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Safety data sheet according to Regulation (EC) No 1907/2006, Annex II
Revision date / version: 01.11.2021 / 0010
Replacing version dated / version: 12.07.2019 / 0009
Valid from: 01.11.2021
PDF print date: 01.11.2021
LM 321 HT-Grease

Safety data sheet according to Regulation (EC) No 1907/2006, Annex II

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

1.1 Product identifier

LM 321 HT-Grease

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

Relevant identified uses of the substance or mixture:

Lubricant

Uses advised against:

No information available at present.

1.3 Details of the supplier of the safety data sheet

LIQUI MOLY GmbH
Jerg-Wieland-Str. 4
89081 Ulm-Lehr
Tel.: (+49) 0731-1420-0
Fax: (+49) 0731-1420-88

Qualified person's e-mail address: info@chemical-check.de, k.schnurbusch@chemical-check.de Please DO NOT use for requesting Safety Data Sheets.

1.4 Emergency telephone number

Emergency information services / official advisory body:

Telephone number of the company in case of emergencies:

+49 (0) 700 / 24 112 112 (LMR)
+1 872 5888271 (LMR)

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Classification according to Regulation (EC) 1272/2008 (CLP)

The mixture is not classified as dangerous in the terms of the Regulation (EC) 1272/2008 (CLP).

2.2 Label elements

Labeling according to Regulation (EC) 1272/2008 (CLP)

EUH208-Contains Di-iso-octyl amino methyl tolutriazole. May produce an allergic reaction.
EUH210-Safety data sheet available on request.

2.3 Other hazards

The mixture does not contain any vPvB substance (vPvB = very persistent, very bioaccumulative) or is not included under XIII of the regulation (EC) 1907/2006 (< 0,1 %).

The mixture does not contain any PBT substance (PBT = persistent, bioaccumulative, toxic) or is not included under XIII of the regulation (EC) 1907/2006 (< 0,1 %).

The mixture does not contain any substance with endocrine disrupting properties (< 0,1 %).

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SECTION 3: Composition/information on ingredients

3.1 Substances

n.a.

3.2 Mixtures

Propylene carbonate	
Registration number (REACH)	01-2119537232-48-XXXX
Index	607-194-00-1
EINECS, ELINCS, NLP, REACH-IT List-No.	203-572-1
CAS	108-32-7
content %	1-5
Classification according to Regulation (EC) 1272/2008 (CLP), M-factors	Eye Irrit. 2, H319

N-phenyl-1,1,3,3-tetramethylbutyl-naphthalen-1-amine	
Registration number (REACH)	01-2119972293-33-XXXX
Index	---
EINECS, ELINCS, NLP, REACH-IT List-No.	257-406-8
CAS	51772-35-1
content %	1-<5
Classification according to Regulation (EC) 1272/2008 (CLP), M-factors	Aquatic Chronic 4, H413

Reaction mass of isomers of: C7-9-alkyl 3-(3,5-di-tert-butyl-4-hydroxyphenyl)propionate	
Registration number (REACH)	01-0000015551-76-XXXX
Index	607-530-00-7
EINECS, ELINCS, NLP, REACH-IT List-No.	406-040-9
CAS	125643-61-0
content %	1-<5
Classification according to Regulation (EC) 1272/2008 (CLP), M-factors	Aquatic Chronic 4, H413

Di-iso-octyl amino methyl tolutriazole	
Registration number (REACH)	01-2119982395-25-XXXX
Index	---
EINECS, ELINCS, NLP, REACH-IT List-No.	939-700-4
CAS	---
content %	0,1-<1
Classification according to Regulation (EC) 1272/2008 (CLP), M-factors	Skin Irrit. 2, H315 Skin Sens. 1B, H317 Aquatic Acute 1, H400 (M=1) Aquatic Chronic 2, H411

Impurities, test data and additional information may have been taken into account in classifying and labelling the product.

For the text of the H-phrases and classification codes (GHS/CLP), see Section 16.

The substances named in this section are given with their actual, appropriate classification!

For substances that are listed in appendix VI, table 3.1 of the regulation (EC) no. 1272/2008 (CLP regulation) this means that all notes that may be given here for the named classification have been taken into account.

SECTION 4: First aid measures

4.1 Description of first aid measures

First-aiders should ensure they are protected!

Never pour anything into the mouth of an unconscious person!

Inhalation

Not required.

Skin contact

Remove polluted, soaked clothing immediately, wash thoroughly with plenty of water and soap, in case of irritation of the skin (flare), consult a doctor.

