Safety Data Sheet

according to Regulation (EC) No 1907/2006

SRS Antikorrol M plus

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

1.1. Product identifier

SRS Antikorrol M plus

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

Use of the substance/mixture

engine oil

Uses advised against

none

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

EUH208 Contains Alkyl- (C18-C28) Toluenesulfonic acid, Calcium salts, borated, Benzenesulfonic acid, methyl-, mono-C20-24-branched alkyl derivs., calcium salts.

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)			

68784-31-6	Phosphorodithioic acid, mixed O,O-bis(sec-Bu and 1,3-dimethylbutyl) esters, zinc salts			1 - < 3 %
	272-238-5		01-2119657973-23	
	Eye Dam. 1, Aquatic Chronic 2; H318 H411			
	Alkyl- (C18-C28) Toluenesulfonic acid, Calcium salts, borated			1 - < 2 %
	953-650-0			
	Repr. 2, Skin Sens. 1B; H361d H317			
722503-68-6	Benzenesulfonic acid, methyl-, mono-C20-24-branched alkyl derivs., calcium salts			0.5 - < 1 %
	682-816-2			
	Skin Sens. 1B; H317			
	Reaction products of diphenylamine with nonene, branched			0.3 - < 0.5 %
	701-385-4		01-2119488911-28	
	Repr. 2; H361f			
1218787-32-6	2,2'-(C16-18 (evennumbered, C18 unsaturated) alkyl imino) diethanol			0.2 - < 0.3 %
	620-540-6		01-2119510877-33	
	Acute Tox. 4, Skin Corr. 1C, Eye Dam. 1, Aquatic Acute 1, Aquatic Chronic 1; H302 H314 H318 H400 H410			
27859-58-1	(tetrapropenyl)succinic acid			0.2 - < 0.3 %
	248-698-8		01-2120752504-57	
	Repr. 2, Skin Corr. 1C, Eye Dam. 1, STOT RE 2; H361d H314 H318 H373			

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		
68784-31-6	272-238-5	Phosphorodithioic acid, mixed O,O-bis(sec-Bu and 1,3-dimethylbutyl) esters, zinc salts	1 - < 3 %
	dermal: LD50 = >5000 mg/kg; oral: LD50 = >2000 mg/kg		
	953-650-0	Alkyl- (C18-C28) Toluenesulfonic acid, Calcium salts, borated	1 - < 2 %
	Repr. 2; H361d: >= 17,15 - 100 Skin Sens. 1B; H317: >= 2 - 100		
722503-68-6	682-816-2	Benzenesulfonic acid, methyl-, mono-C20-24-branched alkyl derivs., calcium salts	0.5 - < 1 %
	Skin Sens. 1B; H317: >= 2 - 100		
	701-385-4	Reaction products of diphenylamine with nonene, branched	0.3 - < 0.5 %
	oral: LD50 = > 5000 mg/kg		
1218787-32-6	620-540-6	2,2'-(C16-18 (evennumbered, C18 unsaturated) alkyl imino) diethanol	0.2 - < 0.3 %
	oral: LD50 = 1200 mg/kg Aquatic Acute 1; H400: M=10		
27859-58-1	248-698-8	(tetrapropenyl)succinic acid	0.2 - < 0.3 %
	oral: LD50 = 2100 mg/kg		

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 all cases of doubt, or when symptoms persist, seek medical advice.

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 precautionary 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).
Treat the recovered material as prescribed in the section on waste disposal.

For cleaning up

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.

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
68784-31-6	Phosphorodithioic acid, mixed O,O-bis(sec-Bu and 1,3-dimethylbutyl) esters, zinc salts			
Worker DNEL, long-term		inhalation	systemic	2.93 mg/m³
Worker DNEL, acute		inhalation	systemic	496.4 mg/m³
Worker DNEL, long-term		dermal	systemic	10.42 mg/kg bw/day

