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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	the 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 th	e saf	ety data sheet
Company	:	Klüber Lubrication München Geisenhausenerstr. 7

		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	:	Klueber Lubrication Romania SRL. Strada Autogarii 1, Office 1, Etaj 1 550135 Sibiu, Romania Tel.: +40 377 702 134 office@ro.klueber.com

1.4 Emergency telephone number

Emergency telephone num- ber	:	+40 21 318 36 06 (Luni-Vineri, 8:00-15:00) Birou RSI si Informare Toxicologica
		+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	:	Remove person to fresh air. If signs/symptoms continue, get medical attention. Keep patient warm and at rest. If breathing is irregular or stopped, administer artificial respira- tion.
In case of skin contact	:	Remove contaminated clothing. If irritation develops, get med- ical attention. In case of contact, immediately flush skin with plenty of water.
In case of eye contact	:	Rinse immediately with plenty of water, also under the eyelids, for at least 10 minutes. If eye irritation persists, consult a specialist.
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	
ricalinent	

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 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				
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				
	Contain anillage, and then called with new combustible ob			

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	 For personal protection see section 8. Smoking, eating and drinking should be prohibited in the application area. Wash hands and face before breaks and immediately after handling the product.
Hygiene measures	: Wash face, hands and any exposed skin thoroughly after handling.

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
		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	 Wear protective gloves. The breat amongst other things on the material type of glove and therefore has case. The selected protective gloves tions of Regulation (EU) 2016/4 derived from it. 	aterial, the thickness and the to be measured for each have to satisfy the specifica-
Resp	piratory protection	: Not required; except in case of	aerosol formation.
Filter	r type	: Filter type A-P	
Prote	ective measures	: The type of protective equipment to the concentration and amoun at the specific workplace. Choose body protection in relat tration and amount of dangerou cific work-place.	ion to its type, to the concen-

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 / Uppe nability limit	r :	No data available	
	er explosion limit / Lowe nability limit	r:	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	S :	No data available	
	tion coefficient: n- nol/water	:	No data available	
Auto-	-ignition temperature	:	No data available	
Deco	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		
<u>Product:</u> 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.	
Reine		•		
<u>Com</u>	ponents:			
amin	es, C10-14-tert-alkyl:			
	ssment	:	Causes burns.	
Resu	lt	:	Causes burns.	
Serio	ous eye damage/eye ir	ritati	on	
Prod	uct:			
Rema	arks	:	This information is not available.	
<u>Com</u>	ponents:			
amin	es, C10-14-tert-alkyl:			
Spec	ies	:	Rabbit	
•	ssment	:	Risk of serious damage to eyes.	
Meth Resu		:	OECD Test Guideline 405 Irreversible effects on the eye	
Resp <u>Prod</u>	viratory or skin sensit uct:	isatio	n	
Rema	arks	:	This information is not available.	
<u>Com</u>	ponents:			
amin	es, C10-14-tert-alkyl:			
Spec		:	Guinea pig	
	ssment	:	The product is a skin sensitiser, sub	-category 1A.
Meth Resu		÷	OECD Test Guideline 406 Probability or evidence of high skins	sonsitisation rate in hu-
Resu	int.	•	mans	
Germ	n cell mutagenicity			
Prod	uct:			
-	otoxicity in vitro	:	Remarks: No data available	
Geno	otoxicity in vivo	:	Remarks: No data available	
Com	ponents:			
amin	es, C10-14-tert-alkyl:			
	otoxicity in vitro	:	Test Type: In vitro mammalian cell g	gene mutation test
	•			a brand of



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	evision Date: 0.04.2021		e of last issue: 13.11.2019 e of first issue: 29.09.2016	Print Date: 13.04.2021
			Test system: Chinese hamster ovar Method: OECD Test Guideline 476 Result: negative	ry cells
			Test Type: Ames test Test system: Salmonella typhimuriu Method: OECD Test Guideline 471 Result: negative	ım
Genotoxic	ity in vivo	:	Test Type: Chromosome aberration Species: Mouse Application Route: Oral Method: OECD Test Guideline 474 Result: negative	n test in vitro
Germ cell sessment	mutagenicity- As-	:	Animal testing did not show any mu	itagenic effects.
Carcinog	enicity			
Product:				
Remarks		:	No data available	
Reproduc	tive toxicity			
Product:				
Effects on	fertility	:	Remarks: No data available	
Effects on ment	foetal develop-	:	Remarks: No data available	
Compone	ents:			
amines, C	10-14-tert-alkyl:			
Effects on ment	foetal develop-	:	Species: Rat Method: OECD Test Guideline 414 Result: No effects on fertility and ea ment were detected.	arly embryonic develop-
Reproduct sessment	tive toxicity - As-	:	Animal testing did not show any efference and testing did not show any efference ment.	
STOT - si	ngle exposure			
<u>Compone</u>	ents:			
amines, C Assessme	C10-14-tert-alkyl:		May cause respiratory irritation.	



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	STOT ·	· repeated exposure			
	Compo	onents:			
	amines Assess	s, C10-14-tert-alkyl: ment	:	The substance or mixture is not classified organ toxicant, repeated exposure.	as specific target
	Repeat	ted dose toxicity			
	Produc	<u>>t:</u>			
	Remar	ks	:	This information is not available.	
	<u>Compo</u>	onents:			
		s, C10-14-tert-alkyl:			
		- ition Route mosphere	: : : : : : : : : : : : : : : : : : : :	Rat 19 mg/kg Inhalation vapour OECD Test Guideline 412	
	Species NOAEL Applica Methoo	- ition Route		Rat 20 mg/kg Skin contact OECD Test Guideline 410	
	Aspira	tion toxicity			
	Produc	<u>::</u>			
	This inf	ormation is not availa	ble.		
		onents: s, C10-14-tert-alkyl:			
	No asp	iration toxicity classifie	catior	1	

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 mg/l 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 toxicity)	:	1
12.2 Persistence and degradabil	ity	

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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ADN		: Not regulated as a dangerous good	
ADR		: Not regulated as a dangerous good	
RID		: Not regulated as a dangerous good	
IMDO		: Not regulated as a dangerous good	
IATA		: Not regulated as a dangerous good	
14.4 Pack	ing group		
ADN		: Not regulated as a dangerous good	
ADR		: Not regulated as a dangerous good	
RID		: Not regulated as a dangerous good	
IMDO	`	: 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		: Not regulated as a dangerous good	
	(Passenger)	: Not regulated as a dangerous good	
	(Cargo)	: Not regulated as a dangerous good	
	ial precautions for		
•	pplicable		
14.7 Tran	sport in bulk accore	ng to Annex II of Marpol and the IBC Code	
Rema	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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tants ((recast)			
ment a	. ,	012 of the European Parlia- cerning the export and import	: No	t applicable
the ma		he manufacture, placing on ain dangerous substances, Annex XVII)	: No	t applicable
		/18/EU of the European Parliar volving dangerous substances Not applicable		d of the Council on the control of
Volatil	e organic compound		pollution	ovember 2010 on industrial a prevention and control) /OC) content: 0,14 %
Other	regulations:			

Law 249/2015 on packaging and packaging waste Law no. 319/2006 safety and health law GD nr.1218/2006 (amendments) establishing minimum health and safety requirements in the work to ensure the protection of workers from risks related to chemical agents Law 211/2011 (amendments) on Waste Regime

15.2 Chemical safety assessment

This information is not available.

SECTION 16: Other information

Full text of H-Statements

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



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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 - International 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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according to Regulation (EC) No. 1907/2006 - RO



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