

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006 (REACH)

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Mabanol Radon Gear GL 5 LS 85W-90

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

1.1. Product identifier

Trade name/designation:

Mabanol Radon Gear GL 5 LS 85W-90

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

Use of the substance/mixture:

Gear oil

1.3. Details of the supplier of the safety data sheet

Supplier (manufacturer/importer/only representative/downstream user/distributor):

Mabanol GmbH & Co. KG

Koreastraße 7

20457 Hamburg

Germany

Telephone: 0049 (0) 40 36809988

E-mail: info@mabanol.com

Website: www.mabanol.com

1.4. Emergency telephone number

Giftinformationszentrale Göttingen , 24h: 0049 (0) 551 1 92 40

SECTION 2: Hazards identification

* 2.1. Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008 [CLP]:

The mixture is classified as not hazardous according to regulation (EC) No 1272/2008 [CLP].

* 2.2. Label elements

Labelling according to Regulation (EC) No. 1272/2008 [CLP]

Hazard components for labelling:

Reaction products of bis(4-methylpentan-2-yl)dithiophosphoric acid with phosphorus oxide, propylene oxide and amines, C12-14-alkyl (branched); Reaction product of 1,3,4-thiadiazolidine-2,5-dithione, formaldehyde and phenol, heptyl derivs.

Supplemental hazard information

EUH208	Contains Reaction products of bis(4-methylpentan-2-yl)dithiophosphoric acid with phosphorus oxide, propylene oxide and amines, C12-14-alkyl (branched) [EC No.:931-384-6]; Reaction product of 1,3,4-thiadiazolidine-2,5-dithione, formaldehyde and phenol, heptyl derivs. [EC No.:939-460-0]. May produce an allergic reaction.
EUH210	Safety data sheet available on request.

Additional information:

This mixture contains the following substances of very high concern (SVHC) which are included in the Candidate List according to Article 59 of REACH:

>0,1% Reaction product of 1,3,4-thiadiazolidine-2,5-dithione, formaldehyde and phenol, heptyl derivs. [EC No. 939-460-0]

<0,1% not relevant.

* 2.3. Other hazards

No data available

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SECTION 3: Composition / information on ingredients

3.2. Mixtures

Hazardous ingredients / Hazardous impurities / Stabilisers:

product identifiers	Substance name Classification according to Regulation (EC) No 1272/2008 [CLP]	Concentration
EC No.: 931-384-6 REACH No.: 01-2119493620-38	Reaction products of bis(4-methylpentan-2-yl)dithiophosphoric acid with phosphorus oxide, propylene oxide and amines, C12-14-alkyl (branched) Acute Tox. 4, Aquatic Chronic 2, Eye Dam. 1, Skin Sens. 1 H302-H317-H318-H411	1 - < 5 Wt %
EC No.: 939-591-3 REACH No.: 01-2119978530-33	Reaction Products of alcohols, C14-18, C18 unsat., esterified with phosphorus pentoxide and salted with amines, C12-14,-tert-alkyl Aquatic Chronic 3 H412	1 - < 5 Wt %
EC No.: 939-460-0 REACH No.: 01-2119971727-23	Reaction product of 1,3,4-thiadiazolidine-2,5-dithione, formaldehyde and phenol, heptyl derivs. Aquatic Chronic 3, Eye Dam. 1, Flam. Liq. 3, Skin Irrit. 2, Skin Sens. 1B H226-H315-H317-H318-H412	< 1 Wt %

Full text of H- and EUH-phrases: see section 16.

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).

Following inhalation:

Remove casualty to fresh air and keep warm and at rest. In case of allergic symptoms, especially in the breathing area, seek medical advice immediately. Apply cortisone spray at early stage.

In case of skin contact:

After contact with skin, wash immediately with plenty of water and soap. Take off immediately all contaminated clothing. If skin irritation or rash occurs: Get medical advice/attention.

After eye contact:

Rinse immediately carefully and thoroughly with eye-bath or water. In case of eye irritation 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

Observe risk of aspiration if vomiting occurs.

