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## SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1 Product identifier		
Product name	:	Klübersynth GEM 4-100 N (H)
Article-No.	:	012377
1.2 Relevant identified uses of t	he s	substance or mixture and uses advised against
Use of the Sub- stance/Mixture	:	Lubricating oil
Recommended restrictions on use	:	Restricted to professional users.
1.3 Details of the supplier of the	e saf	ety data sheet
Company	:	Klüber Lubrication München Geisenhausenerstr. 7 81379 München Deutschland Tel: +49 (0) 89 7876 0 Fax: +49 (0) 89 7876 333 info@klueber.com
E-mail address of person responsible for the SDS	:	mcm@klueber.com Material Compliance Management

National contact	: Klüber Lubrication Belgium Netherlands Rue Cardinal Mercier 100 7711 Dottignies Belgium Tel: +32 56 483333 Fax: +32 56 486252
	sales@be.klueber.com

## 1.4 Emergency telephone number

Emergency telephone num- ber	:	070 245 245 Antigifcentrum / Centre antipoisons
		+49 89 7876 700 (24 hrs)



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## **SECTION 2: Hazards identification**

#### 2.1 Classification of the substance or mixture

#### Classification (REGULATION (EC) No 1272/2008)

Not a hazardous substance or mixture.

#### 2.2 Label elements

#### Labelling (REGULATION (EC) No 1272/2008)

Not a hazardous substance or mixture.

#### **Additional Labelling**

EUH210	Safety data sheet available on request.
EUH208	Contains amines, C10-14-tert-alkyl. May produce an allergic reaction.

## 2.3 Other hazards

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.

#### **SECTION 3: Composition/information on ingredients**

#### 3.2 Mixtures

Chemical nature

: Synthetic hydrocarbon oil ester oil

#### Components

Chemical name	CAS-No. EC-No. Index-No. Registration number	Classification	Concentration limits M-Factor Notes	Concentration (% w/w)
amines, C10-14-tert- alkyl	701-175-2 01-2119456798-18- XXXX	Acute Tox.4; H302 Acute Tox.2; H330 Acute Tox.3; H311 Skin Corr.1B; H314 Eye Dam.1; H318 Skin Sens.1A; H317 STOT SE3; H335 Aquatic Acute1; H400 Aquatic Chronic1; H410	M-Factor: 1/1	>= 0,025 - < 0,1

For explanation of abbreviations see section 16.



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## **SECTION 4: First aid measures**

#### 4.1 Description of first aid measures

If inhaled	<ul> <li>Remove person to fresh air. If signs/symptoms continue, get medical attention.</li> <li>Keep patient warm and at rest.</li> <li>If breathing is irregular or stopped, administer artificial respiration.</li> </ul>
In case of skin contact	<ul> <li>Remove contaminated clothing. If irritation develops, get med- ical attention.</li> <li>In case of contact, immediately flush skin with plenty of water.</li> </ul>
In case of eye contact	<ul> <li>Rinse immediately with plenty of water, also under the eyelids, for at least 10 minutes.</li> <li>If eye irritation persists, consult a specialist.</li> </ul>
If swallowed	: Move the victim to fresh air. Do NOT induce vomiting. Rinse mouth with water.

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

Symptoms	:	No information available.
Risks	:	None known.

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

_	
Treatment	
IIEalIIEIIL	

### **SECTION 5: Firefighting measures**

#### 5.1 Extinguishing media

Suitable extinguishing media	:	Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.
Unsuitable extinguishing media	:	High volume water jet

No information available.

## 5.2 Special hazards arising from the substance or mixture

Hazardous combustion prod-	:	Carbon oxides
ucts		

#### 5.3 Advice for firefighters

Special protective equipment	:	In the event of fire, wear self-contained breathing apparatus.
for firefighters		Use personal protective equipment. Exposure to decomposi-
		tion products may be a hazard to health.



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Further information : Standard procedure for chemical fires.

