Safety Data Sheet

according to Regulation (EC) No 1907/2006

SRS Wiolin RSH plus 80W-90

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

1.1. Product identifier

SRS Wiolin RSH plus 80W-90

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

Use of the substance/mixture

Industrial uses

Uses advised against

No information available.

1.3. Details of the supplier of the safety data sheet

Company name:	SRS Schmierstoff Vertrieb GmbH
Street:	Neuenkirchener Straße 8
Place:	D-48497 Salzbergen
Telephone:	05976 - 945-0
Responsible Department:	Abt. Produktsicherheit: info.reach@srs-oil.de

1.4. Emergency telephone number:

Gift-Informationszentrum Nord (Göttingen) - Telefon 0551-19240

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Regulation (EC) No 1272/2008

Aquatic Chronic 3; H412

Full text of hazard statements: see SECTION 16.

2.2. Label elements

Regulation (EC) No 1272/2008

Hazard statements

H412	Harmful to aquatic life with long lasting effects.

Precautionary statements

P273	Avoid release to the environment.
P501	Dispose of contents/container to local/regional/national/international regulations.

Special labelling of certain mixtures

EUH208	Contains Polysulfides, di-tert-Bu (Polymer), Polysulfides, di-tert-Bu. May produce an allergic reaction.

2.3. Other hazards

This mixture contains no substances of very high concern (SVHC) (>0,1%) which are included in the Candidate List according to Article 59 of REACH.
For information or further instructions, see also section 11 or 12.

SECTION 3: Composition/information on ingredients

3.2. Mixtures

Relevant ingredients

CAS No	Chemical name			Quantity
	EC No	Index No	REACH No	
	Classification (Regulation (EC) No 1272/2008)			
	Polysulfides, di-tert-Bu (Polymer)			1 - < 3 %
	273-103-3			

	Skin Sens. 1B, Aquatic Acute 1, Aquatic Chronic 1; H317 H400 H410			
68937-96-2	Polysulfides, di-tert-Bu			1 - < 3 %
	273-103-3		01-2119540515-43	
	Skin Sens. 1B, Aquatic Acute 1, Aquatic Chronic 1; H317 H400 H410			
64742-54-7	Distillates (petroleum), hydrotreated heavy paraffinic; Baseoil - unspecified			1 - < 3 %
	265-157-1	649-467-00-8	01-2119484627-25	
	Asp. Tox. 1; H304			
	Amines, C16-18-(even numbered, saturated and unsaturated) alkyl, O,O-di-Bu phosphorothioates			0.5 - < 1 %
	947-129-7		01-2120759337-45	
	Eye Irrit. 2, Aquatic Acute 1, Aquatic Chronic 2; H319 H400 H411			
	Reaction products of bis(4-methylpentan-2-yl)dithiophosphoric acid with phosphorus oxide, propylene oxide and amines, C12-14 alkyl (branched)			0.5 - < 1 %
	931-384-6		01-2119493620-38	
	Acute Tox. 4, Eye Irrit. 2, Skin Sens. 1, Aquatic Chronic 2; H302 H319 H317 H411			
1213789-63-9	(Z)-octadec-9-enylamine, C16-18-(even numbered, saturated and unsaturated)-alkylamines			0.2 - < 0.3 %
	627-034-4		01-2119473797-19	
	Acute Tox. 4, Skin Corr. 1B, STOT SE 3, STOT RE 2, Asp. Tox. 1, Aquatic Acute 1, Aquatic Chronic 1; H302 H314 H335 H373 H304 H400 H410			

Full text of H and EUH statements: see section 16.

Specific Conc. Limits, M-factors and ATE

CAS No	EC No	Chemical name	Quantity
	Specific Conc. Limits, M-factors and ATE		
	273-103-3	Polysulfides, di-tert-Bu (Polymer)	1 - < 3 %
	Skin Sens. 1B; H317: >= 6 - 100		
68937-96-2	273-103-3	Polysulfides, di-tert-Bu	1 - < 3 %
	oral: LD50 = >5000 mg/kg Skin Sens. 1B; H317: >= 6 - 100		
64742-54-7	265-157-1	Distillates (petroleum), hydrotreated heavy paraffinic; Baseoil - unspecified	1 - < 3 %
	dermal: LD50 = >2000 mg/kg; oral: LD50 = >5000 mg/kg		
	947-129-7	Amines, C16-18-(even numbered, saturated and unsaturated) alkyl, O,O-di-Bu phosphorothioates	0.5 - < 1 %
	oral: LD50 = > 2000 mg/kg Aquatic Acute 1; H400: M=10		
	931-384-6	Reaction products of bis(4-methylpentan-2-yl)dithiophosphoric acid with phosphorus oxide, propylene oxide and amines, C12-14 alkyl (branched)	0.5 - < 1 %
	oral: LD50 = > 2000 mg/kg Eye Irrit. 2; H319: >= 50 - 100 Skin Sens. 1; H317: >= 9,39 - 100		
1213789-63-9	627-034-4	(Z)-octadec-9-enylamine, C16-18-(even numbered, saturated and unsaturated)-alkylamines	0.2 - < 0.3 %
	dermal: LD50 = > 2000 mg/kg; oral: LD50 = 1200 mg/kg Aquatic Acute 1; H400: M=10 Aquatic Chronic 1; H410: M=10		

SECTION 4: First aid measures

4.1. Description of first aid measures

General information

In case of accident or unwellness, seek medical advice immediately (show directions for use or safety data sheet if possible).