Worker DNEL, acute	dermal	systemic	100 mg/kg bw/day
Consumer DNEL, long-term	inhalation	systemic	11.75 mg/m³
Consumer DNEL, acute	inhalation	systemic	198.6 mg/m³
Consumer DNEL, long-term	dermal	systemic	2.1 mg/kg bw/day
Consumer DNEL, acute	dermal	systemic	50 mg/kg bw/day
Consumer DNEL, long-term	oral	systemic	0.21 mg/kg bw/day
Consumer DNEL, acute	oral	systemic	29 mg/kg bw/day
	Reaction products of diphenylamine with nonene, branched		
Worker DNEL, long-term	inhalation	systemic	1.41 mg/m³
Worker DNEL, long-term	dermal	systemic	4 mg/kg bw/day
Consumer DNEL, long-term	inhalation	systemic	0,35 mg/m³
Consumer DNEL, long-term	dermal	systemic	2 mg/kg bw/day
Consumer DNEL, long-term	oral	systemic	0,2 mg/kg bw/day
1218787-32-6	2,2'-(C16-18 (evennumbered, C18 unsaturated) alkyl imino) diethanol		
Worker DNEL, long-term	dermal	systemic	0,42 mg/kg bw/day
Consumer DNEL, long-term	inhalation	systemic	0,522 mg/m³
Consumer DNEL, long-term	dermal	systemic	0,15 mg/kg bw/day
Consumer DNEL, long-term	oral	systemic	0,15 mg/kg bw/day
Worker DNEL, long-term	inhalation	systemic	2,96 mg/m³
27859-58-1	(tetrapropenyl)succinic acid		
Worker DNEL, long-term	inhalation	systemic	1,76 mg/m³
Worker DNEL, long-term	dermal	systemic	0,5 mg/kg bw/day
Consumer DNEL, long-term	inhalation	systemic	0,43 mg/m³
Consumer DNEL, long-term	dermal	systemic	0,25 mg/kg bw/day
Consumer DNEL, long-term	oral	systemic	0,25 mg/kg bw/day

PNEC values

CAS No	Name of agent
Environmental compartment	Value
68784-31-6	Phosphorodithioic acid, mixed O,O-bis(sec-Bu and 1,3-dimethylbutyl) esters, zinc salts
Freshwater	0,04 mg/l
Marine water	0,0046 mg/l
Freshwater sediment	0,07 mg/kg
Marine sediment	0,007 mg/kg
Secondary poisoning	8,33 mg/kg
Microorganisms in sewage treatment plants (STP)	3,8 mg/l
Soil	0,055 mg/kg
	Reaction products of diphenylamine with nonene, branched

Freshwater	0.412 mg/l
Marine water	0.041 mg/l
Microorganisms in sewage treatment plants (STP)	1 mg/l
1218787-32-6	2,2'-(C16-18 (evennumbered, C18 unsaturated) alkyl imino) diethanol
Freshwater	0,000214 mg/l
Freshwater (intermittent releases)	0,00087 mg/l
Marine water	0,000021 mg/l
Freshwater sediment	1,692 mg/kg
Marine sediment	0,169 mg/kg
Secondary poisoning	2 mg/kg
Microorganisms in sewage treatment plants (STP)	1,5 mg/l
Soil	5 mg/kg
27859-58-1	(tetrapropenyl)succinic acid
Freshwater	0,1 mg/l
Freshwater (intermittent releases)	1 mg/l
Marine water	0,01 mg/l
Freshwater sediment	62,1 mg/kg
Marine sediment	6,21 mg/kg
Secondary poisoning	3,33 mg/kg
Microorganisms in sewage treatment plants (STP)	100 mg/l
Soil	12,4 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:	244 °C	
Auto-ignition temperature:	No information available.	
Decomposition temperature:	No information available.	
pH-Value:	No information available.	
Viscosity / kinematic: (at 40 °C)	99,9 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):	0,892 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:	-30 °C	ASTM D 5985
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
68784-31-6	Phosphorodithioic acid, mixed O,O-bis(sec-Bu and 1,3-dimethylbutyl) esters, zinc salts				
	oral	LD50 >2000 mg/kg	Rat.	ECHA Dossier	OECD Guideline 401

	dermal	LD50 >5000 mg/kg	Rabbit	ECHA Dossier	OECD Guideline 402
	Reaction products of diphenylamine with nonene, branched				
	oral	LD50 > 5000 mg/kg	Rat	ECHA Dossier	OECD Guideline 401
1218787-32-6	2,2'-(C16-18 (evennumbered, C18 unsaturated) alkyl imino) diethanol				
	oral	LD50 1200 mg/kg	Rat	ECHA Dossier	OECD Guideline 425
27859-58-1	(tetrapropenyl)succinic acid				
	oral	LD50 2100 mg/kg	Rat	ECHA Dossier	OECD Guideline 401

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.
Phosphorodithioic acid, mixed O,O-bis(sec-Bu and 1,3-dimethylbutyl) esters, zinc salts:
Irritant effect on the eye: non-irritant. By analogy. Raw material classification

Sensitising effects

Based on available data, the classification criteria are not met.
Contains Alkyl- (C18-C28)
Toluenesulfonic acid,
Calcium salts, borated, Benzenesulfonic acid, methyl-, mono-C20-24-branched alkyl derivs., calcium salts.
May produce an allergic reaction.

