

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006, as amended



APESIN COMBI DR

WM 1113199

Order number: 0713199

Version 3.2

Revision Date 12.07.2026

Print Date 14.07.2026

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

1.1 Product identifier

Trade name : APESIN COMBI DR
UFI : XWC5-80G7-9000-0177

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

Use of the Substance/Mixture : Biocidal product
Restricted to professional users.

1.3 Details of the supplier of the safety data sheet

Company : Tana Chemie GmbH
Rheinallee 96
55120 Mainz
Telephone : +49613196403
Telefax : +4961319642526
E-mail address : Produktsicherheit@werner-mertz.com
Responsible/issuing person
Contact person : Product development / product safety

1.4 Emergency telephone

EU: 112

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Classification (REGULATION (EC) No 1272/2008)

Skin corrosion, Category 1 H314: Causes severe skin burns and eye damage.

Serious eye damage, Category 1 H318: Causes serious eye damage.

Short-term (acute) aquatic hazard, Category 1 H400: Very toxic to aquatic life.

Long-term (chronic) aquatic hazard, Category 2 H411: Toxic to aquatic life with long lasting effects.

2.2 Label elements

Labeling (REGULATION (EC) No 1272/2008)

Hazard pictograms :



Signal Word : Danger

Hazard Statements : H314 Causes severe skin burns and eye damage.

APESIN COMBI DR

WM 1113199

Order number: 0713199

Version 3.2

Revision Date 12.07.2026

Print Date 14.07.2026

Precautionary Statements	H410	Very toxic to aquatic life with long lasting effects.
	P102	Keep out of reach of children.
	Prevention: P280	Wear protective gloves/ protective clothing/ eye protection/ face protection.
	Response: P303 + P361 + P353	IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower.
	P305 + P351 + P338 + P310	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER/ doctor.
	P337 + P313	If eye irritation persists: Get medical advice/ attention.
	Disposal: P501	Dispose of container into the collection of recyclables only when it is completely empty.

Hazardous ingredients which must be listed on the label:

N-(3-aminopropyl)-N-dodecylpropane-1,3-diamine

Safety data sheet available on request.

2.3 Other hazards

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

Ecological information: The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

Toxicological information: The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

SECTION 3: Composition/information on ingredients

3.2 Mixtures

Components

Chemical name	CAS-No. EC-No. Index-No. Registration number	Classification	Concentration (% w/w)
N-(3-aminopropyl)-N-dodecylpropane-1,3-diamine	2372-82-9 219-145-8 01-2119980592-29	Acute Tox. 3; H301 Skin Corr. 1B; H314 STOT RE 2; H373 Aquatic Acute 1; H400 Aquatic Chronic 1; H410	>= 5 - < 10

APESIN COMBI DR

WM 1113199

Order number: 0713199

Version 3.2

Revision Date 12.07.2026

Print Date 14.07.2026

		Eye Dam. 1; H318 M-Factor (Acute aquatic toxicity): 10 M-Factor (Chronic aquatic toxicity): 1	
Isotridecanol, ethoxylated	69011-36-5 500-241-6	Acute Tox. 4; H302 Eye Dam. 1; H318 specific concentration limit Eye Dam. 1; H318 > 10 % Eye Irrit. 2; H319 > 1 - 10 %	>= 3 - < 5
L-(+)-lactic acid	79-33-4 201-196-2 607-743-00-5 01-2119474164-39	Skin Corr. 1C; H314 Eye Dam. 1; H318 specific concentration limit Skin Irrit. 2; H315 3 - < 5 % Eye Dam. 1; H318 >= 3 % Eye Irrit. 2; H319 1 - < 3 % Skin Corr. 1C; H314 >= 5 %	>= 1 - < 3
Alcohols, C12-14, ethoxylated, sulfates, sodium salts	68891-38-3 500-234-8 01-2119488639-16	Skin Irrit. 2; H315 Eye Dam. 1; H318 Aquatic Chronic 3; H412 specific concentration limit Eye Irrit. 2; H319 5 - < 10 % Eye Dam. 1; H318 >= 10,0 %	>= 1 - < 3
N-dodecylpropane-1,3-diamine	5538-95-4 226-902-6	Acute Tox. 4; H302 Skin Corr. 1A; H314 Eye Dam. 1; H318 Aquatic Acute 1; H400 M-Factor (Acute aquatic toxicity): 1	>= 0,25 - < 1
dodecylamine	124-22-1 204-690-6	Skin Corr. 1B; H314 Eye Dam. 1; H318 STOT RE 2; H373 Asp. Tox. 1; H304 Aquatic Acute 1; H400 Aquatic Chronic 1; H410 M-Factor (Acute aquatic toxicity): 10	>= 0,025 - < 0,1

APESIN COMBI DR

WM 1113199

Order number: 0713199

Version 3.2

Revision Date 12.07.2026

Print Date 14.07.2026

		M-Factor (Chronic aquatic toxicity): 10	
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SECTION 4: First aid measures

4.1 Description of first-aid measures

- General advice : Move out of dangerous area.
Consult a physician.
Show this material safety data sheet to the doctor in attendance.
- If inhaled : Move to fresh air.
Consult a physician after significant exposure.
- In case of skin contact : Take off contaminated clothing and shoes immediately.
Wash off with soap and plenty of water.
Immediate medical treatment is necessary as untreated wounds from corrosion of the skin heal slowly and with difficulty.
- In case of eye contact : Small amounts splashed into eyes can cause irreversible tissue damage and blindness.
Protect unharmed eye.
Continue rinsing eyes during transport to hospital.
- If swallowed : Clean mouth with water and drink afterwards plenty of water.
Do NOT induce vomiting.
Do not give milk or alcoholic beverages.
Never give anything by mouth to an unconscious person.
If symptoms persist, call a physician.
Take victim immediately to hospital.