## **SECTION 6: Accidental release measures**

6.1 Personal precautions, protective	6.1 Personal precautions, protective equipment and emergency procedures					
Personal precautions :	Evacuate personnel to safe areas. Use personal protective equipment. Refer to protective measures listed in sections 7 and 8.					
6.2 Environmental precautions	6.2 Environmental precautions					
Environmental precautions :	Try to prevent the material from entering drains or water courses. Prevent further leakage or spillage if safe to do so. Local authorities should be advised if significant spillages cannot be contained.					
6.3 Methods and material for containment and cleaning up						
Mathada far daaning un	Contain anillage, and then collect with non-combustible ch					

Methods for cleaning up : Contain spillage, and then collect with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to local / national regulations (see section 13).

#### 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	<ul> <li>For personal protection see section 8.</li> <li>Smoking, eating and drinking should be prohibited in the plication area.</li> <li>Wash hands and face before breaks and immediately af handling the product.</li> </ul>	·
Hygiene measures	: Wash face, hands and any exposed skin thoroughly after handling.	)r

#### 7.2 Conditions for safe storage, including any incompatibilities

Requirements for storage areas and containers	:	Store in original container. Keep container closed when not in use. Keep in a dry, cool and well-ventilated place. Containers which are opened must be carefully resealed and kept upright to prevent leakage. Store in accordance with the particular national regulations. Keep in properly labelled containers.
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## 7.3 Specific end use(s)

Specific use(s)

: Specific instructions for handling, not required.

## **SECTION 8: Exposure controls/personal protection**

#### 8.1 Control parameters

Contains no substances with occupational exposure limit values.

#### Derived No Effect Level (DNEL) according to Regulation (EC) No. 1907/2006:

Substance name	End Use	Exposure routes	Potential health ef- fects	Value
diisotridecyl adipate	Workers	Inhalation	Long-term systemic effects	24 mg/m3
	Workers	Skin contact	Long-term systemic effects	3,4 mg/kg bw/day
amines, C10-14-tert- alkyl	Workers	Inhalation	Long-term systemic effects	12,5 mg/m3
	Workers	Inhalation	Long-term local ef- fects	12,1 mg/m3

#### Predicted No Effect Concentration (PNEC) according to Regulation (EC) No. 1907/2006:

Substance name	Environmental Compartment	Value
diisotridecyl adipate	Fresh water	0,00004 mg/l
	Intermittent use/release	1 mg/l
	Marine water	0,000004 mg/l
	Intermittent use/release	1 mg/l
	Sewage treatment plant	48 mg/l
	Fresh water sediment	40 mg/kg dry
		weight (d.w.)
	Marine sediment	40 mg/kg dry
		weight (d.w.)
	Soil	1 mg/kg dry
		weight (d.w.)
amines, C10-14-tert-alkyl	Fresh water	0,001 mg/l
	Marine water	0,0001 mg/l
	Intermittent use/release	0,004 mg/l
	Sewage treatment plant	0,635 mg/l
	Fresh water sediment	2,14 mg/l
	Marine sediment	0,214 mg/l
	Soil	0,428 mg/l
	Oral	4,71 mg/l

#### 8.2 Exposure controls

### **Engineering measures**

none

#### Personal protective equipment

Eye protection

: Safety glasses with side-shields



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N B	d protection laterial reak through time rotective index	: Nitrile rubber : > 10 min : Class 1		
R	emarks	amongst other t type of glove ar case. The selected pr	nd therefore has to be rotective gloves have	I, the thickness and the
Resp	piratory protection	: Not required; ex	xcept in case of aeros	sol formation.
Filter	r type	: Filter type A-P		
Prote	ective measures	to the concentra at the specific v Choose body p	ation and amount of t workplace. rotection in relation to bunt of dangerous sub	ust be selected according the dangerous substance o its type, to the concen- bstances, and to the spe-

