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Safety data sheet according to Regulation (EC) No 1907/2006, Annex II (last amended by Regulation (EU) 2020/878)
Revision date / version: 13.08.2026 / 0018
Replacing version dated / version: 16.04.2026 / 0017
Valid from: 13.08.2026
PDF print date: 13.08.2026
Leichtlauf High Tech 5W-40

Safety data sheet according to Regulation (EC) No 1907/2006, Annex II (last amended by Regulation (EU) 2020/878)

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

1.1 Product identifier

Leichtlauf High Tech 5W-40

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

Relevant identified uses of the substance or mixture:

Motor oil

Uses advised against:

No information available at present.

1.3 Details of the supplier of the safety data sheet

GB

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

LIQUI MOLY UK
1310 Solihull Parkway
Birmingham Business Park
B37 7YB Solihull
Tel: +44 121 796 5365

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:

GB

Landspítali- The National University Hospital of Iceland, tel. +354 543 2222 or 112 (valid only for Iceland)

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)

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EUH208-Contains Benzenesulfonic acid, methyl-, mono-C20-24-branched alkyl derivs., calcium salts. 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 %).

SECTION 3: Composition/information on ingredients

3.1 Substances

n.a.

3.2 Mixtures

Distillates (petroleum), hydrotreated heavy paraffinic	
Registration number (REACH)	01-2119484627-25-XXXX
Index	649-467-00-8
EINECS, ELINCS, NLP, REACH-IT List-No.	265-157-1
CAS	64742-54-7
content %	50-<75
Classification according to Regulation (EC) 1272/2008 (CLP), M-factors	Asp. Tox. 1, H304

Reaction products of Benzenamine, N-phenyl- with Nonene (branched)	
Registration number (REACH)	01-2119488911-28-XXXX
Index	---
EINECS, ELINCS, NLP, REACH-IT List-No.	701-385-4
CAS	---
content %	0,1-<3
Classification according to Regulation (EC) 1272/2008 (CLP), M-factors	Repr. 2, H361f

Phosphorodithioic acid, mixed O,O-bis(sec-Bu and 1,3-dimethylbutyl) esters, zinc salts	
Registration number (REACH)	01-2119657973-23-XXXX
Index	---
EINECS, ELINCS, NLP, REACH-IT List-No.	272-238-5
CAS	68784-31-6
content %	<2,5
Classification according to Regulation (EC) 1272/2008 (CLP), M-factors	Eye Dam. 1, H318 Aquatic Chronic 2, H411

Benzenesulfonic acid, methyl-, mono-C20-24-branched alkyl derivs., calcium salts	
Registration number (REACH)	---
Index	---
EINECS, ELINCS, NLP, REACH-IT List-No.	682-816-2
CAS	722503-68-6
content %	<2
Classification according to Regulation (EC) 1272/2008 (CLP), M-factors	Skin Sens. 1B, H317
Specific Concentration Limits and ATE	Skin Sens. 1B, H317: >=2 %

(tetrapropenyl)succinic acid	
Registration number (REACH)	01-2120752504-57-XXXX
Index	---
EINECS, ELINCS, NLP, REACH-IT List-No.	248-698-8
CAS	27859-58-1
content %	<0,3

Classification according to Regulation (EC) 1272/2008 (CLP), M-factors

Skin Corr. 1C, H314
 Eye Dam. 1, H318
 Repr. 2, H361d (oral)
 STOT RE 2, H373 (liver) (oral)

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.

The addition of the highest concentrations listed here can result in a classification. Only when this classification is listed in Section 2 does it apply. In all other cases the total concentration is below the classification.

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

Supply person with fresh air and consult doctor according to symptoms.

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

Remove contact lenses.

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

Ingestion

Rinse the mouth thoroughly with water.

Do not induce vomiting. 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.

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

Irritation of the eyes

With long-term contact:

Drying of the skin.

Dermatitis (skin inflammation)

Allergic reaction possible.

With oil mist formation:

Irritation of the respiratory tract

4.3 Indication of any immediate medical attention and special treatment needed

Symptomatic treatment.

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media

CO2

Foam

Dry extinguisher

Large fire:

Water jet spray / alcohol resistant foam

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

Hydrogen sulphide

Boron oxide

Toxic gases

5.3 Advice for firefighters

For personal protective equipment see Section 8.