After inhalation

In case of accident by inhalation: remove casualty to fresh air and keep at rest. In case of allergic symptoms, especially in the breathing area, seek medical advice immediately.

After contact with skin

After contact with skin, wash immediately with plenty of water and soap. Take off immediately all contaminated clothing. In case of skin irritation, seek medical treatment.

After contact with eyes

Rinse immediately carefully and thoroughly with eye-bath or water. In case of troubles or persistent symptoms, consult an ophthalmologist.

After ingestion

Do NOT induce vomiting. Rinse mouth thoroughly with water. Let water be drunken in little sips (dilution effect). Never give anything by mouth to an unconscious person or a person with cramps. When in doubt or if symptoms are observed, get medical advice.

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

If swallowed or in the event of vomiting, risk of entering the lungs.

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

Treat symptomatically.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media

Sand. Foam. Carbon dioxide (CO2). Extinguishing powder. In case of major fire and large quantities: Water spray jet. Water mist.

Unsuitable extinguishing media

High power water jet.

5.2. Special hazards arising from the substance or mixture

Burning produces heavy smoke.
In case of fire may be liberated: Carbon monoxide (CO). Carbon dioxide (CO2) Sulphur dioxide (SO2) Nitrogen oxides (NOx)

5.3. Advice for firefighters

In case of fire and/or explosion do not breathe fumes. In case of fire: Wear self-contained breathing apparatus.

Additional information

Collect contaminated fire extinguishing water separately. Do not allow entering drains or surface water. Co-ordinate fire-fighting measures to the fire surroundings.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

General advice

Ventilate affected area.
Special danger of slipping by leaking/spilling product.

For non-emergency personnel

Wear personal protection equipment (refer to section 8).

For emergency responders

No special measures are necessary.

6.2. Environmental precautions

Do not allow to enter into surface water or drains. Prevent spread over a wide area (e.g. by containment or oil barriers). Do not allow to enter into soil/subsoil. If required, notify relevant authorities according to all applicable regulations.

6.3. Methods and material for containment and cleaning up

For containment

Absorb with liquid-binding material (e.g. sand, diatomaceous earth, acid- or universal binding agents).

For cleaning up

Treat the recovered material as prescribed in the section on waste disposal.
Clean contaminated articles and floor according to the environmental legislation.

6.4. Reference to other sections

No information available.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Advice on safe handling

Wear suitable protective clothing. (See section 8.)
Avoid formation of oil dust.

Advice on protection against fire and explosion

Usual measures for fire prevention. Keep away from sources of ignition - No smoking.
Fire class B

Advice on general occupational hygiene

Clean skin thoroughly after working.
Do not put any product-impregnated cleaning rags into your trouser pockets.
Contaminated work clothing should not be allowed out of the workplace.
Wash contaminated clothing before reuse.

Further information on handling

Do not breathe vapour/aerosol.
Avoid contact with eyes and skin.
General protection and hygiene measures: See section 8.

7.2. Conditions for safe storage, including any incompatibilities

Requirements for storage rooms and vessels

Keep container tightly closed in a cool, well-ventilated place. Only use containers specifically approved for the substance/product.

Hints on joint storage

Do not store together with: Gas. Explosives. Oxidizing substances. Radioactive substances. Infectious substances

Further information on storage conditions

Temperature control required. Protect from light. Keep container tightly closed. Do not allow contact with air.

7.3. Specific end use(s)

See section 1.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

DNEL/DMEL values

CAS No	Name of agent			
DNEL type		Exposure route	Effect	Value
	Polysulfides, di-tert-Bu (Polymer)			
,				
64742-54-7	Distillates (petroleum), hydrotreated heavy paraffinic; Baseoil - unspecified			
Worker DNEL, long-term		inhalation	systemic	2,73 mg/m³

Worker DNEL, long-term	inhalation	local	5,58 mg/m³
Worker DNEL, long-term	dermal	systemic	0,97 mg/kg bw/day
Consumer DNEL, long-term	inhalation	local	1,19 mg/m³
Consumer DNEL, long-term	oral	systemic	0,74 mg/kg bw/day
	Amines, C16-18-(even numbered, saturated and unsaturated) alkyl, O,O-di-Bu phosphorothioates		
Worker DNEL, long-term	inhalation	systemic	3,72 mg/m³
Worker DNEL, long-term	dermal	systemic	1,04 mg/kg bw/day
Consumer DNEL, long-term	inhalation	systemic	1,1 mg/m³
Consumer DNEL, long-term	dermal	systemic	0,625 mg/kg bw/day
Consumer DNEL, long-term	oral	systemic	0,625 mg/kg bw/day
	Reaction products of bis(4-methylpentan-2-yl)dithiophosphoric acid with phosphorus oxide, propylene oxide and amines, C12-14 alkyl (branched)		
Worker DNEL, long-term	inhalation	systemic	4,28 mg/m³
Worker DNEL, long-term	dermal	systemic	12,5 mg/kg bw/day
Consumer DNEL, long-term	inhalation	systemic	1,09 mg/m³
Consumer DNEL, long-term	dermal	systemic	6,25 mg/kg bw/day
Consumer DNEL, acute	dermal	local	0.024 mg/cm²
Consumer DNEL, long-term	oral	systemic	0,25 mg/kg bw/day
1213789-63-9	(Z)-octadec-9-enylamine, C16-18-(even numbered, saturated and unsaturated)-alkylamines		
Worker DNEL, long-term	inhalation	systemic	0,38 mg/m³
Worker DNEL, long-term	inhalation	local	1 mg/m³
Worker DNEL, acute	inhalation	local	1 mg/m³
Consumer DNEL, long-term	inhalation	systemic	0,035 mg/m³
Consumer DNEL, long-term	oral	systemic	0,04 mg/kg bw/day