## **SECTION 9: Physical and chemical properties**

## 9.1 Information on basic physical and chemical properties

Appearance	:	liquid
Colour	:	yellow
Odour	:	characteristic
Odour Threshold	:	No data available
рН	:	Not applicable
Melting point/range	:	No data available
Boiling point/boiling range	:	No data available
Flash point	:	> 200 °C Method: open cup
Evaporation rate	:	No data available
Flammability (solid, gas)	:	Not applicable



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	er explosion limit / Upper nability limit	· :	No data available	
	er explosion limit / Lower nability limit	• :	No data available	
Vapo	our pressure	:	< 0,001 hPa (20 °C)	
Relat	tive vapour density	:	No data available	
Relat	tive density	:	0,85 (20 °C) Reference substance: Water The value is calculated	
Dens	sity	:	0,85 g/cm3 (20 °C)	
Bulk	density	:	No data available	
	oility(ies) /ater solubility	:	insoluble	
S	olubility in other solvents	6 :	No data available	
	tion coefficient: n- nol/water	:	No data available	
Auto	-ignition temperature	:	No data available	
Decc	omposition temperature	:	No data available	
Visco Vi	osity iscosity, dynamic	:	No data available	
Vi	iscosity, kinematic	:	100 mm2/s (40 °C)	
Explo	osive properties	:	Not explosive	
Oxidi	izing properties	:	No data available	
9.2 Other	information			
Subli	mation point	:	No data available	
Self-i	ignition	:	No data available	



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## **SECTION 10: Stability and reactivity**

#### 10.1 Reactivity

No hazards to be specially mentioned.

#### **10.2 Chemical stability**

Stable under normal conditions.

#### 10.3 Possibility of hazardous reactions

Hazardous reactions : No dangerous reaction known under conditions of normal use.

#### 10.4 Conditions to avoid

Conditions to avoid : No conditions to be specially mentioned.

#### 10.5 Incompatible materials

Acute toxicity

Materials to avoid : No materials to be especially mentioned.

#### **10.6 Hazardous decomposition products**

No decomposition if stored and applied as directed.

## **SECTION 11: Toxicological information**

#### 11.1 Information on toxicological effects

Acute toxicity		
Product: Acute oral toxicity	:	Remarks: This information is not available.
Acute inhalation toxicity	:	Remarks: This information is not available.
Acute dermal toxicity	:	Remarks: This information is not available.
Components:		
amines, C10-14-tert-alkyl:		
Acute oral toxicity	:	LD50 (Rat): 612 mg/kg Method: OECD Test Guideline 401
Acute inhalation toxicity	:	LC50 (Rat): 1,19 mg/l Exposure time: 4 h Test atmosphere: vapour Method: OECD Test Guideline 403
Acute dermal toxicity	:	LD50 (Rat): 251 mg/kg Method: OECD Test Guideline 402



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Skin	corrosion/irritation			
Prod	uct.			
Rema			This information is not available.	
Rema	aiks	•		
<u>Com</u>	ponents:			
amin	es, C10-14-tert-alkyl:			
Asse	ssment	:	Causes burns.	
Resu	lt	:	Causes burns.	
Seric	ous eye damage/eye ir	ritatio	on	
Prod	uct:			
Rema	arks	:	This information is not available.	
<u>Com</u>	ponents:			
amin	es, C10-14-tert-alkyl:			
Spec	· · · ·	:	Rabbit	
•	ssment	÷	Risk of serious damage to eyes.	
Meth	od	:	OECD Test Guideline 405	
Resu	lt	:	Irreversible effects on the eye	
Resp	piratory or skin sensit	isatio	n	
Prod	uct:			
Rema	arks	:	This information is not available.	
<u>Com</u>	ponents:			
amin	es, C10-14-tert-alkyl:			
Spec	ies	:	Guinea pig	
Asse	ssment	:	The product is a skin sensitiser, sub	o-category 1A.
Meth		:	OECD Test Guideline 406	
Resu	lt	:	Probability or evidence of high skin mans	sensitisation rate in hu-
Germ	n cell mutagenicity			
Prod			Deviced a Nielland - 1911	
Geno	otoxicity in vitro	:	Remarks: No data available	
Geno	otoxicity in vivo	:	Remarks: No data available	
<u>Com</u>	ponents:			
amin	es, C10-14-tert-alkyl:			
Geno	otoxicity in vitro	:	Test Type: In vitro mammalian cell g	gene mutation test
				a brand of



