEL ((parents)): 1,127 mg/kg (based on body weight and day)

The data are derived from the evaluations or test results achieved with similar

products (conclusion by analogy). Test substance: Hexan-1-ol

Octadecan-1-ol:

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); OECD Test Guideline

422

(literature value)

Octadecan-1-ol: rat: Oral: 90-day

NOAEL ((parents)): 1,127 mg/kg (based on body weight and day)

The data are derived from the evaluations or test results achieved with similar

products (conclusion by analogy).

Test substance: Hexan-1-ol

RemarksReproductive

toxicity

Tetradecanol:

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

Hexadecan-1-ol:



Version: 3.00 Revision Date 2014/08/22

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

Octadecan-1-ol:

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

Teratogenicity Sulfuric acid, mono-C16-18-alkyl esters, sodium salts:

Did not show teratogenic effects in animal experiments.

(literature value)

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

Hexadecan-1-ol:

rat: Oral

NOAEL: 2,000 mg/kg (based on body weight and day)

NOAEL (dam): 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

Octadecan-1-ol:

rat; Oral

NOAEL: 2,000 mg/kg (based on body weight and day)

NOAEL (dam): 2,000 mg/kg (based on body weight and day); OECD Test

Guideline 422 (literature value)

Remarks-Teratogenicity

Tetradecanol:

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

Hexadecan-1-oi

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

Octadecan-1-ol:

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

STOT - single exposure

Remarks Sulfuric acid, mono-C16-18-alkyl esters, sodium salts:

May cause respiratory irritation.

(literature value)

Tetradecanol:

The substance or mixture is not classified as specific target organ toxicant, single

exposure.

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.

STOT - repeated exposure

Remarks Sulfuric acid, mono-C16-18-alkyl esters, sodium salts:

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.

Hexadecan-1-ol:



Version: 3.00 Revision Date 2014/08/22

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.

Repeated dose toxicity Sulfuric acid, mono-C16-18-alkyl esters, sodium salts:

rat; Oral; Subchronic toxicity

NOAEL: 488 mg/kg (based on body weight and day)

LOAEL: 1,018 mg/kg (based on body weight and day); OECD Test Guideline 408

(literature value)

Sulfuric acid, mono-C16-18-alkyl esters, sodium salts:

mouse; Dermal; Subchronic toxicity

NOAEL: 400 mg/kg (based on body weight and day)

LOAEL: 500 mg/kg (based on body weight and day); OECD Test Guideline 411

(literature value)

Tetradecanol:

rat; Oral; Subchronic toxicity

NOAEL: 1,127 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: Hexan-1-ol

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)

Aspiration hazard

Aspiration toxicity Sulfuric acid, mono-C16-18-alkyl esters, sodium salts:

not applicable

Tetradecanol:

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

Hexadecan-1-ol:

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

Octadecan-1-ol: not applicable

Toxicological information Tetradecanol:

Toxicokinetics

The substance is poorly absorbed via skin. The substance is metabolised and excreted.

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.



Version: 3.00 Revision Date 2014/08/22

SECTION 12: ECOLOGICAL INFORMATION

Sulfuric acid, mono-C16-18-alkyl esters, sodium salts:

Category approach

12.1 Toxicity

Toxicity to fish Sulfuric acid, mono-C16-18-alkyl esters, sodium salts:

LC50 (96 h) Brachydanio rerio: > 1 - 10 mg/l; semi-static test; OECD Test

Guideline 203 (literature value)

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)

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)

Toxicity to fish - Chronic

toxicity

Sulfuric acid, mono-C16-18-alkyl esters, sodium salts:

NOEC (14 d) Brachydanio rerio: 1.65 mg/l; mortality; semi-static test; OECD Test

Guideline 204 (literature value)

Tetradecanol:

The study is not necessary.

Hexadecan-1-ol:

The study is not necessary.

Justification:

Obtaining data is technically impossible.

Octadecan-1-ol:

The study is not necessary.

Justification:

Obtaining data is technically impossible.