PNEC values

CAS No	Name of agent
Environmental compartment	Value
68937-96-2	Polysulfides, di-tert-Bu
Freshwater	0,000255 mg/l
Marine water	0,0000255 mg/l
Freshwater sediment	1,06 mg/kg
Marine sediment	0,106 mg/kg
Micro-organisms in sewage treatment plants (STP)	45 mg/l
Soil	0,211 mg/kg
64742-54-7	Distillates (petroleum), hydrotreated heavy paraffinic; Baseoil - unspecified
Secondary poisoning	9,33 mg/kg

	Amines, C16-18-(even numbered, saturated and unsaturated) alkyl, O,O-di-Bu phosphorothioates
Freshwater	0 mg/l
Freshwater (intermittent releases)	0 mg/l
Marine water	0 mg/l
Freshwater sediment	0,001 mg/kg
Marine sediment	0 mg/kg
Secondary poisoning	5 mg/kg
Micro-organisms in sewage treatment plants (STP)	1 mg/l
Soil	0 mg/kg
	Reaction products of bis(4-methylpentan-2-yl)dithiophosphoric acid with phosphorus oxide, propylene oxide and amines, C12-14 alkyl (branched)
Freshwater	0,0024 mg/l
Freshwater (intermittent releases)	0,15 mg/l
Marine water	0,00024 mg/l
Freshwater sediment	0,0129 mg/kg
Marine sediment	0,00129 mg/kg
Secondary poisoning	10 mg/kg
Micro-organisms in sewage treatment plants (STP)	24,33 mg/l
Soil	0,00117 mg/kg
1213789-63-9	(Z)-octadec-9-enylamine, C16-18-(even numbered, saturated and unsaturated)-alkylamines
Freshwater	0,00026 mg/l
Freshwater (intermittent releases)	0,0016 mg/l
Marine water	0,000026 mg/l
Freshwater sediment	3,76 mg/kg
Marine sediment	0,376 mg/kg
Micro-organisms in sewage treatment plants (STP)	0,55 mg/l
Soil	10 mg/kg

Additional advice on limit values

Air limit values:
Possibility of exposure to Aerosol (Mineral oil)
Limit value (TLV-TWA) = 5 mg/ m3 - Source: ACGIH
Limit value (TLV-STEL) = 10 mg/ m3 - Source: ACGIH

STEL: short-term exposure limits
TLV: Threshold Limiting Value
TWA: time weighted average
ACGIH:American Conference of Governmental Industrial Hygienists

8.2. Exposure controls



Appropriate engineering controls

Provide adequate ventilation.

Individual protection measures, such as personal protective equipment

Eye/face protection

Safety goggles with side protection. In case of increased risk add protective face shield. EN 166

Hand protection

Use safety gloves of following materials: NBR (nitrile) / neopren / viton (permeationslevel 5 - 6), Cat. II according to norm EN 374/EN 388.
The quality of the protective gloves resistant to chemicals must be chosen as a function of the specific working place concentration and quantity of hazardous substances.
For special purposes, it is recommended to check the resistance to chemicals of the protective gloves mentioned above together with the supplier of these gloves.
Gloves must be periodically inspected and changed in case of wear, perforations or contaminations.
In the case of wanting to use the gloves again, clean them before taking off and air them well.

Skin protection

Oil-resistant and hardly inflammable protective clothing.

Respiratory protection

With correct and proper use, and under normal conditions, breathing protection is not required.
Respiratory protection necessary at:
-aerosol or mist formation
-Exceeding exposure limit values
Suitable respiratory protection apparatus: Respiratory equipment in case of nebulosity or aerosol: Use a mask with a filter type A2, A2/P2 or ABEK.
The filter class must be suitable for the maximum contaminant concentration (gas/vapour/aerosol/particulates) that may arise when handling the product. If the concentration is exceeded, self-contained breathing apparatus must be used.

Environmental exposure controls

No information available.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state:	Liquid
Colour:	clear
Odour:	characteristic

		Test method
Melting point/freezing point:	No information available.	
Boiling point or initial boiling point and boiling range:	No information available.	
Flammability:	No information available.	
Lower explosion limits:	No information available.	
Upper explosion limits:	No information available.	
Flash point:	212 °C	COC
Auto-ignition temperature:	No information available.	
Decomposition temperature:	No information available.	
pH-Value:	No information available.	
Viscosity / kinematic: (at 40 °C)	126 mm²/s	DIN EN ISO 3104
Water solubility:	No information available.	