Eye contact

Wash thoroughly for several minutes using copious water. Seek medical help if necessary.

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Keep Data Sheet available.

Ingestion

Rinse the mouth thoroughly with water.
Give copious water to drink - consult doctor immediately.

4.2 Most important symptoms and effects, both acute and delayed

If applicable delayed symptoms and effects can be found in section 11 and the absorption route in section 4.1.

The following may occur:

Drying of the skin.

Irritation of the skin.

May cause sensitisation by skin contact.

In certain cases, the symptoms of poisoning may only appear after an extended period / after several hours.

4.3 Indication of any immediate medical attention and special treatment needed

Indications for the physician:

Symptomatic treatment.

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media

Water jet spray/foam/CO2/dry extinguisher

Unsuitable extinguishing media

High volume water jet

5.2 Special hazards arising from the substance or mixture

In case of fire the following can develop:

Oxides of carbon

Oxides of nitrogen

Oxides of sulphur

Oxides of phosphorus

Hydrofluoric acid

Hydrocarbons

Toxic pyrolysis products.

Hot product gives off combustible vapours.

5.3 Advice for firefighters

For personal protective equipment see Section 8.

Protective respirator with independent air supply.

According to size of fire

Full protection, if necessary.

Dispose of contaminated extinction water according to official regulations.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

6.1.1 For non-emergency personnel

In case of spillage or accidental release, wear personal protective equipment as specified in section 8 to prevent contamination.

Ensure sufficient ventilation, remove sources of ignition.

Avoid dust formation with solid or powder products.

Leave the danger zone if possible, use existing emergency plans if necessary.

Avoid contact with eyes or skin.

If applicable, caution - risk of slipping.

Do not carry cleaning cloths soaked in product in trouser pockets.

6.1.2 For emergency responders

See section 8 for suitable protective equipment and material specifications.

6.2 Environmental precautions

If leakage occurs, dam up.

Resolve leaks if this possible without risk.

Prevent from entering drainage system.

Prevent surface and ground-water infiltration, as well as ground penetration.

6.3 Methods and material for containment and cleaning up

Pick up mechanically and dispose of according to Section 13.

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6.4 Reference to other sections

For personal protective equipment see Section 8 and for disposal instructions see Section 13.

SECTION 7: Handling and storage

In addition to information given in this section, relevant information can also be found in section 8 and 6.1.

7.1 Precautions for safe handling

7.1.1 General recommendations

Ensure good ventilation.
 Eating, drinking, smoking, as well as food-storage, is prohibited in work-room.
 Observe directions on label and instructions for use.

7.1.2 Notes on general hygiene measures at the workplace

General hygiene measures for the handling of chemicals are applicable.
 Wash hands before breaks and at end of work.
 Keep away from food, drink and animal feedingstuffs.
 Remove contaminated clothing and protective equipment before entering areas in which food is consumed.

7.2 Conditions for safe storage, including any incompatibilities

Not to be stored in gangways or stair wells.
 Store product closed and only in original packing.
 Do not store with oxidizing agents.
 Protect against moisture and store closed.
 Protect from direct sunlight and warming.

7.3 Specific end use(s)

No information available at present.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Propylene carbonate						
Area of application	Exposure route / Environmental compartment	Effect on health	Descriptor	Value	Unit	Note
	Environment - sporadic (intermittent) release		PNEC	9	mg/l	
	Environment - marine		PNEC	0,09	mg/l	
	Environment - sediment, marine		PNEC	0,083	mg/l	
	Environment - soil		PNEC	0,81	mg/l	
	Environment - freshwater		PNEC	0,9	mg/l	
	Environment - sediment, freshwater		PNEC	0,83	mg/l	
	Environment - sewage treatment plant		PNEC	7400	mg/l	
Consumer	Human - oral	Long term, systemic effects	DNEL	10	mg/kg	
Consumer	Human - dermal	Long term, systemic effects	DNEL	10	mg/kg	
Consumer	Human - inhalation	Long term, local effects	DNEL	10	mg/m ³	
Consumer	Human - inhalation	Long term, systemic effects	DNEL	17,4	mg/m ³	
Workers / employees	Human - inhalation	Long term, systemic effects	DNEL	70,53	mg/kg	
Workers / employees	Human - inhalation	Long term, systemic effects	DNEL	176	mg/m ³	
Workers / employees	Human - dermal	Long term, systemic effects	DNEL	20	mg/kg	