Toxicity to daphnia and other aquatic invertebrates

Sulfuric acid, mono-C16-18-alkyl esters, sodium salts: EC50 (48 h) Daphnia magna (Water flea): > 10 - 100 mg/l

(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)

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.



Version: 3.00 Revision Date 2014/08/22

(literature value)

Toxicity to daphnia and other aquatic invertebrates - Chronic toxicity

Sulfuric acid, mono-C16-18-alkyl esters, sodium salts:

NOEC (7 d) Ceriodaphnia Dubia (water flea): 0.2 mg/l; (literature value)

Tetradecanol:

NOEC (21 d) Daphnia magna (Water flea): 0.0016 mg/l; reproduction rate; semi-

static test; OECD Test Guideline 211

Hexadecan-1-ol:

The study is not necessary.

Justification:

Obtaining data is technically impossible.

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

Toxicity to aquatic plants Sulfuric acid, mono-C16-18-alkyl esters, sodium salts:

ErC50 (72 h) Scenedesmus subspicatus: > 10 - 100 mg/l; Growth rate; static test;

DIN 38412; (literature value)

Tetradecanol:

EL50 (96 h) Scenedesmus subspicatus; static test; In the range of water solubility

not toxic under test conditions.

(literature value)

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)

Toxicity to bacteria Sulfuric acid, mono-C16-18-alkyl esters, sodium salts:

NOEC (18 h) activated sludge: 550 mg/l; Growth inhibition; Bringmann & Kühn

(literature value)

Tetradecanol:

The study is not necessary.

Justification:

Readily biodegradable.

Hexadecan-1-ol:

The study is not necessary.

Justification:

Readily biodegradable.

Octadecan-1-ol:

The study is not necessary.

Justification:

Readily biodegradable.

Toxicity to soil dwelling organisms

Sulfuric acid, mono-C16-18-alkyl esters, sodium salts: EC0 (14 d) Eisenia foetida: > 1,000 mg/kg; mortality

(literature value)

Tetradecanol:

LC50 (72 h) Caenorhabditis elegans, Worm (Nematoda): > 1,000 mg/kg; mortality

(literature value)

Hexadecan-1-ol:

The study is not necessary. Justification:

Readily biodegradable.

unlikely direct and indirect exposure of the soil compartment



Version: 3.00 Revision Date 2014/08/22

Octadecan-1-ol:

The study is not necessary.

Justification:

Readily biodegradable.

unlikely direct and indirect exposure of the soil compartment

Toxicity to terrestrial flora Sulfuric acid, mono-C16-18-alkyl esters, sodium salts:

emergence, growth; EC0 (14 d): > 1,000 mg/kg; emergence, growth; Brassica rapa

(literature value)

Tetradecanol:

; The study is not necessary.

Justification:

Readily biodegradable.

Hexadecan-1-ol:

The study is not necessary.

Justification:

unlikely direct and indirect exposure of the soil compartment

Octadecan-1-ol:

The study is not necessary.

Justification:

unlikely direct and indirect exposure of the soil compartment

Toxicity for other terrestrial non-mammalian fauna

Sulfuric acid, mono-C16-18-alkyl esters, sodium salts:

The study is not necessary.

Justification:

Readily biodegradable.

Tetradecanol:

The study is not necessary.

Studies on birds do not need to be conducted due to large mammalian dataset.

Hexadecan-1-ol:

The study is not necessary.

Studies on birds do not need to be conducted due to large mammalian dataset.

Octadecan-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 Sulfuric acid, mono-C16-18-alkyl esters, sodium salts:

Readily biodegradable.; > 60 %; 30 d; aerobic; OECD Test Guideline 301 D

(literature value)

Tetradecanol:

Readily biodegradable.; > 60 %; 28 d; aerobic; OECD Test Guideline 301 B

(literature value)

Hexadecan-1-ol:

Readily biodegradable.; > 60 %; 28 d; aerobic; OECD Test Guideline 301 B

(literature value)

Octadecan-1-ol:

Readily biodegradable.; > 60 %; 28 d; aerobic; OECD Test Guideline 301 B

(literature value)

12.3 Bioaccumulative potential

Bioaccumulation Sulfuric acid, mono-C16-18-alkyl esters, sodium salts:

Bioaccumulation is unlikely.