Solubility in other solvents

No information available.

Partition coefficient n-octanol/water:	No information available.
Vapour pressure: (at 20 °C)	No information available.

Vapour pressure: (at 50 °C)	No information available.	
Density (at 15 °C):	0,8796 g/cm³	DIN 51757
Bulk density:	No information available.	
Relative vapour density:	No information available.	
Particle characteristics:	No information available.	

9.2. Other information

Information with regard to physical hazard classes

Explosive properties

none

Sustained combustibility:	No data available	
Self-ignition temperature		
Solid:	No information available.	
Gas:	No information available.	

Oxidizing properties

none

Other safety characteristics

Evaporation rate:	No information available.	
Solvent separation test:	No information available.	
Solvent content:	No information available.	
Solid content:	No information available.	
Sublimation point:	No information available.	
Softening point:	No information available.	
Pour point:	-36 °C	ISO 3016
Viscosity / dynamic:	No information available.	
Flow time:	No information available.	

SECTION 10: Stability and reactivity

10.1. Reactivity

No information available.

10.2. Chemical stability

The mixture is chemically stable under recommended conditions of storage, use and temperature.

10.3. Possibility of hazardous reactions

No hazardous reactions known.
Refer to chapter 10.5.

10.4. Conditions to avoid

No information available.

10.5. Incompatible materials

Oxidising agent, strong

10.6. Hazardous decomposition products

No known hazardous decomposition products.

SECTION 11: Toxicological information

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

Toxicocinetics, metabolism and distribution

No information available.

Acute toxicity

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

ATEmix calculated

ATE (oral) > 2000 mg/kg; ATE (dermal) > 2000 mg/kg; ATE (inhalation vapour) > 20 mg/l; ATE (inhalation dust/mist) > 5 mg/l

CAS No	Chemical name				
	Exposure route	Dose	Species	Source	Method
68937-96-2	Polysulfides, di-tert-Bu				
	oral	LD50 >5000 mg/kg	Rat	ECHA Dossier	EPA OPP 81-1
64742-54-7	Distillates (petroleum), hydrotreated heavy paraffinic; Baseoil - unspecified				
	oral	LD50 >5000 mg/kg	Rat	ECHA Dossier	OECD 401
	dermal	LD50 >2000 mg/kg	Rabbit	ECHA Dossier	OECD 402
	Amines, C16-18-(even numbered, saturated and unsaturated) alkyl, O,O-di-Bu phosphorothioates				
	oral	LD50 > 2000 mg/kg	Rat	ECHA Dossier	OECD Guideline 420
	Reaction products of bis(4-methylpentan-2-yl)dithiophosphoric acid with phosphorus oxide, propylene oxide and amines, C12-14 alkyl (branched)				
	oral	LD50 > 2000 mg/kg	Rat	ECHA Dossier	OECD Guideline 401
1213789-63-9	(Z)-octadec-9-enylamine, C16-18-(even numbered, saturated and unsaturated)-alkylamines				
	oral	LD50 1200 mg/kg	Rat	REACH Dossier	OECD Guideline 401
	dermal	LD50 > 2000 mg/kg	Rat	REACH Dossier	OECD Guideline 402

Irritation and corrosivity

Skin corrosion/irritation: Based on available data, the classification criteria are not met.
Serious eye damage/eye irritation: Based on available data, the classification criteria are not met.

Sensitising effects

Based on available data, the classification criteria are not met.
Contains Polysulfides, di-tert-Bu (Polymer), Polysulfides, di-tert-Bu. May produce an allergic reaction.
May cause sensitisation especially in sensitive humans.

Carcinogenic/mutagenic/toxic effects for reproduction

Germ cell mutagenicity: Based on available data, the classification criteria are not met.
Carcinogenicity: Based on available data, the classification criteria are not met.
Reproductive toxicity: Based on available data, the classification criteria are not met.
Polysulfides, di-tert-Bu:
In vitro mutagenicity/genotoxicity: Method: OECD Guideline 471 (Bacterial Reverse Mutation Assay); Result: negative Literature information: REACH Dossier; Reproductive toxicity: Species: Rat (Sprague-Dawley); Method: OECD Guideline 421 (Reproduction / Developmental Toxicity Screening Test); Result: NOAEL = 150 mg/kg; Literature information: REACH Dossier; Developmental toxicity/teratogenicity: Species: Rat; Method: OECD Guideline 414 (Prenatal Developmental Toxicity Study); Result: NOAEC >= 195 ppm; Literature information: REACH Dossier

Distillates (petroleum), hydrotreated heavy paraffinic; Baseoil - unspecified:
In vitro mutagenicity/genotoxicity Method: OECD Guideline 473 (In Vitro Mammalian Chromosomal Aberration Test); Result: negative Literature information: REACH Dossier; Carcinogenicity: Method: OECD Guideline 453 (Combined Chronic Toxicity/Carcinogenicity Studies); Species: Mouse.; Results:

Non-carcinogenic if DMSO extract as measured by IP346 is less than 3% m/m. Literature information: REACH Dossier; Reproductive toxicity: Species: Rat (Sprague-Dawley); Method: OECD Guideline 421 (Reproduction / Developmental Toxicity Screening Test); Results: NOAEL > 1000 mg/kg Literature information: REACH Dossier; Developmental toxicity/teratogenicity: Species: Rat (Sprague-Dawley); Method: OECD Guideline 414 (Prenatal Developmental Toxicity Study); Results: NOAEL >= 2000 mg/kg Literature information: REACH Dossier

(Z)-octadec-9-enylamine, C16-18-(even numbered, saturated and unsaturated)-alkylamines:
In vitro mutagenicity/genotoxicity:
-OECD Guideline 471 (Bacterial Reverse Mutation Assay)
Result: negative (REACD ACROSS)
Literature information: REACH Dossier
Reproductive toxicity:
Method: OECD Guideline 421 (Reproduction / Developmental Toxicity Screening Test)
Species: Rat; Results: NOAEL = 12,5 0 mg/kg (F1)
Literature information: REACH Dossier
Developmental toxicity/teratogenicity:
Species: Rabbit
Results: NOAEL > 30 mg/kg (fetus)
Literature information: REACH Dossier

Reaction products of bis(4-methylpentan-2-yl)dithiophosphoric acid with phosphorus oxide, propylene oxide and amines, C12-14 alkyl (branched):
In vitro mutagenicity/genotoxicity: Method: OECD Guideline 476 (In vitro Mammalian Cell Gene Mutation Test); Result: negative Literature information: REACH Dossier; Reproductive toxicity: Species: Rat (Wistar);Method: OECD Guideline 421 (Reproduction / Developmental Toxicity Screening Test); Result: NOAEL = 150 mg/kg Literature information: REACH Dossier; Developmental toxicity/teratogenicity: Species: Rat (Wistar);Method: other guideline: Reproduction/developmental screening test. Result: NOAEL = 150 mg/kg; Literature information: REACH Dossier

Amines, C16-18-(even numbered, saturated and unsaturated) alkyl, O,O-di-Bu phosphorothioates:
In-vitro mutagenicity:
Method: OECD Guideline 471 (Bacterial Reverse Mutation Assay)
Method: OECD Guideline 473 (In vitro Mammalian Chromosome Aberration Test)
Method: OECD Guideline 490 (In Vitro Mammalian Cell Gene Mutation Tests Using the Thymidine Kinase Gene)
Result: negative

STOT-single exposure

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

STOT-repeated exposure

Based on available data, the classification criteria are not met.
Polysulfides, di-tert-Bu:
Subacute oral toxicity:
Method: OECD Guideline 408 (Repeated Dose 90-Day Oral Toxicity in Rodents) Species: Rat
Results: NOAEL = 100 mg/kg; Literature information: REACH Dossier

Distillates (petroleum), hydrotreated heavy paraffinic; Baseoil - unspecified:
Subacute inhalative toxicity: Method: -; Exposure time: 28d; Species: Rat; Results: NOAEL >980 mg/m3; Literature information: REACH Dossier; Subacute dermal toxicity: Method: OECD Guideline 410 (Repeated Dose Dermal Toxicity: 21/28-day Study); Exposure time: 28d; Species: Rabbit; Results: 1000 mg/kg; Literature information: REACH Dossier

(Z)-octadec-9-enylamine, C16-18-(even numbered, saturated and unsaturated)-alkylamines:
Subacute oral toxicity:

Method: OECD Guideline 407 (Repeated Dose 28-Day Oral Toxicity in Rodents)
Species: Sprague-Dawley Rat
Results: NOAEL = 3,25 mg/kg
Subacute dermal toxicity:
Method: -, 14 d
Species: Sprague-Dawley Rat
Results: LOAEL = 12,5 mg/kg
Literature information: REACH Dossier

Reaction products of bis(4-methylpentan-2-yl)dithiophosphoric acid with phosphorus oxide, propylene oxide and amines, C12-14 alkyl (branched):
Subacute oral toxicity: Method: -; Species: Rat;Results: NOAEL = 150 mg/kg; Literature information: REACH Dossier

Amines, C16-18-(even numbered, saturated and unsaturated) alkyl, O,O-di-Bu phosphorothioates:
Subacute oral toxicity: Method: OECD Guideline 422 (Combined Repeated Dose Toxicity Study with the Reproduction /Developmental Toxicity Screening Test); Species: Rat (Wistar Han); Results: NOAEL >= 75 mg/kg; Literature information: REACH Dossier

Aspiration hazard

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

11.2. Information on other hazards

Endocrine disrupting properties

This product does not contain a substance (> 0,1 %) that has endocrine disrupting properties with respect to non-target organisms as no components meets the criteria.

Other information

Frequently or prolonged contact with skin may cause dermal irritation.

SECTION 12: Ecological information

12.1. Toxicity

Harmful to aquatic life with long lasting effects.
If this product contains Polysulfide, Di-tert-butyl (EC No. 273-103-3), this product is not to be classified as dangerous for the environment (H411) . Raw materials containing this substance have not been classified by our suppliers as hazardous to the environment (H410) on the basis of test data, expert judgement or analogy assessments.