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Workers / employees	Human - inhalation	Long term, local effects	DNEL	20	mg/m ³	
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N-phenyl-1,1,3,3-tetramethylbutyl-naphthalen-1-amine						
Area of application	Exposure route / Environmental compartment	Effect on health	Descriptor	Value	Unit	Note
	Environment - freshwater		PNEC	0,0017	mg/l	
	Environment - marine		PNEC	0,0017	mg/l	
	Environment - sporadic (intermittent) release		PNEC	0,0017	mg/l	
	Environment - sewage treatment plant		PNEC	1	mg/l	
	Environment - sediment, freshwater		PNEC	269,46	mg/kg	
	Environment - sediment, marine		PNEC	269,46	mg/kg	
	Environment - soil		PNEC	1	mg/kg	
Consumer	Human - oral	Long term, systemic effects	DNEL	1,67	mg/kg	
Consumer	Human - dermal	Long term, systemic effects	DNEL	1,67	mg/kg	
Consumer	Human - inhalation	Long term, systemic effects	DNEL	5,9	mg/m ³	
Workers / employees	Human - inhalation	Long term, systemic effects	DNEL	10	mg/m ³	
Workers / employees	Human - dermal	Long term, systemic effects	DNEL	3,3	mg/kg	

Reaction mass of isomers of: C7-9-alkyl 3-(3,5-di-tert-butyl-4-hydroxyphenyl)propionate						
Area of application	Exposure route / Environmental compartment	Effect on health	Descriptor	Value	Unit	Note
	Environment - sewage treatment plant		PNEC	10	mg/l	
	Environment - sediment, freshwater		PNEC	0,37	mg/kg	
	Environment - sediment, marine		PNEC	0,037	mg/kg	
	Environment - soil		PNEC	189	mg/kg	
	Environment - freshwater		PNEC	0,0043	mg/kg	
	Environment - marine		PNEC	0,00043	mg/kg	
Consumer	Human - inhalation		DNEL	0,74	mg/m ³	
Consumer	Human - dermal	Long term, systemic effects	DNEL	4,3	mg/kg	
Consumer	Human - oral	Long term, systemic effects	DNEL	0,43	mg/kg	
Workers / employees	Human - dermal	Long term, systemic effects	DNEL	0,22	mg/kg	
Workers / employees	Human - inhalation	Long term, systemic effects	DNEL	3	mg/m ³	
Workers / employees	Human - dermal	Short term, local effects	DNEL	1	mg/cm ²	
Workers / employees	Human - dermal	Long term, local effects	DNEL	0,006	mg/cm ²	
Workers / employees	Human - dermal	Short term, systemic effects	DNEL	20	mg/kg	

Di-iso-octyl amino methyl tolutriazole						
Area of application	Exposure route / Environmental compartment	Effect on health	Descriptor	Value	Unit	Note

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	Environment - freshwater		PNEC	0,00097 6	mg/l	
	Environment - marine		PNEC	0,00009 8	mg/l	
	Environment - sporadic (intermittent) release		PNEC	0,00976	mg/l	
	Environment - sewage treatment plant		PNEC	0,69	mg/l	
	Environment - sediment, freshwater		PNEC	0,0121	mg/kg	
	Environment - sediment, marine		PNEC	0,00121	mg/kg	
	Environment - soil		PNEC	0,00184	mg/kg	
Consumer	Human - oral	Long term, systemic effects	DNEL	0,2	mg/kg bw/day	
Consumer	Human - dermal	Long term, systemic effects	DNEL	0,2	mg/kg bw/day	
Consumer	Human - inhalation	Long term, systemic effects	DNEL	0,3	mg/m ³	
Workers / employees	Human - inhalation	Long term, systemic effects	DNEL	1,3	mg/m ³	
Workers / employees	Human - dermal	Long term, systemic effects	DNEL	0,4	mg/kg bw/day	

8.2 Exposure controls

8.2.1 Appropriate engineering controls

Ensure good ventilation. This can be achieved by local suction or general air extraction.
 If this is insufficient to maintain the concentration under the WEL or AGW values, suitable breathing protection should be worn.
 Applies only if maximum permissible exposure values are listed here.

8.2.2 Individual protection measures, such as personal protective equipment

General hygiene measures for the handling of chemicals are applicable.
 Wash hands before breaks and at end of work.
 Keep away from food, drink and animal feedingstuffs.
 Remove contaminated clothing and protective equipment before entering areas in which food is consumed.

Eye/face protection:
 Tight fitting protective goggles with side protection (EN 166).