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			Test system: Chinese hamster ova Method: OECD Test Guideline 476 Result: negative	
			Test Type: Ames test Test system: Salmonella typhimuriu Method: OECD Test Guideline 471 Result: negative	um
Genoto	oxicity in vivo	:	Test Type: Chromosome aberration Species: Mouse Application Route: Oral Method: OECD Test Guideline 474 Result: negative	
Germ o sessmo		:	Animal testing did not show any mu	utagenic effects.
Carcin	ogenicity			
Produ	<u>ct:</u>			
Remar	ks	:	No data available	
Repro	ductive toxicity			
Produ				
Effects	on fertility		Remarks: No data available	
Effects ment	on foetal develop-	:	Remarks: No data available	
Comp	onents:			
amine	s, C10-14-tert-alkyl:			
Effects ment	on foetal develop-	:	Species: Rat Method: OECD Test Guideline 414 Result: No effects on fertility and ea ment were detected.	
Reproc sessm	ductive toxicity - As- ent	:	Animal testing did not show any eff Animal testing did not show any eff ment.	
STOT	- single exposure			
Comp	onents:			
	<b>s, C10-14-tert-alkyl:</b> sment		May cause respiratory irritation.	



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S	стот	<ul> <li>repeated exposure</li> </ul>			
<u>c</u>	Comp	onents:			
	amine Assess	<b>s, C10-14-tert-alkyl:</b> sment	:	The substance or mixture is not classified organ toxicant, repeated exposure.	d as specific target
R	Repea	ted dose toxicity			
<u>P</u>	Produ	<u>ct:</u>			
F	Remar	ks	:	This information is not available.	
<u>c</u>	Comp	onents:			
		s, C10-14-tert-alkyl:			
N A T		L ation Route mosphere	::	Rat 19 mg/kg Inhalation vapour OECD Test Guideline 412	
N A	Specie NOAEI Applica Methoo	L ation Route	:	Rat 20 mg/kg Skin contact OECD Test Guideline 410	
Δ	Aspira	tion toxicity			
	<b>Produ</b> This in	<u>ct:</u> formation is not availa	able.		
<u>c</u>	Comp	onents:			
		s, C10-14-tert-alkyl: biration toxicity classifi	catio	n	

## **Further information**

#### Product:

Remarks

: Information given is based on data on the components and the toxicology of similar products.



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## **SECTION 12: Ecological information**

## 12.1 Toxicity

Product:		
Toxicity to fish	:	Remarks: No data available
Toxicity to daphnia and other aquatic invertebrates	:	Remarks: No data available
Toxicity to algae/aquatic plants	:	Remarks: No data available
Toxicity to microorganisms	:	Remarks: No data available
Components:		
amines, C10-14-tert-alkyl:		
Toxicity to fish	:	LC50 (Oncorhynchus mykiss (rainbow trout)): 1,3 mg/l Exposure time: 96 h Method: OECD Test Guideline 203
Toxicity to daphnia and other aquatic invertebrates	:	EC50 (Daphnia magna (Water flea)): 2,5 mg/l Exposure time: 48 h
Toxicity to algae/aquatic plants	:	EC50 (Selenastrum capricornutum (green algae)): 0,44 m Exposure time: 72 h Test Type: Growth inhibition Method: OECD Test Guideline 201
M-Factor (Acute aquatic tox- icity)	:	1
Toxicity to fish (Chronic tox- icity)	:	NOEC: 0,078 mg/l Exposure time: 96 d Species: Oncorhynchus mykiss (rainbow trout) Method: OECD Test Guideline 210
M-Factor (Chronic aquatic	:	1