In case of fire and/or explosion do not breathe fumes.

Protective respirator with independent air supply.

According to size of fire

Full protection, if necessary.

Cool container at risk with water.

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 formation of oil mist.

Avoid contact with eyes or skin.

If applicable, caution - risk of slipping.

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.

If accidental entry into drainage system occurs, inform responsible authorities.

6.3 Methods and material for containment and cleaning up

Soak up with absorbent material (e.g. universal binding agent, sand, diatomaceous earth) and dispose of according to Section 13.

Oil binder

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**

Avoid formation of oil mist.

Avoid contact with eyes.

Avoid long lasting or intensive contact with skin.

Do not heat to temperatures close to flash point.

Eating, drinking, smoking, as well as food-storage, is prohibited in work-room.

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

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.

Protect against moisture and store closed.

Store at room temperature.

7.3 Specific end use(s)

No information available at present.

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SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Chemical Name		Oil mist, mineral	
WEL-TWA: 5 mg/m3 (Mineral oil, excluding metal working fluids, ACGIH)		WEL-STEL: ---	---
Monitoring procedures:		- Draeger - Oil Mist 1/a (67 33 031)	
BMGV: ---		Other information: ---	

Distillates (petroleum), hydrotreated heavy paraffinic						
Area of application	Exposure route / Environmental compartment	Effect on health	Descriptor	Value	Unit	Note
	Environment - oral (animal feed)		PNEC	9,33	mg/kg	
Consumer	Human - inhalation	Long term, local effects	DNEL	1,19	mg/m3	
Consumer	Human - oral	Long term, systemic effects	DNEL	0,74	mg/kg	
Workers / employees	Human - inhalation	Long term, local effects	DNEL	5,58	mg/m3	
Workers / employees	Human - dermal	Long term, systemic effects	DNEL	0,97	mg/kg	
Workers / employees	Human - inhalation	Long term, systemic effects	DNEL	2,73	mg/m3	

Reaction products of Benzenamine, N-phenyl- with Nonene (branched)						
Area of application	Exposure route / Environmental compartment	Effect on health	Descriptor	Value	Unit	Note
	Environment - freshwater		PNEC	0,1	mg/l	
	Environment - marine		PNEC	0,01	mg/l	
	Environment - sporadic (intermittent) release		PNEC	1	mg/l	
	Environment - sewage treatment plant		PNEC	1	mg/l	
	Environment - sediment, freshwater		PNEC	132000	mg/kg	
	Environment - sediment, marine		PNEC	13200	mg/kg	
	Environment - soil		PNEC	263000	mg/kg	
Consumer	Human - dermal	Long term, systemic effects	DNEL	0,31	mg/kg	
Consumer	Human - oral	Long term, systemic effects	DNEL	0,31	mg/kg	
Consumer	Human - inhalation	Long term, systemic effects	DNEL	1,09	mg/m3	
Workers / employees	Human - dermal	Long term, systemic effects	DNEL	0,62	mg/kg	
Workers / employees	Human - inhalation	Long term, systemic effects	DNEL	4,37	mg/m3	

Phosphorodithioic acid, mixed O,O-bis(sec-Bu and 1,3-dimethylbutyl) esters, zinc salts						
Area of application	Exposure route / Environmental compartment	Effect on health	Descriptor	Value	Unit	Note
	Environment - water		PNEC	4	µg/l	
	Environment - marine		PNEC	4,6	µg/l	

	Environment - water, sporadic (intermittent) release		PNEC	4,4	µg/l	
	Environment - sediment, marine		PNEC	0,00701	mg/kg	
	Environment - soil		PNEC	0,0548	mg/kg	
	Environment - oral (animal feed)		PNEC	8,33	mg/kg	
	Environment - sewage treatment plant		PNEC	3,8	mg/l	
Consumer	Human - oral	Long term, systemic effects	DNEL	0,19	mg/kg bw/day	
Consumer	Human - dermal	Long term, systemic effects	DNEL	2,1	mg/kg bw/day	
Consumer	Human - oral	Long term, systemic effects	DNEL	0,19	mg/kg	
Consumer	Human - inhalation	Long term, systemic effects	DNEL	1,67	mg/kg	
Consumer	Human - dermal	Short term, systemic effects	DNEL	50	mg/kg bw/day	
Consumer	Human - inhalation	Short term, systemic effects	DNEL	198,6	mg/m3	
Workers / employees	Human - dermal	Long term, systemic effects	DNEL	9,6	mg/kg	
Workers / employees	Human - inhalation	Long term, systemic effects	DNEL	2,93	mg/m3	
Workers / employees	Human - dermal	Short term, systemic effects	DNEL	100	mg/kg bw/day	
Workers / employees	Human - inhalation	Short term, systemic effects	DNEL	496,4	mg/m3	