4.2 Most important symptoms and effects, both acute and delayed

- Symptoms : corrosive effects
- Risks : No information available.

4.3 Indication of any immediate medical attention and special treatment needed

- Treatment : For specialist advice physicians should contact the Poisons Information Service.

SECTION 5: Firefighting measures

5.1 Extinguishing media

- Suitable extinguishing media : Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

5.2 Special hazards arising from the substance or mixture

- Specific hazards during fire fighting : Do not allow run-off from fire fighting to enter drains or water courses.
- Hazardous combustion products : No hazardous combustion products are known

APESIN COMBI DR

WM 1113199

Order number: 0713199

Version 3.2

Revision Date 12.07.2026

Print Date 14.07.2026

5.3 Advice for firefighters

Special protective equipment for fire-fighters : In the event of fire, wear self-contained breathing apparatus.

Further information : Collect contaminated fire extinguishing water separately. This must not be discharged into drains.
Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Personal precautions : Use personal protective equipment.
Ensure adequate ventilation.
Evacuate personnel to safe areas.

6.2 Environmental precautions

Environmental precautions : Do not flush into surface water or sanitary sewer system.
Prevent further leakage or spillage if safe to do so.
If the product contaminates rivers and lakes or drains inform respective authorities.

6.3 Methods and material for containment and cleaning up

Methods for cleaning up : Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust).
Keep in suitable, closed containers for disposal.

6.4 Reference to other sections

For personal protection see section 8., Treat recovered material as described in the section "Disposal considerations"., Refer to section 15 for specific national regulation.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Advice on safe handling : Avoid contact with skin and eyes.
For personal protection see section 8.
Smoking, eating and drinking should be prohibited in the application area.
To avoid spills during handling keep bottle on a metal tray.
Dispose of rinse water in accordance with local and national regulations.

Advice on protection against fire and explosion : Normal measures for preventive fire protection.

Hygiene measures : Handle in accordance with good industrial hygiene and safety practice. When using do not eat or drink. When using do not smoke.
Wash hands before breaks and at the end of workday.

7.2 Conditions for safe storage, including any incompatibilities

Requirements for storage areas and containers : Store in original container. Keep container tightly closed in a dry and well-ventilated place. Containers which are opened must be carefully

APESIN COMBI DR

WM 1113199

Order number: 0713199

Version 3.2

Revision Date 12.07.2026

Print Date 14.07.2026

resealed and kept upright to prevent leakage. Store at room temperature in the original container.

Further information on storage stability : No decomposition if stored and applied as directed.

7.3 Specific end use(s)

Specific use(s) : Biocidal product

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Contains no substances with occupational exposure limit values.

Derived No Effect Level (DNEL) according to Regulation (EC) No. 1907/2006:

Substance name	End Use	Routes of exposure	Potential health effects	Value
N-(3-aminopropyl)-N-dodecylpropane-1,3-diamine	Workers	Dermal	Long-term systemic effects	0,91 mg/kg bw/day
	Consumers	Dermal	Long-term systemic effects	0,54 mg/kg bw/day
	Consumers	Inhalation	Long-term systemic effects	0,7 mg/m3
	Consumers	Oral	Long-term systemic effects	0,2 mg/kg bw/day
Alanine, N,N-bis(carboxymethyl)-, trisodium salt	Workers	Inhalation	Long-term systemic effects	2,35 mg/m3
	Workers	Inhalation	Acute systemic effects	40 mg/m3
	Workers	Inhalation	Acute local effects	40 mg/m3
	Workers	Inhalation	Long-term systemic effects	40 mg/m3
	Workers	Inhalation	Long-term local effects	4 mg/m3
	Consumers	Inhalation	Acute local effects	20 mg/m3
	Consumers	Inhalation	Acute systemic effects	20 mg/m3
	Consumers	Inhalation	Long-term systemic effects	20 mg/m3

APESIN COMBI DR

WM 1113199

Order number: 0713199

Version 3.2

Revision Date 12.07.2026

Print Date 14.07.2026

	Consumers	Inhalation	Long-term local effects	2 mg/m3
	Consumers	Ingestion	Acute systemic effects	85 mg/kg
	Consumers	Ingestion	Long-term systemic effects	17 mg/kg
Alcohols, C12-14, ethoxylated, sulfates, sodium salts	Workers	Inhalation	Long-term systemic effects	175 mg/m3
	Consumers	Inhalation	Long-term systemic effects	52 mg/m3
	Consumers	Ingestion	Long-term systemic effects	15 mg/kg bw/day
	Consumers	Skin contact	Long-term local effects	0,079 mg/cm2
	Workers	Skin contact	Long-term systemic effects	5830 mg/kg bw/day
	Consumers	Skin contact		2500 mg/kg bw/day

Predicted No Effect Concentration (PNEC) according to Regulation (EC) No. 1907/2006:

Substance name	Environmental Compartment	Value
N-(3-aminopropyl)-N-dodecylpropane-1,3-diamine	Fresh water	0,001 mg/l
	Soil	45,34 mg/kg
	Sea sediment	0,85 mg/kg
	Fresh water sediment	8,5 mg/kg
	STP	1,33 mg/l
	Sea water	0,0001 mg/l
Alanine, N,N-bis(carboxymethyl)-, trisodium salt	Fresh water	2 mg/l
	Sea water	0,2 mg/l
	Fresh water sediment	24 mg/kg
	Soil	2,5 mg/kg
	STP	100 mg/l
	intermittent release	1 mg/l

APESIN COMBI DR

WM 1113199

Order number: 0713199

Version 3.2

Revision Date 12.07.2026

Print Date 14.07.2026

Alcohols, C12-14, ethoxylated, sulfates, sodium salts	Fresh water	0,129 mg/l
	Sea water	0,024 mg/l
	Fresh water sediment	4,835 mg/kg dry weight (d.w.)
	Sea sediment	0,4835 mg/kg dry weight (d.w.)
	Soil	7,5 mg/kg dry weight (d.w.)
	STP	10000 mg/l
	intermittent release	0,071 mg/l

8.2 Exposure controls

Personal protective equipment

Eye/face protection : Tightly fitting safety goggles

Hand protection

Material : Chemical resistant gloves made of butyl rubber or nitrile rubber category III according to EN 374.