#### Product:

Biodegradability	:	Remarks: No data available
Physico-chemical removabil- ity	:	Remarks: No data available



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#### Components:

amines, C10-14-tert-alkyl:		
Biodegradability	:	Inoculum: activated sludge Concentration: 4 mg/l Result: Not rapidly biodegradable Biodegradation: 21,8 % Exposure time: 28 d
		Method: OECD Test Guideline 301D

#### 12.3 Bioaccumulative potential

#### Product:

Bioaccumulation	:	Remarks: This mixture contains no substance considered to
		be persistent, bioaccumulating and toxic (PBT). This mixture contains no substance considered to be very
		persistent and very bioaccumulating (vPvB).

## Components:

## amines, C10-14-tert-alkyl:

Partition coefficient: n-	:	log Pow: 2,9 (20 °C)
octanol/water		

#### 12.4 Mobility in soil

<u>Product:</u> Mobility	:	Remarks: No data available
Distribution among environ- mental compartments	:	Remarks: No data available

## 12.5 Results of PBT and vPvB assessment

#### Product:

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.

#### 12.6 Other adverse effects

Product:		
Endocrine disrupting poten- tial	:	The substance/mixture does not contain components consid- ered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.
Additional ecological infor-	:	No information on ecology is available.



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## **SECTION 13:** Disposal considerations

13.1 Waste treatment methods		
Product :		The product should not be allowed to enter drains, water courses or the soil.
		Waste codes should be assigned by the user based on the application for which the product was used.
Contaminated packaging	:	Packaging that is not properly emptied must be disposed of as the unused product. Dispose of waste product or used containers according to
		local regulations.
		The following Waste Codes are only suggestions:
Waste Code	:	unused product 13 02 06*, synthetic engine, gear and lubricating oils
		uncleaned packagings 15 01 10, packaging containing residues of or contaminated by hazardous substances

## **SECTION 14: Transport information**

## 14.1 UN number

ADN	:	Not regulated as a dangerous good
ADR	:	Not regulated as a dangerous good
RID	:	Not regulated as a dangerous good
IMDG	:	Not regulated as a dangerous good
ΙΑΤΑ	:	Not regulated as a dangerous good
14.2 UN proper shipping name		
ADN	:	Not regulated as a dangerous good
ADR	:	Not regulated as a dangerous good
RID	:	Not regulated as a dangerous good
IMDG	:	Not regulated as a dangerous good
ΙΑΤΑ	:	Not regulated as a dangerous good

14.3 Transport hazard class(es)



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ADR		: Not regulated as a dangerous good	
RID		: Not regulated as a dangerous good	
IMDO	3	: Not regulated as a dangerous good	
IATA		: Not regulated as a dangerous good	
14.4 Pack	king group		
ADN		: Not regulated as a dangerous good	
		: Not regulated as a dangerous good	
RID		: Not regulated as a dangerous good	
IMDO	2	: Not regulated as a dangerous good	
-	(Cargo)	: Not regulated as a dangerous good	
	(Passenger)	: Not regulated as a dangerous good	
	ronmental hazards		
ADN		: Not regulated as a dangerous good	
ADR		: Not regulated as a dangerous good	
RID		: Not regulated as a dangerous good	
IMDO	3	: Not regulated as a dangerous good	
	(Passenger)	: Not regulated as a dangerous good	
	(Cargo)	: Not regulated as a dangerous good	
	cial precautions for		
Not a	pplicable		
	•	ng to Annex II of Marpol and the IBC Code	
Rem	arks	: Not applicable for product as supplied.	