(tetrapropenyl)succinic acid						
Area of application	Exposure route / Environmental compartment	Effect on health	Descriptor	Value	Unit	Note
	Environment - freshwater		PNEC	0,1	mg/l	
	Environment - marine		PNEC	0,01	mg/l	
	Environment - sediment, freshwater		PNEC	62,1	mg/kg dw	
	Environment - sediment, marine		PNEC	6,21	mg/kg dw	
	Environment - soil		PNEC	12,4	mg/kg dw	
	Environment - sewage treatment plant		PNEC	100	mg/l	
	Environment - water, sporadic (intermittent) release		PNEC	3,33	mg/kg feed	
Consumer	Human - oral	Long term, systemic effects	DNEL	0,2	mg/kg bw/d	
Consumer	Human - dermal	Long term, systemic effects	DNEL	0,3	mg/kg bw/d	
Consumer	Human - inhalation	Long term, systemic effects	DNEL	0,3	mg/m3	
Workers / employees	Human - dermal	Long term, systemic effects	DNEL	0,7	mg/kg bw/d	
Workers / employees	Human - inhalation	Long term, systemic effects	DNEL	1,2	mg/m3	

Distillates (petroleum), hydrotreated heavy paraffinic						
Area of application	Exposure route / Environmental compartment	Effect on health	Descriptor	Value	Unit	Note

	Environment - oral (animal feed)		PNEC	9,33	mg/kg feed	
Consumer	Human - inhalation	Long term, local effects	DNEL	1,2	mg/m3	
Consumer	Human - oral	Long term, systemic effects	DNEL	0,74	mg/kg bw/day	
Workers / employees	Human - inhalation	Long term, systemic effects	DNEL	2,73	mg/m3	
Workers / employees	Human - dermal	Long term, systemic effects	DNEL	0,97	mg/kg bw/day	
Workers / employees	Human - inhalation	Long term, local effects	DNEL	5,6	mg/m3	

- United Kingdom | WEL-TWA = Workplace Exposure Limit - Long-term exposure limit - 8-hour TWA (= time weighted average) reference period (EH40/2005 Workplace exposure limits (Fourth Edition 2020)).

(EU) = Directive 91/322/EEC, 98/24/EC, 2000/39/EC, 2004/37/EC, 2006/15/EC, 2009/161/EU, 2017/164/EU or 2019/1831/EU:

(8) = Inhalable fraction (2004/37/EC, 2017/164/EU). (9) = Respirable fraction (2004/37/EC, 2017/164/EU). (11) = Inhalable fraction (2004/37/EC). (12) = Inhalable fraction. Respirable fraction in those Member States that implement, on the date of the entry into force of this Directive, a biomonitoring system with a biological limit value not exceeding 0,002 mg Cd/g creatinine in urine (2004/37/EC). |

| WEL-STEL = Workplace Exposure Limit - Short-term exposure limit - 15-minute reference period (EH40/2005 Workplace exposure limits (Fourth Edition 2020)).

(EU) = Directive 91/322/EEC, 98/24/EC, 2000/39/EC, 2004/37/EC, 2006/15/EC, 2009/161/EU, 2017/164/EU or 2019/1831/EU:

(8) = Inhalable fraction (2004/37/EC, 2017/164/EU). (9) = Respirable fraction (2004/37/EC, 2017/164/EU). (10) = Short-term exposure limit value in relation to a reference period of 1 minute (2017/164/EU). |

| BMGV = Biological monitoring guidance value (EH40/2005 Workplace exposure limits (Fourth Edition 2020)).

(EU) = Directive 98/24/EC or 2004/37/EC or SCOEL (Biological Limit Value - BLV, Recommendation from the Scientific Committee on Occupational Exposure Limits (SCOEL)) |

| Other information (EH40/2005 Workplace exposure limits (Fourth Edition 2020)): Sen = Capable of causing occupational asthma. Sk = Can be absorbed through skin. Carc = Capable of causing cancer and/or heritable genetic damage.