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.
Phosphorodithioic acid, mixed O,O-bis(sec-Bu and 1,3-dimethylbutyl) esters, zinc salts:
Subacute oral toxicity: Method: OECD Guideline 407 (Repeated Dose 28-Day Oral Toxicity in Rodents);
Species: Rat; Exposure duration: 28 d; Results: NOAEL = 125mg/kg; Literature information: REACH Dossier

2,2'-(C16-18 (evennumbered, C18 unsaturated) alkyl imino) diethanol:
In-vitro mutagenicity:
Method: OECD Guideline 471 (Bacterial Reverse Mutation Assay)
Method: OECD Guideline 473 (In vitro Mammalian Chromosome Aberration Test)
Method: OECD Guideline 476 (In vitro Mammalian Cell Gene Mutation Test)
Result: negative (READ ACROSS)
Literature information: REACH Dossier

Reproductive toxicity/ Developmental toxicity/teratogenicity:
Method: - OECD Guideline 422 (Combined Repeated Dose Toxicity Study with the Reproduction / Developmental Toxicity Screening Test)
Species: Rat
Results: NOAEL (P0) = 75 mg/kg; NOAEL (F1) = 75 mg/kg

Reproductive toxicity:
Method: OECD Guideline 443 (Extended One-Generation Reproductive Toxicity Study)
Species: Rat
Result: NOAEL (P0) >= 150 mg/kg; NOAEL (F1) >= 150 mg/kg
Literature information: REACH Dossier

Developmental toxicity/teratogenicity:
Method: OECD Guideline 414 (Prenatal Developmental Toxicity Study)
Species: Rat
Results: NOEL (Maternal toxicity, fetus) > 150 mg/kg; Literature information: REACH Dossier

Method: OECD Guideline 414 (Prenatal Developmental Toxicity Study)
Species: Rabbit
Results: NOAEL (Maternal toxicity, fetus) > 150 mg/kg; Literature information: REACH Dossier

Method: OECD Guideline 414 (Prenatal Developmental Toxicity Study)
Species: Rabbit
Results: NOAEL (fetus) >= 60 mg/kg; Literature information: REACH Dossier

(tetrapropenyl)succinic acid:
In-vitro mutagenicity:
Method:
-OECD Guideline 471 (Bacterial Reverse Mutation Assay)
-OECD Guideline 473 (In vitro Mammalian Chromosome Aberration Test)
-OECD Guideline 490 (In Vitro Mammalian Cell Gene Mutation Tests Using the Thymidine Kinase Gene)
Result: negative
Literature information: REACH Dossier
Developmental toxicity/teratogenicity/Reproductive toxicity:
Method: OECD Guideline 421 (Reproduction / Developmental Toxicity Screening Test)
Species: Rat
Result: NOAEL (P0) > 100 mg/kg; Result: NOAEL (F1) >100 mg/kg
Literature information: REACH Dossier

Reaction products of diphenylamine with nonene, branched:
In-vitro mutagenicity:
Method:
-OECD Guideline 476 (In Vitro Mammalian Cell Gene Mutation Test)
-OECD Guideline 471 (Bacterial Reverse Mutation Assay)
-OECD Guideline 487 (In vitro Mammalian Cell Micronucleus Test)
Result: negative
Literature information: REACH Dossier

Reproductive toxicity:
Method: OECD Guideline 421 (Reproduction / Developmental Toxicity Screening Test)
Species: Rat
Result: NOAEL (P0, F1) = 1500 ppm
Literature information: REACH Dossier

Developmental toxicity/teratogenicity:
Method: OECD Guideline 414 (Prenatal Developmental Toxicity Study)
Species: Rat, Rabbit
Result: NOAEL (fetus) >= 500 mg/kg (Rat); 30 mg/kg (Rabbit)
Result: NOAEL (Maternal toxicity) = 150 mg/kg (Rat); 30 mg/kg (Rabbit)
Literature information: REACH Dossier