Remarks : Take note of the information given by the producer concerning permeability and break through times, and of special workplace conditions (mechanical strain, duration of contact).

Skin and body protection : Choose body protection according to the amount and concentration of the dangerous substance at the work place.

Remove and wash contaminated clothing before re-use.

Respiratory protection : Not required; except in case of aerosol formation.

Recommended Filter type:

ABEK-P3-filter

APESIN COMBI DR

WM 1113199

Order number: 0713199

Version 3.2

Revision Date 12.07.2026

Print Date 14.07.2026

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Physical state	: liquid
Color	: colorless, clear
Odor	: amine-like
Melting point/freezing point	: No data available
Boiling point/boiling range	: No information available.
Flammability (solid, gas)	: No data available
Flammability (liquids)	: No data available
Lower explosion limit	: No data available
Upper explosion limit	: No data available
Flash point	: does not flash
Ignition temperature	: No data available
Decomposition temperature	: No data available
pH	: ca. 9,8, 100 % at 20 °C
Viscosity, dynamic	: No data available
Viscosity, kinematic	: No data available
Water solubility	: soluble
Solubility in other solvents	: No data available
Partition coefficient: n- octanol/water	: No data available
Vapor pressure	: No data available
Density	: ca. 1,023 g/cm ³ at 20 °C
Relative density	: No data available
Relative vapor density	: No data available
Particle characteristics	: No data available

9.2 Other information

none

SECTION 10: Stability and reactivity

10.1 Reactivity

Stable under recommended storage conditions.
No dangerous reaction known under conditions of normal use.

10.2 Chemical stability

No decomposition if stored and applied as directed.

APESIN COMBI DR

WM 1113199

Order number: 0713199

Version 3.2

Revision Date 12.07.2026

Print Date 14.07.2026

10.3 Possibility of hazardous reactions

Hazardous reactions : Stable under recommended storage conditions.
No decomposition if used as directed.

10.4 Conditions to avoid

Conditions to avoid : No data available

10.5 Incompatible materials

Materials to avoid : No data available

10.6 Hazardous decomposition products

No hazardous decomposition products are known.

SECTION 11: Toxicological information

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

Our company is strongly against animal testing.
Our company does not place any orders for animal testing for the finished product or the ingredients.
However, as a result of EU legislation (REACH Regulation), the manufacturers of ingredients or EU importers are obliged to test ingredients with regard to their effects on human health and the environment before they are brought onto the market. Some of the tests made necessary by this took place decades ago.

Acute toxicity

Product:

Acute oral toxicity : Acute toxicity estimate: > 2.000 mg/kg
Method: Calculation method

Components:

N-(3-aminopropyl)-N-dodecylpropane-1,3-diamine

2372-82-9:

Acute oral toxicity : LD50 (Rat, female): 243,6 mg/kg
Method: OECD Test Guideline 401
GLP: yes

LD50 (Rat, male): 280 mg/kg
Method: OECD Test Guideline 401
GLP: yes

Acute dermal toxicity : LD50 (Rat): > 600 mg/kg
Method: OECD Test Guideline 402

Isotridecanol, ethoxylated

69011-36-5:

Acute oral toxicity : LD50 (Rat): > 300 - 2.000 mg/kg

Acute dermal toxicity : LD50 (Rabbit): > 2.000 mg/kg

L-(+)-lactic acid

79-33-4:

Acute oral toxicity : LD50 (Mouse): 4.875 mg/kg

APESIN COMBI DR

WM 1113199

Order number: 0713199

Version 3.2

Revision Date 12.07.2026

Print Date 14.07.2026

LD50 Oral (Guinea pig): 1.810 mg/kg

LD50 Oral (Rat, female): 3.543 mg/kg
Method: US EPA Test Guideline OPP 81-1

LD50 Oral (Rat, male): 4.936 mg/kg

Acute inhalation toxicity : LC50 (Rat, male and female): 7,94 mg/l
Exposure time: 4 h
Test atmosphere: dust/mist
Method: OECD Test Guideline 403

Acute dermal toxicity : LD50 (Rabbit): > 2.000 mg/kg

Alcohols, C12-14, ethoxylated, sulfates, sodium salts

68891-38-3:

Acute oral toxicity : LD50 (Rat): 2.000 - 5.000 mg/kg
Method: OECD Test Guideline 401

Acute dermal toxicity : LD50 Dermal (Rat): > 2.000 mg/kg
Method: OECD Test Guideline 402
GLP: yes

Skin corrosion/irritation

Product:

Remarks : Extremely corrosive and destructive to tissue.

Components:

N-(3-aminopropyl)-N-dodecylpropane-1,3-diamine

2372-82-9:

Species : Rabbit
Exposure time : 3 min
Method : OECD Test Guideline 404
Result : Causes severe burns.

Isotridecanol, ethoxylated

69011-36-5:

Species : Rabbit
Result : No skin irritation

I-(+)-lactic acid

79-33-4:

Result : Corrosive after 1 to 4 hours of exposure

Alcohols, C12-14, ethoxylated, sulfates, sodium salts

68891-38-3:

Species : Rabbit
Assessment : Irritating to skin.
Method : OECD Test Guideline 404

APESIN COMBI DR

WM 1113199

Order number: 0713199

Version 3.2

Revision Date 12.07.2026

Print Date 14.07.2026

Serious eye damage/eye irritation

Product:

Remarks : May cause irreversible eye damage.