(EU) = Directive 91/322/EEC, 98/24/EC, 2000/39/EC, 2004/37/EC, 2006/15/EC, 2009/161/EU, 2017/164/EU, 2019/1831/EU or 2024/869/EU:

(13) = The substance can cause sensitisation of the skin and of the respiratory tract (98/24/EC, 2004/37/EC), (14) = The substance can cause sensitisation of the skin (2004/37/EC), (15) = Substantial contribution to the total body burden via dermal exposure possible. |

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.

Suitable assessment methods for reviewing the effectiveness of protection measures adopted include metrological and non-metrological investigative techniques.

These are specified by e.g. EN 14042.

EN 14042 "Workplace atmospheres. Guide for the application and use of procedures for the assessment of exposure to chemical and biological agents".

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 ISO 16321-1).

Skin protection - Hand protection:

Protective gloves, oil resistant (EN ISO 374).

If applicable

Protective nitrile gloves (EN ISO 374).

Minimum layer thickness in mm:

0,4

Permeation time (penetration time) in minutes:

480

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:

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

Respiratory protection:
 Normally not necessary.
 With oil mist formation:
 Filter A2 P2 (EN 14387), code colour brown, white
 Observe wearing time limitations for respiratory protection equipment.

Thermal hazards:
 Not applicable

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.
 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:	Liquid
Colour:	Brown
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:	There is no information available on this parameter.
Lower explosion limit:	There is no information available on this parameter.
Upper explosion limit:	There is no information available on this parameter.
Flash point:	230 °C
Auto-ignition temperature:	There is no information available on this parameter.
Decomposition temperature:	There is no information available on this parameter.
pH:	n.d.a.
Kinematic viscosity:	14,8 mm ² /s (100°C)
Kinematic viscosity:	88,0 mm ² /s (40°C)
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:	0,855 g/cm ³
Relative vapour density:	There is no information available on this parameter.
Particle characteristics:	Does not apply to liquids.

9.2 Other information

No information available at present.

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

No dangerous reactions are known.

10.4 Conditions to avoid

Protect from humidity.
 Open flame, ignition sources

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:						Analogous conclusion, Not irritant
Respiratory or skin sensitisation:						n.d.a.
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.

Distillates (petroleum), hydrotreated heavy paraffinic

Toxicity / effect	Endpoint	Value	Unit	Organism	Test method	Notes
Acute toxicity, by oral route:	LD50	>5000	mg/kg	Rat	OECD 420 (Acute Oral toxicity - Fixe Dose Procedure)	Analogous conclusion
Acute toxicity, by dermal route:	LD50	>5000	mg/kg	Rabbit	OECD 402 (Acute Dermal Toxicity)	Analogous conclusion
Acute toxicity, by inhalation:	LC50	>5,53	mg/l/4h	Rat	OECD 403 (Acute Inhalation Toxicity)	Aerosol, Analogous conclusion
Acute toxicity, by inhalation:	LC50	>5,53	mg/l/4h	Rat	OECD 403 (Acute Inhalation Toxicity)	Analogous conclusion
Skin corrosion/irritation:				Rabbit	OECD 404 (Acute Dermal Irritation/Corrosion)	Not irritant, Analogous conclusion
Serious eye damage/irritation:				Rabbit	OECD 405 (Acute Eye Irritation/Corrosion)	Not irritant, Analogous conclusion
Respiratory or skin sensitisation:				Guinea pig	OECD 406 (Skin Sensitisation)	No (skin contact), Analogous conclusion
Germ cell mutagenicity:				Salmonella typhimurium	OECD 471 (Bacterial Reverse Mutation Test)	Negative, Analogous conclusion
Germ cell mutagenicity:					OECD 473 (In Vitro Mammalian Chromosome Aberration Test)	Negative, Analogous conclusion Chinese hamster
Germ cell mutagenicity:				Mouse	OECD 476 (In Vitro Mammalian Cell Gene Mutation Test)	Negative, Analogous conclusion

