NACOL 14 - 98

Version: *6*.05 **Revision Date 2017/06/22**

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

1.1 Product identifier

Trade name	**NACOL 14 - 98**
INCI	Myristyl Alcohol
REACH No.	01-2119485910-33-0000
Substance name (REACH / CLP)	Tetradecanol

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

Use	Industrial use raw material for cosmetic agents raw material for washing and cleaning agents raw material for textile auxiliary agents raw material for synthesis processes in the chemical industry raw material for lubricants and lubricant additives raw material for fragrances
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)

Eye irritation Category 2	Causes serious eye irritation.
Chronic aquatic toxicity Category 1	Very toxic to aquatic life with long lasting effects.

2.2 Label elements

Labelling (REGULATION (EC) No 1272/2008)

Hazard pictograms

Signal word Warning

Hazard statements

H319	Causes serious eye irritation.
H410	Very toxic to aquatic life with long lasting effects.

Precautionary statements

P264	Wash hands thoroughly after handling.
P273	Avoid release to the environment.
P280	Wear protective gloves/ eye protection/ face protection.
P305 + P351 + P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P337 + P313	If eye irritation persists: Get medical advice/ attention.
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 substance in the meaning of regulation (EC) 1907/2006.

COMPONENTS TO BE NAMED IN ACCORDANCE WITH REGULATION (EC) 1907/2006 AS WELL AS OTHER HAZARDOUS INGREDIENTS AND CONTAINED SUBSTANCES WITH WORK PLACE LIMIT VALUES

Tetradecanol

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 (Regulation (EC) No 1272/2008):	Eye Irrit. 2	H319	
	Aquatic Chronic	1	H410

Dodecan-1-ol

content: <= 1.5 % **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	In the event of transport accidents, request support from the nearest TUIS centre.

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.

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.
Further information on storage conditions	Protect from frost, heat and sunlight.
Storage class (TRGS 510)	11: Combustible Solids
Other data	Stable at normal ambient temperature and pressure.

7.3 Specific end use(s)

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: 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		Not relevant / not applicable

	effects		
	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

PREDICTED NO EFFECT CONCENTRATION (PNEC)

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

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	Protective suit
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. 36 - 39 °C; DIN 53175
Boiling point/boiling range	ca. 270 - 290 °C
Flash point	ca. 145 °C; DIN 51758
Evaporation rate	Not relevant / not applicable Justification: Solid
Flammability (solid, gas)	not auto-flammable
Lower explosion limit	Not relevant / not applicable Justification: Solid
Upper explosion limit	Not relevant / not applicable Justification: Solid
Vapour pressure	< 1.000 hPa; 20 °C
Relative vapour density	Not relevant / not applicable, Justification: Solid
Density	ca.0.8 g/cm3; 60 °C; DIN 51757
Relative density	No data available
Bulk density	Not applicable
Water solubility	insoluble
Partition coefficient: n-octanol/water	log Pow: 5.5
Ignition temperature	ca. 260 °C; ASTM E 659
Auto-ignition temperature	not auto-flammable
Viscosity, dynamic	ca. 6.4 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 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

10.6 Hazardous decomposition products

Hazardous decomposition No decomposition if stored and applied as directed.

products

Thermal decomposition Stable under normal conditions.

SECTION 11: TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects

Acute toxicity

Acute oral toxicity 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 LC50 Rat: > 1.5 mg/l; 1 h
Based on available data, the classification criteria are not met.

Acute dermal toxicity LD50 Rabbit: > 2,000 mg/kg;
Target Organs: Skin
Symptoms: Local irritation
Based on available data, the classification criteria are not met.

Skin corrosion/irritation

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

Serious eye damage/eye irritation

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

Respiratory or skin sensitisation

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

Genotoxicity in vivo In vivo tests did not show mutagenic effects
(literature value)
Category approach

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

Carcinogenicity

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

STOT - single exposure

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

STOT - repeated exposure

Remarks	The substance or mixture is not classified as specific target organ toxicant, repeated exposure.
Repeated dose toxicity	Rat; Oral; Subchronic toxicity 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

Aspiration hazard

Aspiration toxicity	Not applicable

Further information

Toxicological information	Toxicokinetics The substance is poorly absorbed via skin. The substance is metabolised and excreted.

SECTION 12: ECOLOGICAL INFORMATION

12.1 Toxicity

Toxicity to fish	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 daphnia and other aquatic invertebrates	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	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	EL50 (96 h) Desmodesmus subspicatus (Scenedesmus subspicatus) ; static test; In the range of water solubility not toxic under test conditions. (literature value)
Toxicity to bacteria	No data available
Toxicity to soil dwelling	LC50 (72 h) Caenorhabditis elegans, Worm (Nematoda): > 1,000 mg/kg; mortality

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

12.2 Persistence and degradability

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

12.3 Bioaccumulative potential

Bioaccumulation	Bioaccumulation is unlikely.

12.4 Mobility in soil

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

12.6 Other adverse effects

General advice	Very toxic to aquatic life with long lasting effects.

SECTION 13: DISPOSAL CONSIDERATIONS

13.1 Waste treatment methods

Product	Can be incinerated, when in compliance with local regulations.
waste code of the European Union: EWC	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	3077
RID	3077
ADN	3077
IMDG	3077
ICAO/IATA	3077

14.2 Proper shipping name

ADR	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (tetradecanol)
RID	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (tetradecanol)
ADN	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (tetradecanol)
IMDG	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (tetradecanol)
ICAO/IATA	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (tetradecanol)

14.3 Transport hazard class

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

14.4 Packing group

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

14.5 Environmental hazards

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

14.6 Special precautions for user

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

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

Remarks	No information available.

SECTION 15: REGULATORY INFORMATION

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

Occupational restrictions	Employment restrictions for children and young workers in accordance with Directive 94/33/EC and the respective national provisions are to be observed.

NATIONAL/OTHER REGULATIONS

Legislation on the control of major-accident hazards involving dangerous substances	Seveso III: Directive 2012/18/EU of the European Parliament and of the Council on the control of major-accident hazards involving dangerous substances. list entry in the directive:: ENVIRONMENTAL HAZARDS; E1

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

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

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.

Safety datasheet sections which have been updated:

14. Transport 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.

tetradecanol

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