Components:

N-(3-aminopropyl)-N-dodecylpropane-1,3-diamine

2372-82-9:

Result : Risk of serious damage to eyes.

Isotridecanol, ethoxylated

69011-36-5:

Species : Rabbit

Result : Irreversible effects on the eye

I-(+)-lactic acid

79-33-4:

Species : Chicken eye

Result : Causes serious eye damage.

Alcohols, C12-14, ethoxylated, sulfates, sodium salts

68891-38-3:

Species : Rabbit

Assessment : Risk of serious damage to eyes.

Method : OECD Test Guideline 405

Respiratory or skin sensitization

Product:

Remarks : No data available

Components:

N-(3-aminopropyl)-N-dodecylpropane-1,3-diamine

2372-82-9:

Test Type : Buehler Test

Species : Guinea pig

Method : OECD Test Guideline 406

Result : Did not cause sensitization on laboratory animals.

Isotridecanol, ethoxylated

69011-36-5:

Test Type : Maximization Test

Species : Guinea pig

Result : Not a skin sensitizer.

I-(+)-lactic acid

79-33-4:

Species : Guinea pig

Result : Not a skin sensitizer.

APESIN COMBI DR

WM 1113199

Order number: 0713199

Version 3.2

Revision Date 12.07.2026

Print Date 14.07.2026

Alcohols, C12-14, ethoxylated, sulfates, sodium salts

68891-38-3:

Routes of exposure : Dermal
Species : Guinea pig
Result : Does not cause skin sensitization.

Germ cell mutagenicity

Germ cell mutagenicity : Not Rated

Components:

N-(3-aminopropyl)-N-dodecylpropane-1,3-diamine

2372-82-9:

Genotoxicity in vitro : Test system: Chinese hamster cells
Metabolic activation: Metabolic activation
Method: OECD Test Guideline 476
Result: negative

Test Type: Chromosome aberration test in vitro
Test system: Chinese hamster cells
Metabolic activation: Metabolic activation
Method: OECD Test Guideline 473
Result: negative

Test Type: Ames test
Test system: Salmonella typhimurium
Metabolic activation: Metabolic activation
Method: OECD Test Guideline 471
Result: negative

Alcohols, C12-14, ethoxylated, sulfates, sodium salts

68891-38-3:

Genotoxicity in vitro : Method: OECD Test Guideline 471
Result: negative

Carcinogenicity : Not Rated

Reproductive toxicity : Not Rated

STOT-single exposure : The substance or mixture is not classified as specific target organ toxicant, single exposure.

STOT-repeated exposure

STOT-repeated exposure : The substance or mixture is not classified as specific target organ toxicant, repeated exposure.

APESIN COMBI DR

WM 1113199

Order number: 0713199

Version 3.2

Revision Date 12.07.2026

Print Date 14.07.2026

Components:

N-(3-aminopropyl)-N-dodecylpropane-1,3-diamine

2372-82-9:

Target Organs	:	Kidney
Assessment	:	The substance or mixture is classified as specific target organ toxicant, repeated exposure, category 2.

Repeated dose toxicity

Components:

N-(3-aminopropyl)-N-dodecylpropane-1,3-diamine

2372-82-9:

Species	:	Rat
NOAEL	:	9 mg/kg
Application Route	:	Oral
Exposure time	:	90 d
Method	:	OECD Test Guideline 408
GLP	:	yes

Species	:	Dog
NOAEL	:	20 mg/kg
Application Route	:	Dermal
Exposure time	:	90 d
Method	:	OECD Test Guideline 409
GLP	:	yes

Species	:	Rat
NOAEL	:	15 mg/kg
Application Route	:	Dermal
Exposure time	:	90 d
GLP	:	yes

Isotridecanol, ethoxylated

69011-36-5:

Species	:	Rat
NOAEL	:	50 mg/kg
Application Route	:	Oral
Exposure time	:	2 Years
Target Organs	:	Heart, Liver, Kidney

I-(+)-lactic acid

79-33-4:

Species	:	Rat
LOAEL	:	886 mg/kg
Application Route	:	Dermal
Application Route	:	Oral

Aspiration toxicity

Aspiration toxicity	:	Not Rated
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APESIN COMBI DR

WM 1113199

Order number: 0713199

Version 3.2

Revision Date 12.07.2026

Print Date 14.07.2026

Components:

Isotridecanol, ethoxylated

69011-36-5:

Not applicable

11.2 Information on other hazards

Endocrine disrupting properties

Product:

Assessment : The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

Further information

Product:

Remarks : No data available

SECTION 12: Ecological information

12.1 Toxicity

Components:

N-(3-aminopropyl)-N-dodecylpropane-1,3-diamine

2372-82-9:

Toxicity to fish : LC50 (Danio rerio (zebra fish)): > 0,1 - 1 mg/l
Exposure time: 96 h
Method: OECD Test Guideline 203

LC50 (Oncorhynchus mykiss (rainbow trout)): 0,68 mg/l
Exposure time: 96 h
Method: OECD Test Guideline 203
GLP: yes

LC50 (Lepomis macrochirus (Bluegill sunfish)): 0,45 mg/l
Exposure time: 96 h
Analytical monitoring: yes
GLP: yes

Toxicity to daphnia and other aquatic invertebrates : EC0 (Daphnia magna (Water flea)): 0,3 mg/l
Exposure time: 24 h
Method: OECD Test Guideline 202

EC50 (Daphnia magna (Water flea)): 0,073 mg/l
Exposure time: 48 h
Test Type: Immobilization
Analytical monitoring: yes
GLP: yes

NOEC (Daphnia magna (Water flea)): 0,024 mg/l
Exposure time: 21 d
Test Type: Reproduction Test
Analytical monitoring: yes

