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

1.1 Product identifier

Trade name PARAFOL 12-97

**INCI** Dodecane

**REACH No.** 01-2119486573-28-0001

Substance name (REACH / CLP) Dodecane

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

Use Industrial use

raw material for cosmetic agents

heat transfer medium

Uses advised against

1.3 Details of the supplier of the safety data sheet

Company SASOL Germany GmbH

Anckelmannsplatz 1 20537 Hamburg Germany

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)

Aspiration hazard Category 1 May be fatal if swallowed and enters airways.

2.2 Label elements

Labelling (REGULATION (EC) No 1272/2008)

Hazard pictograms



Signal word Danger



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**Hazard statements** 

H304 May be fatal if swallowed and enters airways.

**Precautionary statements** 

P301 + P310 IF SWALLOWED: Immediately call a POISON CENTER/doctor.

P331 Do NOT induce vomiting.

P405 Store locked up.

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

**Supplemental Hazard Statements** 

EUH066 Repeated exposure may cause skin dryness or cracking.

#### Hazardous components which must be listed on the label:

Dodecane

#### 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

#### dodecane

content: >= 90 - <= 100 % component type: Active ingredient

EC-No.: 203-967-9 Index-No.: CAS-No.: 112-40-3

REACH No.: 01-2119486573-28-0001 Substance name (REACH / CLP): Dodecane

Classification (Regulation Asp. Tox. 1 H304

(EC) No 1272/2008):

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 Take off all contaminated clothing immediately. 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 with plenty of water.

In case of eye contact Rinse thoroughly with plenty of water for at least 15 minutes and consult a

physician.



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If swallowed If swallowed, seek medical advice immediately and show this container or label. If

swallowed, DO NOT induce vomiting.

4.2 Most important symptoms and effects, both acute and delayed

Most important symptoms and effects, both acute and delayed

 $\label{thm:constraints} \mbox{Symptoms: No information available.}$ 

Risks: No information available.

4.3 Indication of any immediate medical attention and special treatment needed

Indication of any immediate medical attention and special

medical attention and spe treatment needed

Treatment: Do not induce vomiting: contains petroleum distillates and/or aromatic

solvents.

#### **SECTION 5: FIREFIGHTING MEASURES**

5.1 Extinguishing media

Suitable extinguishing media Water spray, Dry powder, Foam, Carbon dioxide (CO2)

5.2 Special hazards arising from the substance or mixture

Specific hazards during

firefighting

Dangerous gases or fumes may occur in case of fire.

5.3 Advice for firefighters

Special protective equipment

for firefighters

Wear self-contained breathing apparatus for firefighting if necessary. \\

Further information Standard procedure for chemical fires. Use water spray to cool unopened

containers.

## **SECTION 6: ACCIDENTAL RELEASE MEASURES**

6.1 Personal precautions, protective equipment and emergency procedures

**Personal precautions** Use personal protective equipment.

6.2 Environmental precautions

**Environmental precautions** Avoid subsoil penetration.

Do not flush into surface water or sanitary sewer system.

6.3 Methods and materials for containment and cleaning up

Methods for cleaning up Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal

binder, sawdust).

6.4 Reference to other sections

For personal protection see section 8.

## **SECTION 7: HANDLING AND STORAGE**

## 7.1 Precautions for safe handling



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Advice on safe handling Wear personal protective equipment.

Avoid contact with skin and eyes.

Advice on protection against

fire and explosion

Keep away from open flames, hot surfaces and sources of ignition.

Normal measures for preventive fire protection.

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

Store in original container. Keep container tightly closed.