Germ cell mutagenicity:				Mouse	OECD 474 (Mammalian Erythrocyte Micronucleus Test)	Negative, Analogous conclusion
Carcinogenicity:				Mouse	OECD 451 (Carcinogenicity Studies)	Negative, Analogous conclusion 78 weeks, dermal
Reproductive toxicity (Developmental toxicity):	NOAEL	2000	mg/kg	Rat	OECD 414 (Prenatal Developmental Toxicity Study)	Analogous conclusion
Reproductive toxicity (Effects on fertility):	NOAEL	>=1000	mg/kg	Rat	OECD 421 (Reproduction/Developmental Toxicity Screening Test)	Analogous conclusion
Specific target organ toxicity - repeated exposure (STOT-RE), oral:	LOAEL	125	mg/kg	Rat	OECD 408 (Repeated Dose 90-Day Oral Toxicity Study in Rodents)	Analogous conclusion
Specific target organ toxicity - repeated exposure (STOT-RE), dermal:	NOAEL	1000	mg/kg	Rabbit	OECD 410 (Repeated Dose Dermal Toxicity - 90-Day)	Analogous conclusion
Specific target organ toxicity - repeated exposure (STOT-RE), inhalat.:	NOAEL	0,22	mg/l	Rat		Dust, Mist, Analogous conclusion 4 weeks
Aspiration hazard:						Asp. Tox. 1
Symptoms:						gastrointestinal disturbances, diarrhoea

Reaction products of Benzenamine, N-phenyl- with Nonene (branched)

Toxicity / effect	Endpoint	Value	Unit	Organism	Test method	Notes
Acute toxicity, by oral route:	LD50	>5000	mg/kg	Rat	OECD 401 (Acute Oral Toxicity)	Analogous conclusion
Acute toxicity, by dermal route:	LD50	>2000	mg/kg	Rat	OECD 402 (Acute Dermal Toxicity)	Analogous conclusion
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), Analogous conclusion
Germ cell mutagenicity:				Salmonella typhimurium	OECD 471 (Bacterial Reverse Mutation Test)	Negative, Analogous conclusion
Germ cell mutagenicity:				Mouse	OECD 478 (Genetic Toxicology - Rodent dominant Lethal Test)	Negative, Analogous conclusion
Germ cell mutagenicity:				Mammalian	OECD 476 (In Vitro Mammalian Cell Gene Mutation Test)	NegativeChinese hamster
Germ cell mutagenicity:				Mammalian	OECD 473 (In Vitro Mammalian Chromosome Aberration Test)	Negative, Analogous conclusion
Reproductive toxicity (Developmental toxicity):	NOAEL	150	mg/kg bw/d	Rat	OECD 414 (Prenatal Developmental Toxicity Study)	Negative

Specific target organ toxicity - repeated exposure (STOT-RE), oral:	NOAEL	<100	mg/kg bw/d	Rat	OECD 408 (Repeated Dose 90-Day Oral Toxicity Study in Rodents)	
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Phosphorodithioic acid, mixed O,O-bis(sec-Bu and 1,3-dimethylbutyl) esters, zinc salts						
Toxicity / effect	Endpoint	Value	Unit	Organism	Test method	Notes
Acute toxicity, by oral route:	LD50	2900	mg/kg	Rat	OECD 401 (Acute Oral Toxicity)	
Acute toxicity, by dermal route:	LD50	>5000	mg/kg	Rabbit	OECD 402 (Acute Dermal Toxicity)	
Serious eye damage/irritation:				Rabbit	OECD 405 (Acute Eye Irritation/Corrosion)	Eye Dam. 1
Respiratory or skin sensitisation:				Guinea pig	OECD 406 (Skin Sensitisation)	No (skin contact)
Germ cell mutagenicity:				Salmonella typhimurium	OECD 471 (Bacterial Reverse Mutation Test)	Negative
Germ cell mutagenicity:				Mouse	OECD 474 (Mammalian Erythrocyte Micronucleus Test)	Negative
Specific target organ toxicity - repeated exposure (STOT-RE), oral:	NOAEL	125	mg/kg bw/d	Rat	OECD 407 (Repeated Dose 28-Day Oral Toxicity Study in Rodents)	Analogous conclusion