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.
Phosphorodithioic acid, mixed O,O-bis(sec-Bu and 1,3-dimethylbutyl) esters, zinc salts:
In-vitro mutagenicity: Method: OECD Guideline 471 (Bacterial Reverse Mutation Assay); Result: negative ;

Literature information: REACH Dossier

2,2'-(C16-18 (evennumbered, C18 unsaturated) alkyl imino) diethanol:
Subchronic oral toxicity
Exposure time: 90d
Species: Wistar Rat.
Method: OECD Guideline 408 (Repeated Dose 90-Day Oral Toxicity in Rodents)
Result: NOEL = 50 mg/kg bw/day
Literature information: REACH Dossier
Method: -
Species: Rat.
Result: NOEL = 35 mg/kg.
Literature information: REACH Dossier

(tetrapropenyl)succinic acid:
Subacute oral toxicity:
Method: OECD Guideline 407 (Repeated Dose 28-Day Oral Toxicity in Rodents)
Species: Rat ; Exposure duration: 28 d
Results: NOAEL >= 100 mg/kg
Literature information: REACH Dossier

Reaction products of diphenylamine with nonene, branched:
Subchronic oral toxicity: Exposure time: 90d; Species: Han Wistar Rat.; Method: OECD Guideline 408;
Result: LOAEL = 100 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.

CAS No	Chemical name						
	Aquatic toxicity	Dose		[h] | [d]	Species	Source	Method
68784-31-6	Phosphorodithioic acid, mixed O,O-bis(sec-Bu and 1,3-dimethylbutyl) esters, zinc salts						
	Acute fish toxicity	LC50 4,4 mg/l	LL50 =	96 h	Oncorhynchus mykiss	ECHA Dossier	OECD Guideline 203
	Acute algae toxicity	ErC50 410 mg/l	EL50 =	72 h	Desmodesmus subspicatus	ECHA Dossier	OECD Guideline 201
	Acute crustacea toxicity	EC50 75 mg/l	EL50 =	48 h	Daphnia magna	ECHA Dossier	OECD Guideline 202
	Crustacea toxicity	NOEC	0,4 mg/l	21 d	Daphnia magna	ECHA Dossier	OECD Guideline 211
	Reaction products of diphenylamine with nonene, branched						
	Acute algae toxicity	ErC50 mg/l	>100	72 h	Pseudokirchneriella subcapitata	ECHA Dossier	OECD Guideline 201

	Acute crustacea toxicity	EC50 >100 mg/l	48 h	Daphnia magna	ECHA Dossier	OECD Guideline 202
	Fish toxicity	NOEC 10 mg/l	34 d	Danio rerio	ECHA Dossier	OECD Guideline 210
	Crustacea toxicity	NOEC >10 mg/l	21 d	Daphnia magna	ECHA Dossier	OECD Guideline 211
1218787-32-6	2,2'-(C16-18 (evennumbered, C18 unsaturated) alkyl imino) diethanol					
	Acute fish toxicity	LC50 0,6 mg/l	96 h	Danio rerio	ECHA Dossier	READ ACROSS
	Acute algae toxicity	ErC50 0,0867 mg/l	72 h	Pseudokirchneriella subcapitata	ECHA Dossier	READ ACROSS
	Crustacea toxicity	NOEC 0,32 mg/l	21 d	Daphnia magna	ECHA Dossier	READ ACROSS
	Acute bacteria toxicity	EC50 167 mg/l ( )	3 h	activated sludge of a predominantly domestic sewag	ECHA Dossier	READ ACROSS
27859-58-1	(tetrapropenyl)succinic acid					
	Acute fish toxicity	LC50 > 100 mg/l	96 h	Oncorhynchus mykiss	ECHA Dossier	OECD Guideline 203
	Acute algae toxicity	ErC50 100 mg/l	96 h	Pseudokirchneriella subcapitata	ECHA Dossier	OECD Guideline 201
	Acute crustacea toxicity	EC50 > 100 mg/l	48 h	Daphnia magna	ECHA Dossier	OECD Guideline 202