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006, as amended



APESIN COMBI DR

WM 1113199

Order number: 0713199

Version 3.2

Revision Date 12.07.2026

Print Date 14.07.2026

	Method: OECD Test Guideline 211 GLP: yes
	EC50 (<i>Daphnia magna</i> (Water flea)): > 0,01 - 0,1 mg/l Exposure time: 48 h Method: OECD Test Guideline 202
Toxicity to algae/aquatic plants	: ErC50 (<i>Pseudokirchneriella subcapitata</i> (green algae)): 0,054 mg/l Exposure time: 96 h Test Type: Growth inhibition GLP: yes
	ErC10 (<i>Desmodesmus subspicatus</i> (green algae)): 0,012 mg/l Exposure time: 72 h Test Type: Growth inhibition Analytical monitoring: yes Method: OECD Test Guideline 201 GLP: yes
	(<i>Desmodesmus subspicatus</i> (green algae)): 0,0069 mg/l Exposure time: 72 h Test Type: Growth inhibition Method: OECD Test Guideline 201
	EC50 (<i>Pseudokirchneriella subcapitata</i> (green algae)): > 0,01 - 0,1 mg/l Exposure time: 72 h Method: OECD Test Guideline 201
	NOEC (<i>Pseudokirchneriella subcapitata</i> (green algae)): > 0,001 - 0,01 mg/l Exposure time: 72 h Method: OECD Test Guideline 201
M-Factor (Acute aquatic toxicity)	: 10
Toxicity to microorganisms	: EC50 (Bacteria): 0,8 mg/l Method: DIN 38412
	EC50 (activated sludge): 18 mg/l Exposure time: 3 h Test Type: Respiration inhibition Method: OECD Test Guideline 209 GLP: yes
Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity)	: NOEC: > 0,01 - 0,1 mg/l Exposure time: 21 d Species: <i>Daphnia magna</i> (Water flea) Method: OECD Test Guideline 211
M-Factor (Chronic aquatic toxicity)	: 1

Isotridecanol, ethoxylated, Tridecanol, branched, ethoxylated

69011-36-5:

Toxicity to fish	: LC50 (<i>Cyprinus carpio</i> (Carp)): > 1 - 10 mg/l Exposure time: 96 h Test Type: flow-through test Method: OECD Test Guideline 203
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SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006, as amended



APESIN COMBI DR

WM 1113199

Order number: 0713199

Version 3.2

Revision Date 12.07.2026

Print Date 14.07.2026

		LC50 (Brachydanio rerio (zebrafish)): > 10 - 100 mg/l Exposure time: 96 h Test Type: semi-static test Method: OECD Test Guideline 203
Toxicity to daphnia and other aquatic invertebrates	:	EC50 (Daphnia magna (Water flea)): > 1 - 10 mg/l Exposure time: 48 h Test Type: static test Method: OECD Test Guideline 202
Toxicity to algae/aquatic plants	:	EC50 (Desmodesmus subspicatus (green algae)): > 1 - 10 mg/l Exposure time: 72 h Test Type: static test Method: OECD Test Guideline 201
Toxicity to microorganisms	:	EC50 (activated sludge): 140 mg/l Test Type: Respiration inhibition
Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity)	:	EC10: 2,6 mg/l Exposure time: 21 d Species: Daphnia magna (Water flea) Test Type: Reproduction Test Method: OECD Test Guideline 211
Toxicity to soil dwelling organisms	:	NOEC: 220 mg/kg Species: Eisenia fetida (earthworms)
Plant toxicity	:	NOEC: 10 mg/kg Species: Lepidium sativum (cress) Method: OECD Test Guideline 208
I-(+)-lactic acid		
79-33-4:		
Toxicity to fish	:	LC50 (Lepomis macrochirus (Bluegill sunfish)): 130 mg/l Exposure time: 96 h LC50 (Danio rerio (zebra fish)): 320 mg/l Exposure time: 48 h LC50 (Oncorhynchus mykiss (rainbow trout)): 130 mg/l Exposure time: 96 h Method: EPA-660/3-75-009 LC50 (Danio rerio (zebra fish)): 195 mg/l Exposure time: 96 h Method: OECD Test Guideline 203 GLP: yes
Toxicity to daphnia and other aquatic invertebrates	:	EC50 (Daphnia magna (Water flea)): 130 mg/l Exposure time: 48 h Method: OECD Test Guideline 202 GLP: yes EC50 (Daphnia pulex (Water flea)): 240 mg/l Exposure time: 48 h EC50 (Daphnia magna (Water flea)): 250 mg/l Exposure time: 48 h
Toxicity to algae/aquatic plants	:	EC50 (Scenedesmus capricornutum (fresh water algae)): 3.500 mg/l

APESIN COMBI DR

WM 1113199

Order number: 0713199

Version 3.2

Revision Date 12.07.2026

Print Date 14.07.2026

EC50 (*Pseudokirchneriella subcapitata* (algae)): > 2.800 mg/l
Exposure time: 72 h

NOEC (*Pseudokirchneriella subcapitata* (green algae)): 1.900 mg/l
Exposure time: 70 h

EC50 (*Raphidocelis subcapitata* (freshwater green alga)): > 3.500 mg/l
Exposure time: 72 h
Method: OECD Test Guideline 201

Toxicity to microorganisms : EC50 (activated sludge): > 100 mg/l
Exposure time: 3 h

Toxicity to fish (Chronic toxicity) : Lowest Observed Effect Concentration: 2,18 mg/l
Exposure time: 90 d
Species: Fish

Toxicity to terrestrial organisms : LC50: 2.250 mg/kg>
Exposure time: 14 d
Species: *Colinus virginianus* (Bobwhite quail)

Alcohols, C12-14, ethoxylated, sulfates, sodium salts

68891-38-3:

Toxicity to fish : LC50 (*Danio rerio* (zebra fish)): 7,1 mg/l
Exposure time: 96 h
Test Type: flow-through test
Method: OECD Test Guideline 203
GLP: yes