(tetrapropenyl)succinic acid						
Toxicity / effect	Endpoint	Value	Unit	Organism	Test method	Notes
Acute toxicity, by oral route:	LD50	2100	mg/kg	Rat	OECD 401 (Acute Oral Toxicity)	, female
Skin corrosion/irritation:				Rabbit	OECD 404 (Acute Dermal Irritation/Corrosion)	Skin Corr. 1C
Respiratory or skin sensitisation:				Guinea pig	OECD 406 (Skin Sensitisation)	No (skin contact)
Germ cell mutagenicity:				Mouse	OECD 490 (In vitro Thymidine Kinase Mutation Test)	Negative
Germ cell mutagenicity:				Salmonella typhimurium	OECD 471 (Bacterial Reverse Mutation Test)	Negative
Germ cell mutagenicity:					OECD 476 (In Vitro Mammalian Cell Gene Mutation Test)	Negative
Reproductive toxicity:				Rat	OECD 421 (Reproduction/Developmental Toxicity Screening Test)	Negative
Reproductive toxicity (Developmental toxicity):				Rat	OECD 414 (Prenatal Developmental Toxicity Study)	Positive, Possible risk of harm to the unborn child., oral
Specific target organ toxicity - repeated exposure (STOT-RE), oral:	NOAEL	100	mg/kg bw/d	Rat	OECD 407 (Repeated Dose 28-Day Oral Toxicity Study in Rodents)	

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).

Leichtlauf High Tech 5W-40							
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:							DOC-elimination degree(complexing organic substance)>= 80%/28d: No
Other information:	AOX		0	%			According to the recipe, contains no AOX.

Distillates (petroleum), hydrotreated heavy paraffinic							
Toxicity / effect	Endpoint	Time	Value	Unit	Organism	Test method	Notes
12.1. Toxicity to fish:	LL50	96h	>100	mg/l	Oncorhynchus mykiss	OECD 203 (Fish, Acute Toxicity Test)	Analogous conclusion
12.1. Toxicity to fish:	NOEC/NOEL	28d	>1000	mg/l	Oncorhynchus mykiss	QSAR	
12.1. Toxicity to daphnia:	EC50	48h	>1000	mg/l	Daphnia magna	OECD 202 (Daphnia sp. Acute Immobilisation Test)	Analogous conclusion
12.1. Toxicity to daphnia:	NOEC/NOEL	21d	10	mg/l	Daphnia magna	OECD 211 (Daphnia magna Reproduction Test)	
12.1. Toxicity to algae:	EC50	48h	>100	mg/l	Pseudokirchneriella subcapitata	OECD 201 (Alga, Growth Inhibition Test)	
12.1. Toxicity to algae:	NOEC/NOEL	72h	>=100	mg/l	Pseudokirchneriella subcapitata	OECD 201 (Alga, Growth Inhibition Test)	Analogous conclusion

12.2. Persistence and degradability:		28d	31,13	%		OECD 301 F (Ready Biodegradability - Manometric Respirometry Test)	Not readily biodegradable, Analogous conclusion
12.2. Persistence and degradability:		28d	6	%		OECD 301 B (Ready Biodegradability - Co2 Evolution Test)	Not readily biodegradable
12.3. Bioaccumulative potential:	Log Pow		3,9-6				High
12.5. Results of PBT and vPvB assessment							No PBT substance, No vPvB substance
Other information:	AOX		0	%			

Reaction products of Benzenamine, N-phenyl- with Nonene (branched)

Toxicity / effect	Endpoint	Time	Value	Unit	Organism	Test method	Notes
12.1. Toxicity to fish:	LC50	96h	>10000	mg/l			
12.1. Toxicity to fish:	NOEC/NOEL		10	mg/l		OECD 210 (Fish, Early-Life Stage Toxicity Test)	
12.1. Toxicity to daphnia:	ErL50	21d	>10	mg/l		OECD 211 (Daphnia magna Reproduction Test)	
12.1. Toxicity to daphnia:	EC50	48h	733	mg/l			
12.1. Toxicity to algae:	NOEC/NOEL	72h	>10	mg/l	Desmodesmus subspicatus		Analogous conclusion
12.1. Toxicity to algae:	EC50	72h	600	mg/l	Pseudokirchneriella subcapitata	OECD 201 (Alga, Growth Inhibition Test)	Analogous conclusion
12.2. Persistence and degradability:		28d	1	%	activated sludge	OECD 301 B (Ready Biodegradability - Co2 Evolution Test)	Not readily biodegradable, Analogous conclusion
12.2. Persistence and degradability:		28d	24	%		OECD 301 C (Ready Biodegradability - Modified MITI Test (I))	Not readily biodegradable
12.3. Bioaccumulative potential:	BCF		1730				High
12.3. Bioaccumulative potential:	Log Pow		>7,6				A notable biological accumulation potential has to be expected (LogPow > 3).
12.4. Mobility in soil:							Adsorption in ground.
12.5. Results of PBT and vPvB assessment							No PBT substance, No vPvB substance
Toxicity to bacteria:	EC50	3h	>1000	mg/l	activated sludge	OECD 209 (Activated Sludge, Respiration Inhibition Test (Carbon and Ammonium Oxidation))	Analogous conclusion