CAS No	Chemical name					
	Aquatic toxicity	Dose	[h] | [d]	Species	Source	Method
	Polysulfides, di-tert-Bu (Polymer)					
	Acute algae toxicity	ErC50 (EL50) > 100 mg/l	72 h	Pseudokirchneriella subcapitata	ECHA Dossier	OECD Guideline 201
	Acute crustacea toxicity	EC50 63 mg/l	48 h	Daphnia magna	ECHA Dossier	OECD Guideline 202
68937-96-2	Polysulfides, di-tert-Bu					
	Acute algae toxicity	ErC50 (EL50) > 100 mg/l	72 h	Pseudokirchneriella subcapitata	ECHA Dossier	OECD Guideline 201
	Acute crustacea toxicity	EC50 0,255 mg/l	48 h	Daphnia magna	ECHA Dossier	OECD Guideline 202
64742-54-7	Distillates (petroleum), hydrotreated heavy paraffinic; Baseoil - unspecified					
	Crustacea toxicity	NOEC 10 mg/l	21 d	Daphnia magna (OECD 211)	ECHA Dossier	
	Amines, C16-18-(even numbered, saturated and unsaturated) alkyl, O,O-di-Bu phosphorothioates					

	Acute fish toxicity	LL50 mg/l	> 0,028	96 h	Oncorhynchus mykiss	ECHA Dossier	OECD Guideline 203
	Acute algae toxicity	ErC50 mg/l	0,028	72 h	Pseudokirchneriella subcapitata	ECHA Dossier	OECD Guideline 201
	Acute crustacea toxicity	EL50 mg/l	0,071	48 h	Daphnia magna	ECHA Dossier	OECD Guideline 202
	Acute bacteria toxicity	EC50 mg/l ( )	> 100	3 h	activated sludge of a predominantly domestic sewage	ECHA Dossier	OECD Guideline 209
	Reaction products of bis(4-methylpentan-2-yl)dithiophosphoric acid with phosphorus oxide, propylene oxide and amines, C12-14 alkyl (branched)						
	Acute fish toxicity	LC50 mg/l	ca. 8,5	96 h	Oncorhynchus mykiss	ECHA Dossier	OECD Guideline 203
	Acute algae toxicity	ErC50	6,4 mg/l	96 h	Raphidocelis subcapitata	ECHA Dossier	OECD Guideline 201
	Acute crustacea toxicity	EL50 mg/l	ca. 91,4	48 h	Daphnia magna	ECHA Dossier	OECD Guideline 202
	Acute bacteria toxicity	EC50 mg/l ( )	ca. 2433	3 h	activated sludge, domestic	ECHA Dossier	OECD Guideline 209
1213789-63-9	(Z)-octadec-9-enylamine, C16-18-(even numbered, saturated and unsaturated)-alkylamines						
	Acute fish toxicity	LC50 mg/l	0,06	96 h	Pimephales promelas	REACH Dossier	EPA OPPTS 850.1085
	Acute algae toxicity	ErC50 mg/l	0,38	72 h	Desmodesmus subspicatus	REACH Dossier	OECD Guideline 201
	Acute crustacea toxicity	EC50 mg/l	0,98	48 h	Daphnia magna	REACH Dossier	OECD Guideline 202
	Crustacea toxicity	NOEC mg/l	0,013	21 d	Daphnia magna	REACH Dossier	OECD Guideline 211
	Acute bacteria toxicity	EC50 mg/l ( )	222,5	3 h	activated sludge	REACH Dossier	OECD Guideline 209

12.2. Persistence and degradability

The product is slightly soluble in water. It can be largely eliminated from the water by abiotic processes, e.g. mechanical separation.

CAS No	Chemical name			
	Method	Value	d	Source
	Evaluation			
68937-96-2	Polysulfides, di-tert-Bu			
	QSAR	< 2,5%		ECHA Dossier
	Not easily bio-degradable (according to OECD-criteria).			
64742-54-7	Distillates (petroleum), hydrotreated heavy paraffinic; Baseoil - unspecified			
	OECD 301F / ISO 9408 / EEC 92/69 annex V, C.4-D	31%	28	ECHA Dossier
	Not easily bio-degradable (according to OECD-criteria).			
	OECD 301B / ISO 9439 / EEC 92/69 annex V, C.4-C	2-4%	28	ECHA Dossier
	Not easily bio-degradable (according to OECD-criteria).			
	Amines, C16-18-(even numbered, saturated and unsaturated) alkyl, O,O-di-Bu phosphorothioates			
	OECD Guideline 301 B	75%	28	ECHA Dossier
	Readily biodegradable (according to OECD criteria).			
	Reaction products of bis(4-methylpentan-2-yl)dithiophosphoric acid with phosphorus oxide, propylene oxide and amines, C12-14 alkyl (branched)			
	ASTM D-5864-95	3,6%	28	ECHA Dossier
	not readily degradable			
1213789-63-9	(Z)-octadec-9-enylamine, C16-18-(even numbered, saturated and unsaturated)-alkylamines			
	OECD Guideline 301 D	66%	28	REACH Dossier
	Readily biodegradable (according to OECD criteria).			