LC50 (Fish): > 1 - 10 mg/l
Test Type: flow-through test
Method: OECD Test Guideline 203

LC50 (*Leuciscus idus* (Golden orfe)): 10 - 100 mg/l
Method: OECD Test Guideline 203

NOEC (*Oncorhynchus mykiss* (rainbow trout)): 0,14 mg/l
Exposure time: 28 d
Test Type: flow-through test
Method: OECD Test Guideline 204

LC50 (*Brachydanio rerio* (zebrafish)): 1 - 10 mg/l
Exposure time: 96 h
Test Type: flow-through test
Method: OECD Test Guideline 203

LC50 (*Brachydanio rerio* (zebrafish)): 7,1 mg/l
Exposure time: 96 h

NOEC (Fish): 0,1 - 1 mg/l
Exposure time: 28 Days

Toxicity to daphnia and other aquatic invertebrates : EC50 (*Daphnia pulex* (Water flea)): 7,4 mg/l
Exposure time: 48 h
Test Type: Immobilization
Method: OECD Test Guideline 202

EC50 (*Daphnia magna* (Water flea)): > 1 - 10 mg/l

APESIN COMBI DR

WM 1113199

Order number: 0713199

Version 3.2

Revision Date 12.07.2026

Print Date 14.07.2026

- Exposure time: 48 h
Test Type: static test
Method: OECD Test Guideline 202
- NOEC (Daphnia magna (Water flea)): 0,27 mg/l
Exposure time: 21 d
Test Type: flow-through test
Method: OECD Test Guideline 211
- EC50 (Daphnia): 1 - 10 mg/l
Exposure time: 48 h
- NOEC (Daphnia): 0,1 - 1 mg/l
Exposure time: 21 Days
- Toxicity to algae/aquatic plants : EC50 (Desmodesmus subspicatus (green algae)): 27,7 mg/l
Exposure time: 72 h
Test Type: Growth inhibition
Method: OECD Test Guideline 201
GLP: yes
- EC50 (Desmodesmus subspicatus (green algae)): > 10 - 100 mg/l
Exposure time: 72 h
Test Type: static test
Method: OECD Test Guideline 201
- NOEC : 0,95 mg/l
Test Type: Growth inhibition
Method: OECD Test Guideline 201
- NOEC (Desmodesmus subspicatus (green algae)): 0,93 mg/l
Exposure time: 72 h
Test Type: static test
Method: OECD Test Guideline 201
- EC50 (algae): 27,7 mg/l
Exposure time: 72 h
Test Type: Growth inhibition
- NOEC (algae): 0,93 mg/l
Exposure time: 72 h
- EC50 (algae): 10 - 100 mg/l
Exposure time: 72 h
- NOEC (algae): 0,1 - 1 mg/l
Exposure time: 72 h
- Toxicity to microorganisms : EC50 (Pseudomonas putida): > 10 g/l
Exposure time: 16 h
Test Type: Cell multiplication inhibition test
Method: DIN 38412
GLP: yes
- EC10 (Pseudomonas putida): > 10 g/l
Exposure time: 16 h
Test Type: Cell multiplication inhibition test
- Toxicity to fish (Chronic toxicity) : NOEC: 1 - 10 mg/l
Species: Leuciscus idus (Golden orfe)

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006, as amended



APESIN COMBI DR

WM 1113199

Order number: 0713199

Version 3.2

Revision Date 12.07.2026

Print Date 14.07.2026

NOEC: 0,14 mg/l
Exposure time: 28 d
Species: Oncorhynchus mykiss (rainbow trout)
Method: OECD Test Guideline 204

NOEC: 0,2 mg/l
Exposure time: 28 d
Species: Fish

NOEC: > 0,1 - 1 mg/l
Exposure time: 28 d
Species: Oncorhynchus mykiss (rainbow trout)
Method: OECD Test Guideline 204

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : NOEC: > 0,1 - 1 mg/l
Exposure time: 21 d
Species: Daphnia magna (Water flea)
Method: OECD Test Guideline 211

EC50: 0,37 mg/l
Exposure time: 21 d

0,74 mg/l
Exposure time: 21 d

NOEC: 0,27 mg/l
Exposure time: 21 d

Toxicity to soil dwelling organisms : NOEC: 750 mg/kg
Exposure time: 56 d
Species: Eisenia fetida (earthworms)
Method: OECD Test Guideline 222
Remarks: Information taken from reference works and the literature.

N-dodecylpropane-1,3-diamine

5538-95-4:

M-Factor (Acute aquatic toxicity) : 1

dodecylamine

124-22-1:

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): 0,036 mg/l
Exposure time: 48 h

M-Factor (Acute aquatic toxicity) : 10

M-Factor (Chronic aquatic toxicity) : 10

12.2 Persistence and degradability

Components:

N-(3-aminopropyl)-N-dodecylpropane-1,3-diamine

2372-82-9:

Biodegradability : Result: Readily biodegradable.
Biodegradation: > 90 %
Exposure time: 28 d
Method: OECD Test Guideline 301

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006, as amended



APESIN COMBI DR

WM 1113199

Order number: 0713199

Version 3.2

Revision Date 12.07.2026

Print Date 14.07.2026

Test Type: Zahn-Wellens Test
Biodegradation: 91 %
Exposure time: 28 d
Method: OECD Test Guideline 302B

Test Type: see user defined free text
Result: rapidly biodegradable
Biodegradation: 79 %
Exposure time: 28 d
Method: OECD 301 D
GLP: yes

Biodegradation: 96 %
Exposure time: 12 - 15 d
Method: OECD Test Guideline 303A

Chemical Oxygen Demand (COD) : 2.875 mg/g
Remarks: see user defined free text

Dissolved organic carbon (DOC) : 721 mg/g
Remarks: see user defined free text

Isotridecanol, ethoxylated, Tridecanol, branched, ethoxylated

69011-36-5:

Biodegradability : Test Type: aerobic
Result: rapidly biodegradable
Biodegradation: > 60 %
Exposure time: 28 d
Method: OECD Test Guideline 301B

Test Type: anaerobic
Result: Biodegradable
Biodegradation: > 60 %
Exposure time: 60 d
Method: OECD Test Guideline 311

I-(+)-lactic acid

79-33-4:

Biodegradability : Result: rapidly biodegradable

Biochemical Oxygen Demand (BOD) : 450 mg/g
Incubation time: 5 d

600 mg/g
Incubation time: 20 d

Chemical Oxygen Demand (COD) : 900 mg/g

ThOD : 1.067 mg/g

Alcohols, C12-14, ethoxylated, sulfates, sodium salts

68891-38-3:

Biodegradability : Test Type: aerobic
Result: rapidly biodegradable
Biodegradation: > 70 %
Exposure time: 28 d
Method: OECD 301 A

APESIN COMBI DR

WM 1113199

Order number: 0713199

Version 3.2

Revision Date 12.07.2026

Print Date 14.07.2026

Test Type: anaerobic
Result: Biodegradable
Biodegradation: > 60 %
Exposure time: 41 d
Method: OECD 301 D

Result: Readily biodegradable.
Biodegradation: 93 %
Exposure time: 28 d

Biochemical Oxygen Demand (BOD) : 285 mg/g
Incubation time: 5 d

Chemical Oxygen Demand (COD) : 518 mg/g

12.3 Bioaccumulative potential

Components:

N-(3-aminopropyl)-N-dodecylpropane-1,3-diamine

2372-82-9:

Bioaccumulation : Remarks: Bioaccumulation is unlikely.

Partition coefficient: n-octanol/water : log Pow: -0,7
pH: 7

Isotridecanol, ethoxylated, Tridecanol, branched, ethoxylated

69011-36-5:

Bioaccumulation : Remarks: Bioaccumulation is unlikely.

L-(+)-lactic acid

79-33-4:

Bioaccumulation : Remarks: Product does not contain substances which are persistent, bioaccumulative, and toxic (PBT) at levels of 0.1% or higher.
Product does not contain substances which are very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

Alcohols, C12-14, ethoxylated, sulfates, sodium salts

68891-38-3:

Bioaccumulation : Remarks: Bioaccumulation is unlikely.

dodecylamine

124-22-1:

Partition coefficient: n-octanol/water : log Pow: 4,76

12.4 Mobility in soil

Components:

N-(3-aminopropyl)-N-dodecylpropane-1,3-diamine

2372-82-9:

Mobility : Remarks: After release, adsorbs onto soil.

APESIN COMBI DR

WM 1113199

Order number: 0713199

Version 3.2

Revision Date 12.07.2026

Print Date 14.07.2026

Isotridecanol, ethoxylated, Tridecanol, branched, ethoxylated

69011-36-5:

Stability in soil : Remarks: Adsorbs on soil.

12.5 Results of PBT and vPvB assessment

Product:

Assessment : This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

Components:

N-(3-aminopropyl)-N-dodecylpropane-1,3-diamine

2372-82-9:

Assessment : Not very persistent and very bioaccumulative (vPvB).. Not persistent, bioaccumulative, and toxic (PBT).

Isotridecanol, ethoxylated, Tridecanol, branched, ethoxylated

69011-36-5:

Assessment : Not persistent, bioaccumulative, and toxic (PBT).. Not very persistent and very bioaccumulative (vPvB).

Alcohols, C12-14, ethoxylated, sulfates, sodium salts

68891-38-3:

Assessment : Not very persistent and very bioaccumulative (vPvB).. Not persistent, bioaccumulative, and toxic (PBT).

12.6 Endocrine disrupting properties

Product:

Assessment : The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

Components:

2372-82-9:

Assessment : The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

12.7 Other adverse effects

Product:

Additional ecological information : An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.
Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

Components:

N-(3-aminopropyl)-N-dodecylpropane-1,3-diamine

2372-82-9:

APESIN COMBI DR

WM 1113199

Order number: 0713199

Version 3.2

Revision Date 12.07.2026

Print Date 14.07.2026

Additional ecological information : An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.
Very toxic to aquatic life with long lasting effects.

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Product : The product should not be allowed to enter drains, water courses or the soil.
Do not contaminate ponds, waterways or ditches with chemical or used container.
In accordance with local and national regulations.

Contaminated packaging : Empty remaining contents.
Dispose of as unused product.
Do not re-use empty containers.

Waste Code : European Waste Catalog
07 06 99
According to the European Waste Catalog, Waste Codes are not product specific, but application specific. Waste codes should be assigned by the user, preferably in discussion with the waste disposal authorities.

SECTION 14: Transport information

14.1 UN number or ID number

ADR : 1760
IMDG : 1760
IATA : 1760

14.2 UN proper shipping name

ADR : CORROSIVE LIQUID, N.O.S.
(N-(3-aminopropyl)-N-dodecylpropane-1,3-diamine)

IMDG : CORROSIVE LIQUID, N.O.S.
(N-(3-aminopropyl)-N-dodecylpropane-1,3-diamine)

IATA : Corrosive liquid, n.o.s.