Toxicity / effect	Endpoint	Time	Value	Unit	Organism	Test method	Notes
12.1. Toxicity to fish:	LL50	96h	4,4	mg/l	Oncorhynchus mykiss	OECD 203 (Fish, Acute Toxicity Test)	
12.1. Toxicity to daphnia:	EL50	48h	75	mg/l	Daphnia magna	OECD 202 (Daphnia sp. Acute Immobilisation Test)	
12.1. Toxicity to algae:	EL50	72h	410	mg/l	Desmodesmus subspicatus	OECD 201 (Alga, Growth Inhibition Test)	
12.2. Persistence and degradability:		27d	<5	%		Regulation (EC) 440/2008 C.6 (DEGRADATION - CHEMICAL OXYGEN DEMAND)	Not readily biodegradable
12.3. Bioaccumulative potential:	Log Kow		4				High

(tetrapropenyl)succinic acid							
Toxicity / effect	Endpoint	Time	Value	Unit	Organism	Test method	Notes
12.1. Toxicity to fish:	LL50	96h	>100	mg/l	Oncorhynchus mykiss	OECD 203 (Fish, Acute Toxicity Test)	
12.1. Toxicity to daphnia:	EL50	48h	>100	mg/l	Daphnia magna	OECD 202 (Daphnia sp. Acute Immobilisation Test)	
12.1. Toxicity to algae:	EL50	96h	100	mg/l	Pseudokirchneriella subcapitata	OECD 201 (Alga, Growth Inhibition Test)	
12.2. Persistence and degradability:		28d	18,3	%		OECD 301 F (Ready Biodegradability - Manometric Respirometry Test)	Not readily biodegradable
Toxicity to bacteria:	EC50	3h	>10000	mg/l	activated sludge	OECD 209 (Activated Sludge, Respiration Inhibition Test (Carbon and Ammonium Oxidation))	

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)

13 02 05 mineral-based non-chlorinated engine, gear and lubricating oils

Recommendation:

Sewage disposal shall be discouraged.

Pay attention to local and national official regulations.

E.g. suitable incineration plant.

Observe regulations for disposal of old oil/waste.

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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.

15 01 01 paper and cardboard packaging

15 01 02 plastic packaging

15 01 04 metallic packaging

SECTION 14: Transport information

General statements

Transport by road/by rail (ADR/RID)

14.1. UN number or ID number: Not applicable

14.2. UN proper shipping name:

Not applicable

14.3. Transport hazard class(es):

Not applicable

14.4. Packing group:

Not applicable

14.5. Environmental hazards:

Not applicable

Tunnel restriction code:

Not applicable

Classification code:

Not applicable

LQ:

Not applicable

Transport category:

Not applicable

Transport by sea (IMDG-code)

14.1. UN number or ID number: Not applicable

14.2. UN proper shipping name:

Not applicable

14.3. Transport hazard class(es):

Not applicable

14.4. Packing group:

Not applicable

14.5. Environmental hazards:

Not applicable

Marine Pollutant:

Not applicable

EmS:

Not applicable

Transport by air (IATA)

14.1. UN number or ID number: Not applicable

14.2. UN proper shipping name:

Not applicable

14.3. Transport hazard class(es):

Not applicable

14.4. Packing group:

Not applicable

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:

General hygiene measures for the handling of chemicals are applicable.

Directive 2010/75/EU (VOC):

0 %

National requirements/regulations on safety and health protection must be applied when using work equipment.

15.2 Chemical safety assessment

A chemical safety assessment is not provided for mixtures.