12.3. Bioaccumulative potential

No indication of bioaccumulation potential.

Partition coefficient n-octanol/water

CAS No	Chemical name	Log Pow
68937-96-2	Polysulfides, di-tert-Bu	5,6
	Amines, C16-18-(even numbered, saturated and unsaturated) alkyl, O,O-di-Bu phosphorothioates	4,61
	Reaction products of bis(4-methylpentan-2-yl)dithiophosphoric acid with phosphorus oxide, propylene oxide and amines, C12-14 alkyl (branched)	< 0,3
1213789-63-9	(Z)-octadec-9-enylamine, C16-18-(even numbered, saturated and unsaturated)-alkylamines	5,16

BCF

CAS No	Chemical name	BCF	Species	Source
68937-96-2	Polysulfides, di-tert-Bu	0,006	Lepomis macrochirus	ECHA Dossier
	Reaction products of bis(4-methylpentan-2-yl)dithiophosphoric acid with phosphorus oxide, propylene oxide and amines, C12-14 alkyl (branched)	436	Onchorhynchus mykiss	ECHA Dossier
1213789-63-9	(Z)-octadec-9-enylamine, C16-18-(even numbered, saturated and unsaturated)-alkylamines	173		Environmental Toxico

12.4. Mobility in soil

No information available.

12.5. Results of PBT and vPvB assessment

The substances in the mixture do not meet the PBT/vPvB criteria according to REACH, annex XIII.
The aforementioned statement applies to substances contained in the product with a minimum content of 0.1%.

12.6. Endocrine disrupting properties

This product does not contain a substance that has endocrine disrupting properties with respect to non-target organisms as no components meets the criteria.
The aforementioned statement applies to substances contained in the product with a minimum content of 0.1%.

12.7. Other adverse effects

No information available.

Further information

Ozone depletion potential (ODP): No information available.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Disposal recommendations

Dispose of waste according to applicable legislation. Consult the appropriate local waste disposal expert about waste disposal. Non-contaminated packages may be recycled. The allocation of waste identity numbers/waste descriptions must be carried out according to the EEC, specific to the industry and process.

List of Wastes Code - contaminated packaging

150110 WASTE PACKAGING; ABSORBENTS, WIPING CLOTHS, FILTER MATERIALS AND PROTECTIVE CLOTHING NOT OTHERWISE SPECIFIED; packaging (including separately collected municipal packaging waste); packaging containing residues of or contaminated by hazardous substances; hazardous waste

Contaminated packaging

Handle contaminated packages in the same way as the substance itself.

SECTION 14: Transport information

Land transport (ADR/RID)

14.1. UN number or ID number:	No dangerous good in sense of this transport regulation.
14.2. UN proper shipping name:	No dangerous good in sense of this transport regulation.
14.3. Transport hazard class(es):	No dangerous good in sense of this transport regulation.
14.4. Packing group:	No dangerous good in sense of this transport regulation.

Inland waterways transport (ADN)

14.1. UN number or ID number:	UN 9006
14.2. UN proper shipping name:	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.
14.3. Transport hazard class(es):	9
14.4. Packing group:	-
Hazard label:	-
Classification code:	M12

Marine transport (IMDG)

14.1. UN number or ID number:	No dangerous good in sense of this transport regulation.
14.2. UN proper shipping name:	No dangerous good in sense of this transport regulation.
14.3. Transport hazard class(es):	No dangerous good in sense of this transport regulation.
14.4. Packing group:	No dangerous good in sense of this transport regulation.

Air transport (ICAO-TI/IATA-DGR)

14.1. UN number or ID number:	No dangerous good in sense of this transport regulation.
14.2. UN proper shipping name:	No dangerous good in sense of this transport regulation.
14.3. Transport hazard class(es):	No dangerous good in sense of this transport regulation.
14.4. Packing group:	No dangerous good in sense of this transport regulation.

14.5. Environmental hazards

ENVIRONMENTALLY HAZARDOUS: No

14.6. Special precautions for user

Informations for safe handling see chapter 7.
Informations for personal protective equipment see chapter 8.

14.7. Maritime transport in bulk according to IMO instruments

not relevant

SECTION 15: Regulatory information

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

EU regulatory information

Restrictions on use (REACH, annex XVII):
Entry 3, Entry 75

Directive 2010/75/EU on industrial emissions:	No information available.
Directive 2004/42/EC on VOC in paints and varnishes:	No information available.
Information according to Directive 2012/18/EU (SEVESO III):	Not subject to 2012/18/EU (SEVESO III)

Additional information

Safety Data Sheet according to Regulation (EC) No. 1907/2006 (amended by Regulation (EU) No 2020/878)
REACH 1907/2006 Appendix XVII, No (mixture): 3,75
Observe in addition any national regulations!