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			
68784-31-6	Phosphorodithioic acid, mixed O,O-bis(sec-Bu and 1,3-dimethylbutyl) esters, zinc salts			
	EU Method C.6	< 5%	27	ECHA Dossier
	Readily biodegradable (according to OECD criteria).			
	Reaction products of diphenylamine with nonene, branched			
	(Q)SAR CATALOGIC v5.13.1.	31%	28	ECHA Dossier
	Not easily bio-degradable (according to OECD-criteria).			
	(Q)SAR CATALOGIC v5.13.1.	24%	28	ECHA Dossier
	Not easily bio-degradable (according to OECD-criteria).			
1218787-32-6	2,2'-(C16-18 (evennumbered, C18 unsaturated) alkyl imino) diethanol			
	OECD Guideline 301 D	52%	28	ECHA Dossier
	Not easily bio-degradable (according to OECD-criteria).			
27859-58-1	(tetrapropenyl)succinic acid			
	OECD 301F / ISO 9408 / EEC 92/69 annex V, C.4-D	18,3 %	28	ECHA Dossier
	Not easily bio-degradable (according to OECD-criteria).			

12.3. Bioaccumulative potential

No indication of bioaccumulation potential.

Partition coefficient n-octanol/water

CAS No	Chemical name	Log Pow
	Reaction products of diphenylamine with nonene, branched	11,87
1218787-32-6	2,2'-(C16-18 (evennumbered, C18 unsaturated) alkyl imino) diethanol	3,6
27859-58-1	(tetrapropenyl)succinic acid	>= 3,286

BCF

CAS No	Chemical name	BCF	Species	Source
	Reaction products of diphenylamine with nonene, branched	411	Cyprinus carpio	ECHA Dossier
1218787-32-6	2,2'-(C16-18 (evennumbered, C18 unsaturated) alkyl imino) diethanol	110,2		QSAR result (2010)

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 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)
The mixture is classified as hazardous according to regulation (EC) No 1272/2008 [CLP].
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): 11,15,16.

fRev. : 1,0 - 04.05.2015
Rev. : 1,1 - 06.05.2016
Rev.: 2,0 - 15.06.2017
Rev. : 3,0 - 29.06.2018
Rev.: 4,0 - 28.06.2019
Rev. : 5,0 - 29.06.2020; Changes in chapter: 16
Rev.: 6.0 - 17.06.2021; Changes in chapter: 3.2, 6.1, 6.3, 11.2, 12.6, 12.7, 15.1, 16
Rev.: 6.1 - 06.09.2021; Changes in chapter: 2.2, 3.2, 11.1,12.1, 16
Rev.: 6,2 - 29.07.2022, Changes in chapter: 2.2, 2.3, 3.2, 8.2, 12.5, 12.6, 15.1, 16
Rev.: 7.0 - 01.07.2023, Changes in chapter: 2.2, 9.1, 12.5, 12.7, 16
Rev.: 7,1 - 17.10.2023, Changes in chapter: 3.2, 8.1, 9.1, 11.1, 11.2, 12.1, 12.2, 12.3, 15.1, 16
Rev.: 8,0 - 08.10.2024, Changes in chapter: 11.1, 12.1, 16
Rev.: 9.0 - 16.10.2025, Changes in chapter: 8.1, 15.1, 16
Rev. : 9,1 - 29.04.2026; Changes in chapter: 3.2, 8.1, 11.1, 12.1, 12.2, 12.3, 15.1,16

Abbreviations and acronyms

Acute Tox. 4: Acute toxicity, hazard category 4
Skin Corr. 1C: Skin corrosion, sub-category 1C
Eye Dam. 1: Serious eye damage, hazard category 1
Skin Sens. 1B: Skin sensitisation, hazard category 1B
Repr. 2: Reproductive toxicity, hazard category 2
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
Aquatic Chronic 2: Hazardous to the aquatic environment, long-term hazard category: Chronic 2
Aquatic Chronic 3: Hazardous to the aquatic environment, long-term hazard category: Chronic 3
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	Calculation method

Relevant H and EUH statements (number and full text)

H302	Harmful if swallowed.
H314	Causes severe skin burns and eye damage.
H317	May cause an allergic skin reaction.
H318	Causes serious eye damage.
H361d	Suspected of damaging the unborn child.
H361f	Suspected of damaging fertility.
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 Alkyl- (C18-C28) Toluenesulfonic acid, Calcium salts, borated, Benzenesulfonic acid, methyl-, mono-C20-24-branched alkyl derivs., calcium salts. 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.)