(literature value)

Tetradecanol:

Bioaccumulation is unlikely.

Hexadecan-1-ol:

Bioaccumulation is unlikely.



Version: 3.00 Revision Date 2014/08/22

Octadecan-1-ol:

Bioaccumulation is unlikely.

12.4 Mobility in soil

Mobility Sulfuric acid, mono-C16-18-alkyl esters, sodium salts:

Koc: 2000 - 5000 Slightly mobile in soils strong adsorption to soil

Tetradecanol:

Adsorption/Soil; Koc: 50828; log Koc: 4.71; calculated

immobile

strong adsorption to soil

The substance and its relevant degradation products decompose rapidly.

Hexadecan-1-ol:

Adsorption/Soil; Koc: 143000; calculated

immobile

strong adsorption to soil

The substance and its relevant degradation products decompose rapidly.

Octadecan-1-ol:

Adsorption/Soil; Koc: 471350; calculated

immobile

strong adsorption to soil

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 Sulfuric acid, mono-C16-18-alkyl esters, sodium salts:

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

Tetradecanol:

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

Hexadecan-1-ol:

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

This substance is not considered to be persistent, bioaccumulating nor toxic (PBT).

Octadecan-1-ol:

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

This substance is not considered to be persistent, bioaccumulating nor toxic (PBT).

12.6 Other adverse effects

General advice Sulfuric acid, mono-C16-18-alkyl esters, sodium salts:

Harmful to aquatic life with long lasting effects.

Tetradecanol:

Very toxic to aquatic life with long lasting effects.

Hexadecan-1-ol: None known. Octadecan-1-ol: None known.

Environmental distribution Hexadecan-1-ol:

Predicted distribution to environmental compartments

After release, adsorbs onto soil.

SECTION 13: DISPOSAL CONSIDERATIONS



Version: 3.00 Revision Date 2014/08/22

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.



Version: 3.00 Revision Date 2014/08/22

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

Directive 96/82/EC on the control of major-accident hazards involving dangerous substances

list entry in the directive: Directive 96/82/EC does not apply

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

Sulfuric acid, mono-C16-18-alkyl esters, sodium salts

A Chemical Safety Assessment is not required for this substance (quantity threshold for registration not reached).

tetradecanol

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

hexadecan-1-ol



Version: 3.00 Revision Date 2014/08/22

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

octadecan-1-ol

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

SECTION 16: OTHER INFORMATION

Text of R-phrases mentioned in Section 3

R11 Highly flammable. R36 Irritating to eyes. R36/38 Irritating to eyes and skin. R50 Very toxic to aquatic organisms.

Full text of H-Statements referred to under sections 2 and 3.

H228	Flammable solid.
H315	Causes skin irritation.
H319	Causes serious eye irritation.
H400	Very toxic to aquatic life.

H410 Very toxic to aquatic life with long lasting effects. Toxic to aquatic life with long lasting effects. H411 H412 Harmful to aquatic life with long lasting effects.

Safety datasheet sections which have been updated:

- 2. Hazards identification
- 3. Composition/information on ingredients
- 6. Accidental release measures
- 9. Physical and chemical properties
- 12. Ecological information
- 15. Regulatory information

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

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 American National Standards Institute ANSI ASTM American Society of Testing and Materials (US)

BCF Bioconcentration factor

CLP Regulation on Classification, Labelling and Packaging of Substances and Mixtures

Deutsches Institut für Normung DIN DNEL Derived No-Effect Level DSL Domestic Substances List Effect concentration ... %

ENCS Existing Notified Chemical Substances (Japan) European Waste Catalogue International Air Transport Association **EWC** IATA



Version: 3.00 Revision Date 2014/08/22

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

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.

tetradecanol

http://www.sasolgermany.de/fileadmin/doc/productsafety/Annex/00000000101_EN_01.pdf

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/00000000063_EN_01.pdf