Storage class (TRGS 510) 10: Combustible liquids

Other data Stable at normal ambient temperature and pressure.

container material suitable materials: Steel

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: Dodecane
Not relevant / Not applicable

## PREDICTED NO EFFECT CONCENTRATION (PNEC)

Substance name: Dodecane
Not relevant / Not applicable

## 8.2 Exposure controls

#### PERSONAL PROTECTIVE EQUIPMENT

Respiratory protection No personal respiratory protective equipment normally required. In inadequately

ventilated areas, where workplace limits are exceeded, where unpleasant odours exist or where aerosols are in use, or smoke and mist occur, use self-contained breathing apparatus or breathing apparatus with a type A filter or appropriate



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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: Fluorinated rubber Break through time: >= 480 min Layer thickness: 0,4 mm

Material: Nitrile rubber/nitrile latex Break through time: >= 480 min Layer thickness: 0,35 mm

gloves suitable for splash protection:

Material: Polychloroprene Break through time: >= 120 min Layer thickness: 0,5 mm

unsuitable gloves

Material: Natural rubber/natural latex, butyl-rubber, Polyvinylchloride

Eye protection Tightly fitting safety goggles

Skin and body protection Wear suitable protective equipment.

**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 liquid; 20 °C; 1.013 hPa

**Form** Liquid Colour colourless

Odour hydrocarbon-like

**Odour Threshold** No valid method available.

pН Not applicable, Justification:, insoluble Melting point/range -10 °C; 1.023 hPa; ASTM D 97-66

Boiling point/boiling range ca. 212 °C; 1.013 hPa; ASTM D 1020-94



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Flash point 83,7 °C; 1.022 hPa
Evaporation rate No data available
Flammability (solid, gas) not applicable (liquid)

Lower explosion limit 0,6 %(V)

Upper explosion limit No data available

Vapour pressure 10 Pa; 20 °C; NF T 20-048

104 hPa; 50 °C; NF T 20-048

**Relative vapour density**No data available **Density**0,75 g/cm3; 20 °C

Relative density ca.0,75; 20 °C; ASTM D 7042-04

Water solubility insoluble

Partition coefficient: n-

octanol/water

log Pow: ca. 7,8; OECD Test Guideline 107

Ignition temperature ca. 208 °C; 1.013 hPa; DIN 51794

Auto-ignition temperature not auto-flammable

Viscosity, kinematic 2 mm2/s; 20 °C

1,5 mm2/s; 40 °C

Explosive properties not expected based on structure and functional groups

Oxidizing properties not expected based on structure and functional groups

9.2 Other data

None known.

#### **SECTION 10: STABILITY AND REACTIVITY**

10.1 Reactivity

**Note** Stable under recommended storage conditions.

10.2 Chemical stability

Note Stable under normal conditions.

10.3 Possibility of hazardous reactions

Hazardous reactions

Heating can release hazardous gases.

Vapours may form explosive mixture with air.

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 normally.



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#### **SECTION 11: TOXICOLOGICAL INFORMATION**

#### 11.1 Information on toxicological effects

**Acute toxicity** 

Acute oral toxicity dodecane:

LD50 Oral Rat: > 5.000 mg/kg; OECD Test Guideline 401

(literature value)

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

products (conclusion by analogy).

Test substance: Hydrocarbons, C9-C11, cyclics, < 2% aromatics Based on available data, the classification criteria are not met.

Acute inhalation toxicity dodecane:

LC50 Rat: > 5 mg/l; 8 h; OECD Test Guideline 403

Test atmosphere: vapour

(literature value)

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

products (conclusion by analogy).

Test substance: Hydrocarbons, C9-C11, isoalkanes, <2% aromatics Based on available data, the classification criteria are not met.

Acute dermal toxicity dodecane:

LD50 Dermal Rat: > 5.000 mg/kg; OECD Test Guideline 402

(literature value)

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

products (conclusion by analogy).
Test substance: Hydrocarbons, C11-C14, isoalkanes, cyclics, < 2% aromatics

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

Skin corrosion/irritation

Skin irritation dodecane:

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: Hydrocarbons, C10-C12, isoalkanes, <2% aromatics Based on available data, the classification criteria are not met.