Skin protection - Hand protection:
 Protective gloves, oil resistant (EN ISO 374).
 If applicable
 Protective nitrile gloves (EN ISO 374).
 Protective Neoprene® / polychloroprene gloves (EN ISO 374).
 Protective hand cream recommended.
 The breakthrough times determined in accordance with EN 16523-1 were not obtained under practical conditions.
 The recommended maximum wearing time is 50% of breakthrough time.

Skin protection - Other:
 Protective working garments (e.g. safety shoes EN ISO 20345, long-sleeved protective working garments).

Respiratory protection:
 Normally not necessary.

Thermal hazards:
 If applicable, these are included in the individual protective measures (eye/face protection, skin protection, respiratory protection).

Additional information on hand protection - No tests have been performed.
 In the case of mixtures, the selection has been made according to the knowledge available and the information about the contents.
 Selection of materials derived from glove manufacturer's indications.
 Final selection of glove material must be made taking the breakthrough times, permeation rates and degradation into account.
 Selection of a suitable glove depends not only on the material but also on other quality characteristics and varies from manufacturer to manufacturer.

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In the case of mixtures, the resistance of glove materials cannot be predicted and must therefore be tested before use.
 The exact breakthrough time of the glove material can be requested from the protective glove manufacturer and must be observed.

8.2.3 Environmental exposure controls

No information available at present.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Physical state:	Solid
Colour:	Beige
Odour:	Characteristic
Melting point/freezing point:	There is no information available on this parameter.
Boiling point or initial boiling point and boiling range:	There is no information available on this parameter.
Flammability:	Combustible.
Lower explosion limit:	Does not apply to solids.
Upper explosion limit:	Does not apply to solids.
Flash point:	Does not apply to solids.
Auto-ignition temperature:	Does not apply to solids.
Decomposition temperature:	There is no information available on this parameter.
pH:	Mixture is non-soluble (in water).
Kinematic viscosity:	Does not apply to solids.
Solubility:	Insoluble
Partition coefficient n-octanol/water (log value):	Does not apply to mixtures.
Vapour pressure:	There is no information available on this parameter.
Density and/or relative density:	There is no information available on this parameter.
Relative vapour density:	Does not apply to solids.

9.2 Other information

Explosives:	There is no information available on this parameter.
Oxidizing solids:	No

SECTION 10: Stability and reactivity

10.1 Reactivity

The product has not been tested.

10.2 Chemical stability

Stable with proper storage and handling.

10.3 Possibility of hazardous reactions

None known

10.4 Conditions to avoid

Protect from humidity.

10.5 Incompatible materials

Avoid contact with strong oxidizing agents.

10.6 Hazardous decomposition products

No decomposition when used as directed.

SECTION 11: Toxicological information

11.1. Information on hazard classes as defined in Regulation (EC) No 1272/2008

Possibly more information on health effects, see Section 2.1 (classification).

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Toxicity / effect	Endpoint	Value	Unit	Organism	Test method	Notes
Acute toxicity, by oral route:						n.d.a.
Acute toxicity, by dermal route:						n.d.a.
Acute toxicity, by inhalation:						n.d.a.
Skin corrosion/irritation:						n.d.a.
Serious eye damage/irritation:						n.d.a.
Respiratory or skin sensitisation:						n.d.a.

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Germ cell mutagenicity:						n.d.a.
Carcinogenicity:						n.d.a.
Reproductive toxicity:						n.d.a.
Specific target organ toxicity - single exposure (STOT-SE):						n.d.a.
Specific target organ toxicity - repeated exposure (STOT-RE):						n.d.a.
Aspiration hazard:						n.d.a.
Symptoms:						n.d.a.

Propylene carbonate						
Toxicity / effect	Endpoint	Value	Unit	Organism	Test method	Notes
Acute toxicity, by oral route:	LD50	>5000	mg/kg	Rat	OECD 401 (Acute Oral Toxicity)	
Acute toxicity, by dermal route:	LD50	>2000	mg/kg	Rabbit	OECD 402 (Acute Dermal Toxicity)	
Skin corrosion/irritation:				Rabbit	OECD 404 (Acute Dermal Irritation/Corrosion)	Not irritant
Serious eye damage/irritation:				Rabbit	OECD 405 (Acute Eye Irritation/Corrosion)	Irritant
Respiratory or skin sensitisation:				Human being		No (skin contact)
Germ cell mutagenicity:					OECD 471 (Bacterial Reverse Mutation Test)	Negative
Germ cell mutagenicity:					OECD 474 (Mammalian Erythrocyte Micronucleus Test)	Negative
Germ cell mutagenicity:					OECD 482 (Gen. Tox. - DNA Damage and Repair, Unscheduled DNA Synthesis in Mammalian Cells In Vitro)	Negative
Carcinogenicity:				Mouse	OECD 451 (Carcinogenicity Studies)	Negative
Reproductive toxicity:	NOAEL	1000	mg/kg	Rat	OECD 414 (Prenatal Developmental Toxicity Study)	Negative
Aspiration hazard:						No
Symptoms:						breathing difficulties, headaches, gastrointestinal disturbances, dizziness, nausea
Specific target organ toxicity - repeated exposure (STOT-RE), oral:	NOEL	>5000	mg/kg		OECD 408 (Repeated Dose 90-Day Oral Toxicity Study in Rodents)	
Specific target organ toxicity - repeated exposure (STOT-RE), inhalat.:	NOEC	100	mg/m3		OECD 413 (Subchronic Inhalation Toxicity - 90-Day Study)	Dust, Mist