National regulatory information

Employment restrictions:	Observe restrictions to employment for juveniles according to the 'juvenile work protection guideline' (94/33/EC).
Water hazard class (D):	2 - obviously hazardous to water

Additional information

Regulation (EU) No. 649/2012 of the European parliament and of the council concerning the export and import of dangerous chemicals: not relevant

15.2 Chemical Safety Assessment
not applicable.

SECTION 16: Other information

Changes

This data sheet contains changes from the previous version in section(s): 1,2,4,6,7,11,12,15,16.
Rev. : 1,0 - 04.05.2023
Rev.: 1.1 - 01.02.2024, Changes in chapter: 1.4, 12.1, 16
Rev.: 2,0 - 03.02.2025, Changes in chapter: 16
Rev.: 2,1 - 27.06.2025, Changes in chapter:1.1, 2.2, 3.2, 12.1, 15, 16

Abbreviations and acronyms

Acute Tox. 4: Acute toxicity, hazard category 4
Asp. Tox. 1: Aspiration hazard, hazard category 1
Skin Corr. 1B: Skin corrosion, sub-category 1B
Eye Irrit. 2: Eye irritation, hazard category 2
Skin Sens. 1: Skin sensitisation, hazard category 1
STOT SE 3: Specific target organ toxicity - single exposure, hazard category 3
STOT RE 2: Specific target organ toxicity - repeated exposure, hazard category 2
Aquatic Acute 1: Hazardous to the aquatic environment, hazard category: Acute 1
Aquatic Chronic 1: Hazardous to the aquatic environment, long-term hazard category: Chronic 1
ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)
CAS: Chemical Abstracts Service
CLP: Classification, Labelling and Packaging of substances and mixtures
d: day(s)
DNEL: Derived No Effect Level
IARC: INTERNATIONAL AGENCY FOR RESEARCH ON CANCER
EINECS: European INventory of Existing Commercial chemical Substances
ELINCS: European LIst of Notified Chemical Substances
ECHA: European Chemicals Agency
EWC: European Waste Catalogue
IARC: INTERNATIONAL AGENCY FOR RESEARCH ON CANCER
IMDG: International Maritime Code for Dangerous Goods
IATA: International Air Transport Association
IATA-DGR: Dangerous Goods Regulations by the "International Air Transport Association" (IATA)
ICAO: International Civil Aviation Organization
ICAO-TI: Technical Instructions by the "International Civil Aviation Organization" (ICAO)
GHS: Globally Harmonized System of Classification and Labelling of Chemicals
GefStoffV: Gefahrstoffverordnung (Ordinance on Hazardous Substances, Germany)
h: hour
LOAEL: Lowest observed adverse effect level
LOAEC: Lowest observed adverse effect concentration
LC50: Lethal concentration, 50 percent
LD50: Lethal dose, 50 percent
NOAEL: No observed adverse effect level
NOAEC: No observed adverse effect concentration
NLP: No-Longer Polymers
NTP: National Toxicology Program
N/A: not applicable
OECD: Organisation for Economic Co-operation and Development
PNEC: predicted no effect concentration
PBT: Persistent bioaccumulative toxic
PMT: Persistent, mobile and toxic
REACH: Registration, Evaluation, Authorisation of Chemicals
RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)
SVHC: substance of very high concern
TRGS: Technische Regeln für Gefahrstoffe
UN: United Nations
TSCA: Toxic Substances Control Act
vPvM: very persistent and very mobile
vPvB: very persistent and very bioaccumulative
VOC: Volatile Organic Compounds
WGK: Water Hazard Class (Germany)

Key literature references and sources for data

https://echa.europa.eu/
https://www.dguv.de/ifa/gestis/gestis-stoffdatenbank/index.jsp
https://cfpub.epa.gov/ecotox/search.cfm
http://www.inchem.org/#/search
https://pubchem.ncbi.nlm.nih.gov/
http://ccinfoweb.ccohs.ca/rtecs/search.html
https://webrigoletto.uba.de/rigoletto/

Classification for mixtures and used evaluation method according to Regulation (EC) No 1272/2008 [CLP]

Classification	Classification procedure
Aquatic Chronic 3; H412	On basis of test data and / or calculated and / or estimated.

Relevant H and EUH statements (number and full text)

H302	Harmful if swallowed.
H304	May be fatal if swallowed and enters airways.
H314	Causes severe skin burns and eye damage.
H317	May cause an allergic skin reaction.
H319	Causes serious eye irritation.
H335	May cause respiratory irritation.
H373	May cause damage to organs through prolonged or repeated exposure.
H400	Very toxic to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.
H411	Toxic to aquatic life with long lasting effects.
H412	Harmful to aquatic life with long lasting effects.
EUH208	Contains Polysulfides, di-tert-Bu (Polymer), Polysulfides, di-tert-Bu. May produce an allergic reaction.

Further Information

Classification according to Regulation (EC) No 1272/2008 [CLP] - Classification procedure:
Health hazards: Calculation method.
Environmental hazards: Calculation method.
Physical hazards: On basis of test data

The above information describes exclusively the safety requirements of the product and is based on our present-day knowledge. The information is intended to give you advice about the safe handling of the product named in this safety data sheet, for storage, processing, transport and disposal. The information cannot be transferred to other products. In the case of mixing the product with other products or in the case of processing, the information on this safety data sheet is not necessarily valid for the new made-up material.

(The data for the relevant ingredients were taken respectively from the last version of the sub-contractor's safety data sheet.)