Serious eye damage/eye irritation

Eye irritation dodecane:

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: Hydrocarbons, C9-C11, cyclics, < 2% aromatics Based on available data, the classification criteria are not met.

Respiratory or skin sensitisation

Sensitisation dodecane:

Maximisation Test Guinea pig: not sensitizing; OECD Test Guideline 406

(literature value)

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

products (conclusion by analogy).

Test substance: Hydrocarbons, C10-C12, isoalkanes, <2% aromatics

dodecane:

Patch-Test Human: not sensitizing

(literature value)

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

products (conclusion by analogy).



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Test substance: Hydrocarbons, C10-C12, isoalkanes, <2% aromatics

dodecane:

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

Germ cell mutagenicity

Genotoxicity in vitro dodecane:

In vitro tests did not show mutagenic effects

Category approach

Genotoxicity in vivo dodecane:

In vivo tests did not show mutagenic effects

Category approach

Remarks dodecane:

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

Carcinogenicity

Carcinogenicity dodecane:

Rat; Inhalation; Subchronic toxicity; OECD Test Guideline 453

Animal testing did not show any carcinogenic effects.

Category approach (literature value)

Remarks dodecane:

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

Reproductive toxicity

Reproductive toxicity dodecane:

Rat; Oral; OECD Test Guideline 422

Fertility and developmental toxicity tests did not reveal any effect on reproduction. The data are derived from the evaluations or test results achieved with similar

products (conclusion by analogy).

Test substance: decane

dodecane: Testing proposal

RemarksReproductive

toxicity

dodecane:

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

Teratogenicity dodecane:

Rat; Inhalation; OECD Test Guideline 414

(literature value)

Fertility and developmental toxicity tests did not reveal any effect on reproduction. The data are derived from the evaluations or test results achieved with similar

products (conclusion by analogy).

Test substance: Hydrocarbons, C10-C12, isoalkanes, <2% aromatics

Remarks-Teratogenicity dodecane:

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

STOT - single exposure

Remarks dodecane:

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

exposure.

STOT - repeated exposure

Remarks dodecane:

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

repeated exposure.

Repeated dose toxicity dodecane:

Rat; Oral; Subchronic toxicity

NOAEL: > 5.000 mg/kg; OECD Test Guideline 408

(literature value)



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

products (conclusion by analogy).

Test substance: Hydrocarbons, C10-C13, n-alkanes, isoalkanes, cyclics, <2%

aromatics

dodecane:

Rat; Inhalation; Subchronic toxicity; NOAEC: 10,4 mg/l Test atmosphere: vapour; OECD Test Guideline 413

(literature value)

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

products (conclusion by analogy).
Test substance: Hydrocarbons, C10-C12, isoalkanes, <2% aromatics

**Aspiration hazard** 

Aspiration toxicity dodecane:

May be fatal if swallowed and enters airways.

**Human experience** dodecane:

Repeated exposure may cause skin dryness or cracking.

**Toxicological information** 

Toxicokinetics, metabolism and distribution The substance is poorly absorbed via skin.

The substance is readily absorbed by ingestion and inhalation.

The substance is metabolised and excreted. The substance is rapidly eliminated from the body.

dodecane: Neurotoxicity (literature value)

The substance is not likely to cause neurotoxicity.

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

products (conclusion by analogy).

#### **SECTION 12: ECOLOGICAL INFORMATION**

12.1 Toxicity

Toxicity to fish dodecane:

LL50 (96 h) Oncorhynchus mykiss (rainbow trout): > 10 - 100 mg/l; semi-static

test; OECD Test Guideline 203

(literature value)

Toxicity to fish - Chronic

toxicity

dodecane:

NOELR Oncorhynchus mykiss (rainbow trout): > 1.000 mg/l; Growth rate; Fresh

water; QSAR (literature value)

Toxicity to daphnia and other

aquatic invertebrates

dodecane:

EL50 (48 h) Daphnia magna (Water flea): > 100 mg/l; Immobilization; OECD Test

Guideline 202 (literature value)

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

products (conclusion by analogy).