N-phenyl-1,1,3,3-tetramethylbutyl-naphthalen-1-amine						
Toxicity / effect	Endpoint	Value	Unit	Organism	Test method	Notes
Acute toxicity, by oral route:	LD50	>2000	mg/kg	Rat		
Acute toxicity, by dermal route:	LD50	>2000	mg/kg	Rat		
Skin corrosion/irritation:						Not irritant
Serious eye damage/irritation:						Mechanical irritation possible.
Respiratory or skin sensitisation:						Not sensitising

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Germ cell mutagenicity:						Negative
Carcinogenicity:						Negative
Reproductive toxicity:						Negative

Reaction mass of isomers of: C7-9-alkyl 3-(3,5-di-tert-butyl-4-hydroxyphenyl)propionate						
Toxicity / effect	Endpoint	Value	Unit	Organism	Test method	Notes
Acute toxicity, by oral route:	LD50	> 2000	mg/kg	Rat	OECD 401 (Acute Oral Toxicity)	
Acute toxicity, by dermal route:	LD50	> 2000	mg/kg	Rat	OECD 402 (Acute Dermal Toxicity)	
Skin corrosion/irritation:				Rabbit	OECD 404 (Acute Dermal Irritation/Corrosion)	Not irritant
Serious eye damage/irritation:				Rabbit	OECD 405 (Acute Eye Irritation/Corrosion)	Not irritant
Respiratory or skin sensitisation:				Guinea pig	OECD 406 (Skin Sensitisation)	No (skin contact)
Germ cell mutagenicity:					OECD 473 (In Vitro Mammalian Chromosome Aberration Test)	Negative Chinese hamster
Germ cell mutagenicity:				Salmonella typhimurium	OECD 471 (Bacterial Reverse Mutation Test)	Negative
Carcinogenicity:				Rat		Negative, Analogous conclusion
Aspiration hazard:						Negative

Di-iso-octyl amino methyl tolutriazole						
Toxicity / effect	Endpoint	Value	Unit	Organism	Test method	Notes
Acute toxicity, by oral route:	LD50	3313	mg/kg	Rat	OECD 401 (Acute Oral Toxicity)	
Acute toxicity, by dermal route:	LD50	>2000	mg/kg	Rat	OECD 402 (Acute Dermal Toxicity)	
Skin corrosion/irritation:				Rabbit	(Draize-Test)	Skin Irrit. 2
Serious eye damage/irritation:				Rabbit	(Draize-Test)	Not irritant
Respiratory or skin sensitisation:				Guinea pig	OECD 406 (Skin Sensitisation)	Yes (skin contact)
Germ cell mutagenicity:				Mammalian	OECD 476 (In Vitro Mammalian Cell Gene Mutation Test)	Negative
Germ cell mutagenicity:				Mammalian	OECD 473 (In Vitro Mammalian Chromosome Aberration Test)	Negative, Analogous conclusion
Reproductive toxicity:				Rat	OECD 422 (Combined Repeated Dose Tox. Study with the Reproduction/Developm. Tox. Screening Test)	Negative
Specific target organ toxicity - repeated exposure (STOT-RE), oral:	NOAEL	45	mg/kg bw/d	Rat	OECD 422 (Combined Repeated Dose Tox. Study with the Reproduction/Developm. Tox. Screening Test)	

11.2. Information on other hazards

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Toxicity / effect	Endpoint	Value	Unit	Organism	Test method	Notes
Endocrine disrupting properties:						Does not apply to mixtures.

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Other information:						No other relevant information available on adverse effects on health.
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SECTION 12: Ecological information

Possibly more information on environmental effects, see Section 2.1 (classification).