## SECTION 15: Regulatory information

15.1 Safety, health and environmental regulations/legislat ture	ion specific for the substance or mix-
REACH - Candidate List of Substances of Very High Concern for Authorisation (Article 59).	: This product does not contain sub- stances of very high concern (Regu- lation (EC) No 1907/2006 (REACH), Article 57).
REACH - List of substances subject to authorisation (Annex XIV)	: Not applicable
Regulation (EC) No 1005/2009 on substances that deplete the ozone layer	: Not applicable
Regulation (EU) 2019/1021 on persistent organic pollu-	: Not applicable
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(recast)		
		Not applicable
arket and use of cert	ain dangerous substances,	Not applicable
	•	nt and of the Council on the control of
ile organic compound	emissions (integrated po	24 November 2010 on industrial Ilution prevention and control) nds (VOC) content: 0,14 %
	13.04.2021 (recast) lation (EC) No 649/20 and the Council cond ngerous chemicals CH - Restrictions on the arket and use of cert arations and articles (a so III: Directive 2012/ r-accident hazards inv	13.04.2021       Date of first issue: 29.09.2016         (recast)       Iation (EC) No 649/2012 of the European Parlia- and the Council concerning the export and import ngerous chemicals         CH - Restrictions on the manufacture, placing on arket and use of certain dangerous substances, arations and articles (Annex XVII)         so III: Directive 2012/18/EU of the European Parliame -accident hazards involving dangerous substances. Not applicable         ile organic compounds       : Directive 2010/75/EU of emissions (integrated point)

## 15.2 Chemical safety assessment

This information is not available.

#### **SECTION 16: Other information**

#### **Full text of H-Statements**

H302 :	Harmful if swallowed.
H311 :	Toxic in contact with skin.
H314 :	Causes severe skin burns and eye damage.
H317 :	May cause an allergic skin reaction.
H318 :	Causes serious eye damage.
H330 :	Fatal if inhaled.
H335 :	May cause respiratory irritation.
H400 :	Very toxic to aquatic life.
H410 :	Very toxic to aquatic life with long lasting effects.

#### Full text of other abbreviations

ADN - European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways; ADR - European Agreement concerning the International Carriage of Dangerous Goods by Road; AIIC - Australian Inventory of Industrial Chemicals; ASTM - American Society for the Testing of Materials; bw - Body weight; CLP - Classification Labelling Packaging Regulation; Regulation (EC) No 1272/2008; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DSL - Domestic Substances List (Canada); ECHA - European Chemicals Agency; EC-Number - European Community number; ECx - Concentration associated with x% response; ELx - Loading rate associated with x% response; EmS - Emergency Schedule; ENCS - Existing and New Chemical Substances (Japan); ErCx - Concentration associated with x% growth rate response; GHS - Globally Harmonized System; GLP - Good Laboratory Practice; IARC - International Agency for Research on Cancer; IATA - Interna-



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tional Air Transport Association; IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk; IC50 - Half maximal inhibitory concentration; ICAO - International Civil Aviation Organization; IECSC - Inventory of Existing Chemical Substances in China; IMDG - International Maritime Dangerous Goods; IMO - International Maritime Organization; ISHL - Industrial Safety and Health Law (Japan); ISO - International Organisation for Standardization; KECI - Korea Existing Chemicals Inventory; LC50 - Lethal Concentration to 50 % of a test population; LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose); MARPOL -International Convention for the Prevention of Pollution from Ships; n.o.s. - Not Otherwise Specified; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NZIoC - New Zealand Inventory of Chemicals; OECD - Organization for Economic Co-operation and Development; OPPTS - Office of Chemical Safety and Pollution Prevention; PBT - Persistent, Bioaccumulative and Toxic substance: PICCS - Philippines Inventory of Chemicals and Chemical Substances; (Q)SAR - (Quantitative) Structure Activity Relationship; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; RID - Regulations concerning the International Carriage of Dangerous Goods by Rail; SADT - Self-Accelerating Decomposition Temperature; SDS - Safety Data Sheet; SVHC - Substance of Very High Concern; TCSI - Taiwan Chemical Substance Inventory; TRGS -Technical Rule for Hazardous Substances; TSCA - Toxic Substances Control Act (United States); UN - United Nations; vPvB - Very Persistent and Very Bioaccumulative

#### **Further information**

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