Test substance: Undecane

Toxicity to daphnia and other

aquatic invertebrates - Chronic toxicity

dodecane:

NOELR (21 d) Daphnia magna (Water flea): > 1.000 mg/l; reproduction rate

(literature value)

Toxicity to aquatic plants dodecane:

ErL50 (72 h) Pseudokirchneriella subcapitata (green algae): > 100 mg/l; static



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test; OECD Test Guideline 201; (literature value)

The data are derived from the evaluations or test results achieved with similar products (conclusion by analogy). Test substance: Hydrocarbons, C10-C13, n-

alkanes, isoalkanes, cyclics, <2% aromatics

Toxicity to bacteria dodecane:

The study is not necessary.

Justification:

Readily biodegradable.

The substance is not to be considered to be inhibitory to bacteria.

Toxicity for other terrestrial non-mammalian fauna

dodecane:

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

Absence of toxicity in aquatic organisms and mammals

12.2 Persistence and degradability

Biodegradability dodecane:

Readily biodegradable.; > 60 %; 28 d; aerobic; OECD Test Guideline 301F Test substance: Hydrocarbons, C11-C12, n-alkanes, <2% aromatics

12.3 Bioaccumulative potential

**Bioaccumulation** dodecane:

Bioconcentration factor (BCF): 790,9; calculated not bioaccumulative according PBT criteria

(literature value)

12.4 Mobility in soil

Mobility dodecane:

adsorption/desorption (soil); Koc: > 5000; 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** dodecane:

This substance is not considered to be persistent, bioaccumulating and toxic

This substance is not considered to be very persistent and very bioaccumulating

(vPvB).

Category approach

12.6 Other adverse effects

General advice dodecane:

None known.

## **SECTION 13: DISPOSAL CONSIDERATIONS**

13.1 Waste treatment methods

**Product** Can be incinerated, when in compliance with local regulations.

waste code of the European

**Union: EWC** 

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

agreement with the regional waste disposal authority or company.



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## **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

Ship type 2
Pollution category Y

Remarks MARPOL NAME: Dodecane (all isomers)



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## **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:: Not applicable

#### **NOTIFICATION STATUS**

Switzerland. Consolidated Inventory (based on EU-EINECS and EU-NLP)	CH INV	listed (product or constituents are listed)
Canadian Domestic Substances List (DSL)	DSL	listed (product or constituents are listed)
Australia Inventory of Chemical Substances (AICS)	AICS	listed (product or constituents are listed)
Japan. ENCS - Existing and New Chemical Substances Inventory	ENCS (JP)	listed (product or constituents are listed)
Japan. ISHL - Inventory of Chemical Substances	ISHL (JP)	listed (product or constituents are listed)
Korea. Korean Existing Chemicals Inventory (KECI)	KECI (KR)	listed (product or constituents are listed)
Philippines Inventory of Chemicals and Chemical Substances (PICCS)	PICCS (PH)	listed (product or constituents are listed)
China. Inventory of Existing Chemical Substances in China (IECSC)	IECSC	listed (product or constituents are listed)
Taiwan Chemical Substance Inventory (TCSI)	TCSI	listed (product or constituents are listed)
United States TSCA Inventory	TSCA	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

#### **Dodecane**

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



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#### **SECTION 16: OTHER INFORMATION**

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

H304 May be fatal if swallowed and enters airways.

#### Safety datasheet sections which have been updated:

8. Exposure controls/personal protection

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.

New findings, especially with regard to toxicology and ecology, in future may

require different labelling.

#### 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 Internediate 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



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## **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.

## Dodecane

 $http://www.sasolgermany.de/fileadmin/doc/productsafety/Annex/00000010616\_EN\_01.pdf$