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Toxicity / effect	Endpoint	Time	Value	Unit	Organism	Test method	Notes
12.1. Toxicity to fish:							n.d.a.
12.1. Toxicity to daphnia:							n.d.a.
12.1. Toxicity to algae:							n.d.a.
12.2. Persistence and degradability:							n.d.a.
12.3. Bioaccumulative potential:							n.d.a.
12.4. Mobility in soil:							n.d.a.
12.5. Results of PBT and vPvB assessment							n.d.a.
12.6. Endocrine disrupting properties:							Does not apply to mixtures.
12.7. Other adverse effects:							No information available on other adverse effects on the environment.
Other information:							According to the recipe, contains no AOX.

Propylene carbonate							
Toxicity / effect	Endpoint	Time	Value	Unit	Organism	Test method	Notes
12.1. Toxicity to fish:	LC50	96h	>1000	mg/l	Cyprinus caprio	92/69/EC	
12.1. Toxicity to daphnia:	EC50	48h	>1000	mg/l	Daphnia magna	OECD 202 (Daphnia sp. Acute Immobilisation Test)	
12.1. Toxicity to algae:	EC50	72h	>900	mg/l	Desmodesmus subspicatus	OECD 201 (Alga, Growth Inhibition Test)	
12.2. Persistence and degradability:			83,5-87-7	%		OECD 301 B (Ready Biodegradability - Co2 Evolution Test)	Readily biodegradable29 d
12.2. Persistence and degradability:	DOC	14d	90-100	%		OECD 301 A (Ready Biodegradability - DOC Die-Away Test)	
12.3. Bioaccumulative potential:	Log Pow		-0,48				Bioaccumulation is unlikely (LogPow < 1)., calculated value
12.5. Results of PBT and vPvB assessment							No PBT substance, No vPvB substance

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Toxicity to bacteria:	EC10	16h	7400	mg/l	Pseudomonas putida	DIN 38412 T.8	
Other information:	AOX		0	%			Does not contain any organically bound halogens which can contribute to the AOX value in waste water.

N-phenyl-1,1,3,3-tetramethylbutyl-naphthalen-1-amine

Toxicity / effect	Endpoint	Time	Value	Unit	Organism	Test method	Notes
12.1. Toxicity to fish:	LC50	96h	>100	mg/l	Brachydanio rerio		
12.1. Toxicity to daphnia:	EC50	48h	>100	mg/l	Daphnia magna		
12.1. Toxicity to algae:	EC50	72h	>100	mg/l	Desmodesmus subspicatus		
12.1. Toxicity to algae:	NOEC/NOEL	72h	100	mg/l	Desmodesmus subspicatus		
12.5. Results of PBT and vPvB assessment							No PBT substance, No vPvB substance
Toxicity to bacteria:	EC20	3h	>100	mg/l	activated sludge		

Reaction mass of isomers of: C7-9-alkyl 3-(3,5-di-tert-butyl-4-hydroxyphenyl)propionate

Toxicity / effect	Endpoint	Time	Value	Unit	Organism	Test method	Notes
12.5. Results of PBT and vPvB assessment							No PBT substance, No vPvB substance
12.1. Toxicity to fish:	LC50	96h	>74	mg/l	Brachydanio rerio	OECD 203 (Fish, Acute Toxicity Test)	
12.1. Toxicity to daphnia:	EC50	48h	>100	mg/l	Daphnia magna	OECD 202 (Daphnia sp. Acute Immobilisation Test)	
12.1. Toxicity to daphnia:	NOEC/NOEL	21d	>=1	mg/l	Daphnia magna	OECD 202 (Daphnia sp. Acute Immobilisation Test)	
12.1. Toxicity to algae:	EC50	72h	>3	mg/l	Scenedesmus subspicatus	OECD 201 (Alga, Growth Inhibition Test)	
12.2. Persistence and degradability:		28d	4	%		OECD 301 B (Ready Biodegradability - Co2 Evolution Test)	Not readily biodegradable
12.3. Bioaccumulative potential:	Log Pow		9,2				Low
12.3. Bioaccumulative potential:	BCF	35d	260			OECD 305 (Bioconcentration - Flow-Through Fish Test)	Concentration in organisms possible. Oncorhynchus mykiss
12.4. Mobility in soil:							Adsorption in ground.