14.3 Transport hazard class(es)

ADR : 8
IMDG : 8
IATA : 8

14.4 Packing group

ADR
Classification Code : C9
Packaging group : II
Hazard Identification Number : 80
Labels : 8
Tunnel restriction code : (E)

IMDG
Packaging group : II
Labels : 8
EmS Number : F-A, S-B
IATA

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006, as amended



APESIN COMBI DR

WM 1113199

Order number: 0713199

Version 3.2

Revision Date 12.07.2026

Print Date 14.07.2026

(Cargo) : Corrosive liquid, n.o.s.
Packaging group : II
Labels : 8

14.5 Environmental hazards

ADR

Environmentally hazardous : yes

IMDG

Marine pollutant : yes

IATA

Environmentally hazardous : yes

14.6 Special precautions for user

The transport classification(s) provided herein are for informational purposes only, and solely based upon the properties of the unpackaged material as it is described within this Safety Data Sheet. Transportation classifications may vary by mode of transportation, package sizes, and variations in regional or country regulations.

For personal protection see section 8.

14.7 Maritime transport in bulk according to IMO instruments

Not applicable for product as supplied.

SECTION 15: Regulatory information

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

Regulation (EC) No 649/2012 of the European Parliament and the Council concerning the export and import of dangerous chemicals : Not applicable

REACH - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles (Annex XVII) : See Annex XVII to Regulation (EC) no 1907/2006 for Conditions of restriction

Seveso III: Directive 2012/18/EU of the European Parliament and of the Council on the control of major-accident hazards involving dangerous substances.

		Quantity 1	Quantity 2
E1	ENVIRONMENTAL HAZARDS	100 000067	200 000067

TA Luft List (Germany) : Total dust: Not applicable
: Inorganic substances in powdered form: Not applicable
: Inorganic substances in vapor or gaseous form: Not applicable
: Organic Substances: : portionClass 1: 6,68 %
: Carcinogenic substances: Not applicable
: mutagenic: Not applicable
: Toxic to reproduction: Not applicable

Volatile organic compounds (VOC) content : Directive 2010/75/EU of 24 November 2010 on industrial and livestock rearing emissions (integrated pollution prevention and control)
Update: Percent volatile: 0,07 %
4,65 g/l
VOC content excluding water

Volatile organic compounds : Directive 2010/75/EU of 24 November 2010 on industrial and

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006, as amended



APESIN COMBI DR

WM 1113199

Order number: 0713199

Version 3.2

Revision Date 12.07.2026

Print Date 14.07.2026

(VOC) content livestock rearing emissions (integrated pollution prevention and control)
Update: Percent volatile: 0,07 %
0,68 g/l
VOC content valid only for coating materials used on wood surfaces

according to Detergents : <5% anionic surfactants, non-ionic surfactants, LAURYLAMINE
Regulation EC 648/2004 DIPROPYLENEDIAMINE

15.2 Chemical Safety Assessment

SECTION 16: Other information

Full text of H-Statements

H301 : Toxic if swallowed.
H302 : Harmful if swallowed.
H304 : May be fatal if swallowed and enters airways.
H314 : Causes severe skin burns and eye damage.
H315 : Causes skin irritation.
H318 : Causes serious eye damage.
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.
H412 : Harmful to aquatic life with long lasting effects.

Full text of other abbreviations

Acute Tox. : Acute toxicity
Aquatic Acute : Short-term (acute) aquatic hazard
Aquatic Chronic : Long-term (chronic) aquatic hazard
Asp. Tox. : Aspiration hazard
Eye Dam. : Serious eye damage
Skin Corr. : Skin corrosion
Skin Irrit. : Skin irritation
STOT RE : Specific target organ toxicity - repeated exposure

ADN - European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways; ADR - Agreement concerning the International Carriage of Dangerous Goods by Road; AIIC - Australian Inventory of Industrial Chemicals; ASTM - American Society for the Testing of Materials; bw - Body weight; CLP - Classification Labelling Packaging Regulation; Regulation (EC) No 1272/2008; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardization; DSL - Domestic Substances List (Canada); ECHA - European Chemicals Agency; EC-Number - European Community number; ECx - Concentration associated with x% response; ELx - Loading rate associated with x% response; EmS - Emergency Schedule; ENCS - Existing and New Chemical Substances (Japan); ErCx - Concentration associated with x% growth rate response; GHS - Globally Harmonized System; GLP - Good Laboratory Practice; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk; IC50 - Half maximal inhibitory concentration; ICAO - International Civil Aviation Organization; IECSC - Inventory of Existing Chemical Substances in China; IMDG - International Maritime Dangerous Goods; IMO - International Maritime Organization; ISHL - Industrial Safety and Health Law (Japan); ISO - International Organization for Standardization; KECI - Korea Existing Chemicals Inventory; LC50 - Lethal Concentration to 50 % of a test population; LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose); MARPOL - International Convention for the Prevention of Pollution from Ships; n.o.s. - Not Otherwise Specified; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NZIoC - New Zealand Inventory of Chemicals; OECD - Organization for

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006, as amended



APESIN COMBI DR

WM 1113199

Order number: 0713199

Version 3.2

Revision Date 12.07.2026

Print Date 14.07.2026

Economic Co-operation and Development; OPPTS - Office of Chemical Safety and Pollution Prevention; PBT - Persistent, Bioaccumulative and Toxic substance; PICCS - Philippines Inventory of Chemicals and Chemical Substances; (Q)SAR - (Quantitative) Structure Activity Relationship; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorization and Restriction of Chemicals; RID - Regulations concerning the International Carriage of Dangerous Goods by Rail; SADT - Self-Accelerating Decomposition Temperature; SDS - Safety Data Sheet; SVHC - substance of very high concern; TCSI - Taiwan Chemical Substance Inventory; TECI - Thailand Existing Chemicals Inventory; TRGS - Technical Rule for Hazardous Substances; TSCA - Toxic Substances Control Act (United States); UN - United Nations; vPvB - Very Persistent and Very Bioaccumulative

Further information

Classification of the mixture:

Skin Corr. 1	H314
Eye Dam. 1	H318
Aquatic Acute 1	H400
Aquatic Chronic 2	H411

Classification procedure:

Calculation method
Calculation method
Calculation method
Calculation method

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

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