SECTION 16: Other information

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Revised sections:

3, 8, 11, 12, 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.
H314 Causes severe skin burns and eye damage.
H361f Suspected of damaging fertility.
H373 May cause damage to organs through prolonged or repeated exposure if swallowed.
H317 May cause an allergic skin reaction.
H361d Suspected of damaging the unborn child if swallowed.
H304 May be fatal if swallowed and enters airways.
H318 Causes serious eye damage.
H411 Toxic to aquatic life with long lasting effects.

Asp. Tox. — Aspiration hazard
Repr. — Reproductive toxicity
Eye Dam. — Serious eye damage
Aquatic Chronic — Hazardous to the aquatic environment - chronic
Skin Sens. — Skin sensitization
Skin Corr. — Skin corrosion
STOT RE — Specific target organ toxicity - repeated exposure

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:

acc., acc. to according, according to
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
BOD Biochemical Oxygen Demand
BOD5 Biochemical Oxygen Demand during 5 days
BSEF The International Bromine Council
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
COD Chemical Oxygen Demand
DIN Deutsche Institut für Normung (= German Institute for Standardisation)

DMEL	Derived Minimum Effect Level
DNEL	Derived No Effect Level
DOC	Dissolved organic carbon
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
EmS	Emergency Schedules
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 (= Latin expression that is used in English to mean "and all the rest")
EU	European Union
EVAL	Ethylene-vinyl alcohol copolymer
Fax.	Fax number
gen.	general
GESTIS	Gefahrstoffinformationssystem der Deutschen Gesetzlichen Unfallversicherung (= Hazardous Substances Information System of the German Social Accident Insurance)
GHS	Globally Harmonized System of Classification and Labelling of Chemicals
GWP	Global warming potential
IARC	International Agency for Research on Cancer
IATA	International Air Transport Association
IBC (Code)	International Bulk Chemical (Code)
ICx (x = 0, 5, 10, 50, 100)	Inhibitory concentration for x % inhibition
IFA	Institut für Arbeitsschutz der Deutschen Gesetzlichen Unfallversicherung (= Institute for Occupational Safety and Health of the German Social Accident Insurance)
IMDG-code	International Maritime Code for Dangerous Goods
incl.	including, inclusive
ISO	International Organization for Standardization
IUCLID	International Uniform Chemical Information Database
IUPAC	International Union for Pure Applied Chemistry
Koc	Adsorption coefficient of organic carbon in the soil
Kow	octanol-water partition coefficient
LC50	Lethal Concentration to 50 % of a test population
LD50	Lethal Dose to 50% of a test population (Median Lethal Dose)
LOEC, LOEL	Lowest Observed Effect Concentration/Level
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
MAK	Maximale Arbeitsplatzkonzentrationswerte (= Maximum workplace concentration values (Germany, Suisse))
MARPOL	International Convention for the Prevention of Marine Pollution from Ships
Meth.	Method
mg/kg bw	mg/kg body weight
mg/kg bw/d, mg/kg bw/day	mg/kg body weight/day
mg/kg dw	mg/kg dry weight
mg/kg wwt	mg/kg wet weight
Min., min.	Minute or minimum
n.a.	not applicable
n.av.	not available
n.c.	not checked
n.d.a.	no data available
N.O.S., n.o.s.	not otherwise specified
NIOSH	National Institute for Occupational Safety and Health (USA)
NLP	No-longer-Polymer
NOAEC, NOAEL, NOAL	No Observed Adverse Effect Concentration/Level
NOEC, NOEL	No Observed Effect Concentration/Level
OECD	Organisation for Economic Co-operation and Development
org.	organic
OSHA	Occupational Safety and Health Administration (USA)
PBT	Persistent, bioaccumulative and toxic

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PE Polyethylene

PMT Persistent, mobile and toxic

PNEC Predicted No Effect Concentration

ppb parts per billion

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. 1/6/7/8/9xx-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

ThOD Theoretical Oxygen Demand

TOC Total organic carbon

UFI Unique Formula Identifier

UN RTDG United Nations Recommendations on the Transport of Dangerous Goods

UV ultraviolet

VOC Volatile organic compounds

vPvB Very persistent and very bioaccumulative

vPvM Very persistent and very mobile

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.

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Chemical Check GmbH, Chemical Check Platz 1-7, D-32839 Steinheim, Tel.: +49 5233 94 17 0

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