Di-iso-octyl amino methyl tolutriazole

Toxicity / effect	Endpoint	Time	Value	Unit	Organism	Test method	Notes
12.1. Toxicity to fish:	LC50	96h	1,3	mg/l	Brachydanio rerio	OECD 203 (Fish, Acute Toxicity Test)	

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12.1. Toxicity to daphnia:	EC50	48h	2,05	mg/l	Daphnia magna	OECD 202 (Daphnia sp. Acute Immobilisation Test)	
12.1. Toxicity to algae:	EC50	72h	0,976	mg/l	Desmodesmus subspicatus	OECD 201 (Alga, Growth Inhibition Test)	
12.1. Toxicity to algae:	NOEC/NOEL	72h	0,658	mg/l	Desmodesmus subspicatus	OECD 201 (Alga, Growth Inhibition Test)	
12.2. Persistence and degradability:		28d	<10	%	activated sludge	OECD 301 B (Ready Biodegradability - Co2 Evolution Test)	Not readily biodegradable CO ₂ formation of the theoretical value
12.5. Results of PBT and vPvB assessment							No PBT substance, No vPvB substance

SECTION 13: Disposal considerations

13.1 Waste treatment methods

For the substance / mixture / residual amounts

Soaked polluted cloths, paper or other organic materials represent a fire hazard and should be controlled, collected and disposed of.
 EC disposal code no.:

The waste codes are recommendations based on the scheduled use of this product.
 Owing to the user's specific conditions for use and disposal, other waste codes may be allocated under certain circumstances. (2014/955/EU)

12 01 12 spent waxes and fats

Recommendation:

Sewage disposal shall be discouraged.
 Pay attention to local and national official regulations.
 Implement substance recycling.
 E.g. suitable incineration plant.

For contaminated packing material

Pay attention to local and national official regulations.
 Empty container completely.
 Uncontaminated packaging can be recycled.
 Dispose of packaging that cannot be cleaned in the same manner as the substance.

SECTION 14: Transport information

General statements

14.1. UN number or ID number: n.a.

Transport by road/by rail (ADR/RID)

14.2. UN proper shipping name:

14.3. Transport hazard class(es):

n.a.

14.4. Packing group:

n.a.

Classification code:

n.a.

LQ:

n.a.

14.5. Environmental hazards:

Not applicable

Tunnel restriction code:

Transport by sea (IMDG-code)

14.2. UN proper shipping name:

14.3. Transport hazard class(es):

n.a.

14.4. Packing group:

n.a.

Marine Pollutant:

n.a.

14.5. Environmental hazards:

Not applicable

Transport by air (IATA)

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14.2. UN proper shipping name:
14.3. Transport hazard class(es): n.a.
14.4. Packing group: n.a.
14.5. Environmental hazards: Not applicable

14.6. Special precautions for user

Unless specified otherwise, general measures for safe transport must be followed.

14.7. Maritime transport in bulk according to IMO instruments

Non-dangerous material according to Transport Regulations.

SECTION 15: Regulatory information

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

Observe restrictions:

n.a.

General hygiene measures for the handling of chemicals are applicable.

15.2 Chemical safety assessment

A chemical safety assessment is not provided for mixtures.

SECTION 16: Other information

Revised sections: 1-16

Classification and processes used to derive the classification of the mixture in accordance with the ordinance (EG) 1272/2008 (CLP):

Not applicable

The following phrases represent the posted Hazard Class and Risk Category Code (GHS/CLP) of the product and the constituents (specified in Section 2 and 3).

H317 May cause an allergic skin reaction.

H315 Causes skin irritation.

H319 Causes serious eye irritation.

H400 Very toxic to aquatic life.

H411 Toxic to aquatic life with long lasting effects.

H413 May cause long lasting harmful effects to aquatic life.

Eye Irrit. — Eye irritation

Aquatic Chronic — Hazardous to the aquatic environment - chronic

Skin Irrit. — Skin irritation

Skin Sens. — Skin sensitization

Aquatic Acute — Hazardous to the aquatic environment - acute

Key literature references and sources for data:

Regulation (EC) No 1907/2006 (REACH) and Regulation (EC) No 1272/2008 (CLP) as amended.

Guidelines for the preparation of safety data sheets as amended (ECHA).

Guidelines on labelling and packaging according to the Regulation (EG) Nr. 1272/2008 (CLP) as amended (ECHA).

Safety data sheets for the constituent substances.

ECHA Homepage - Information about chemicals.

GESTIS Substance Database (Germany).

German Environment Agency "Rigoletto" information site on substances that are hazardous to water (Germany).

EU Occupation Exposure Limits Directives 91/322/EEC, 2000/39/EC, 2006/15/EC, 2009/161/EU, (EU) 2017/164, (EU) 2019/1831, each as amended.

National Lists of Occupational Exposure Limits for each country as amended.

Regulations on the transport of hazardous goods by road, rail, sea and air (ADR, RID, IMDG, IATA) as amended.

Any abbreviations and acronyms used in this document:

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ADR Accord européen relatif au transport international des marchandises Dangereuses par Route (= European Agreement concerning the International Carriage of Dangerous Goods by Road)
 AOX Adsorbable organic halogen compounds
 approx. approximately
 Art., Art. no. Article number
 ASTM ASTM International (American Society for Testing and Materials)
 ATE Acute Toxicity Estimate
 BAM Bundesanstalt für Materialforschung und -prüfung (Federal Institute for Materials Research and Testing, Germany)
 BAuA Bundesanstalt für Arbeitsschutz und Arbeitsmedizin (= Federal Institute for Occupational Health and Safety, Germany)
 BCF Bioconcentration factor
 BSEF The International Bromine Council
 bw body weight
 CAS Chemical Abstracts Service
 CLP Classification, Labelling and Packaging (REGULATION (EC) No 1272/2008 on classification, labelling and packaging of substances and mixtures)
 CMR carcinogenic, mutagenic, reproductive toxic
 DMEL Derived Minimum Effect Level
 DNEL Derived No Effect Level
 DOC Dissolved organic carbon
 dw dry weight
 e.g. for example (abbreviation of Latin 'exempli gratia'), for instance
 EbCx, EyCx, EBLx (x = 10, 50) Effect Concentration/Level of x % on reduction of the biomass (algae, plants)
 EC European Community
 ECHA European Chemicals Agency
 ECx, ELx (x = 0, 3, 5, 10, 20, 50, 80, 100) Effect Concentration/Level for x % effect
 EEC European Economic Community
 EINECS European Inventory of Existing Commercial Chemical Substances
 ELINCS European List of Notified Chemical Substances
 EN European Norms
 EPA United States Environmental Protection Agency (United States of America)
 ErCx, EµCx, ErLx (x = 10, 50) Effect Concentration/Level of x % on inhibition of the growth rate (algae, plants)
 etc. et cetera
 EU European Union
 EVAL Ethylene-vinyl alcohol copolymer
 Fax. Fax number
 gen. general
 GHS Globally Harmonized System of Classification and Labelling of Chemicals
 GWP Global warming potential
 Koc Adsorption coefficient of organic carbon in the soil
 Kow octanol-water partition coefficient
 IARC International Agency for Research on Cancer
 IATA International Air Transport Association
 IBC (Code) International Bulk Chemical (Code)
 IMDG-code International Maritime Code for Dangerous Goods
 incl. including, inclusive
 IUCLID International Uniform Chemical Information Database
 IUPAC International Union for Pure Applied Chemistry
 LC50 Lethal Concentration to 50 % of a test population
 LD50 Lethal Dose to 50% of a test population (Median Lethal Dose)
 Log Koc Logarithm of adsorption coefficient of organic carbon in the soil
 Log Kow, Log Pow Logarithm of octanol-water partition coefficient
 LQ Limited Quantities
 MARPOL International Convention for the Prevention of Marine Pollution from Ships
 n.a. not applicable
 n.av. not available
 n.c. not checked
 n.d.a. no data available
 NLP No-longer-Polymer
 NOEC, NOEL No Observed Effect Concentration/Level
 OECD Organisation for Economic Co-operation and Development
 org. organic
 PBT persistent, bioaccumulative and toxic
 PE Polyethylene
 PNEC Predicted No Effect Concentration

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ppm parts per million
PVC Polyvinylchloride
REACH Registration, Evaluation, Authorisation and Restriction of Chemicals (REGULATION (EC) No 1907/2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals)
REACH-IT List-No. 9xx-xxx-x No. is automatically assigned, e.g. to pre-registrations without a CAS No. or other numerical identifier. List Numbers do not have any legal significance, rather they are purely technical identifiers for processing a submission via REACH-IT.
RID Règlement concernant le transport International ferroviaire de marchandises Dangereuses (= Regulation concerning the International Carriage of Dangerous Goods by Rail)
SVHC Substances of Very High Concern
Tel. Telephone
TOC Total organic carbon
UN RTDG United Nations Recommendations on the Transport of Dangerous Goods
VOC Volatile organic compounds
vPvB very persistent and very bioaccumulative
wwt wet weight

The statements made here should describe the product with regard to the necessary safety precautions - they are not meant to guarantee definite characteristics - but they are based on our present up-to-date knowledge.

No responsibility.

These statements were made by:

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