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:

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

Unsuitable extinguishing media:

Full water jet.

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5.2. Special hazards arising from the substance or mixture

Burning produces heavy smoke.

Hazardous combustion products:

In case of fire may be liberated: Carbon monoxide. Carbon dioxide (CO₂). Sulphur dioxide (SO₂). Nitrogen oxides (NO_x).

5.3. Advice for firefighters

Do not inhale explosion and combustion gases. Wear a self-contained breathing apparatus and chemical protective clothing.

5.4. 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

6.1.1. For non-emergency personnel

Personal precautions:

Use personal protection equipment. Avoid contact with skin, eyes and clothes. Avoid: aerosol or mist formation. Ventilate affected area. Special danger of slipping by leaking/spilling product.

6.1.2. For emergency responders

Personal protection equipment:

Personal protection equipment: see section 8.

6.2. Environmental precautions

Do not allow to enter into surface water or drains. Do not allow to enter into soil/subsoil. Prevent spread over a wide area (e.g. by containment or oil barriers). In case of gas escape or of entry into waterways, soil or drains, inform the responsible authorities.

6.3. Methods and material for containment and cleaning up

For cleaning up:

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. 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

Protective measures

Advices on safe handling:

Wear personal protection equipment (refer to section 8). Avoid contact with skin, eyes and clothes. Avoid: Generation/formation of mist. generation/formation of aerosols. Do not breathe gas/fumes/vapour/spray.

Fire prevent measures:

Usual measures for fire prevention. Keep away from sources of ignition - No smoking. Fire class: B (Fires of liquids or liquid turning substances).

Advices on general occupational hygiene

When using do not eat, drink or smoke. Avoid contact with eyes and skin. Wash hands before breaks and after work. Apply skin care products after work. Do not put any product-impregnated cleaning rags into your trouser pockets. Used working clothes should not be worn outside the work area. Wash contaminated clothing before reuse.

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7.2. Conditions for safe storage, including any incompatibilities

Technical measures and storage conditions:

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

Hints on storage assembly:

Do not store together with: Gas. Explosives. P8 Oxidising liquids and solids. Radioactive substances. Infectious substances.

Storage class: 10 - Combustible liquids that cannot be assigned to any of the above storage classes

Further information on storage conditions:

Temperature control required. Keep container tightly closed.

Protect against: Air. Light. UV-radiation/sunlight.

7.3. Specific end use(s)

No data available

SECTION 8: Exposure controls/personal protection

* 8.1. Control parameters

8.1.1. Occupational exposure limit values

No data available

8.1.2. Biological limit values

No data available

8.1.3. DNEL-/PNEC-values

Substance name	DNEL value	① DNEL type ② Exposure route
Reaction products of bis(4-methylpentan-2-yl)dithiophosphoric acid with phosphorus oxide, propylene oxide and amines, C12-14-alkyl (branched)	8.56 mg/m ³	① DNEL worker ② inhalative, long-term, systemic
Reaction products of bis(4-methylpentan-2-yl)dithiophosphoric acid with phosphorus oxide, propylene oxide and amines, C12-14-alkyl (branched)	2.2 mg/m ³	① DNEL Consumer ② inhalative, long-term, systemic
Reaction products of bis(4-methylpentan-2-yl)dithiophosphoric acid with phosphorus oxide, propylene oxide and amines, C12-14-alkyl (branched)	12.5 mg/kg bw/day	① DNEL worker ② dermal, long-term, systemic
Reaction products of bis(4-methylpentan-2-yl)dithiophosphoric acid with phosphorus oxide, propylene oxide and amines, C12-14-alkyl (branched)	6.25 mg/kg bw/day	① DNEL Consumer ② dermal, long-term, systemic
Reaction products of bis(4-methylpentan-2-yl)dithiophosphoric acid with phosphorus oxide, propylene oxide and amines, C12-14-alkyl (branched)	0.024 mg/cm ²	① DNEL Consumer ② dermal, short-term, local, (acute)
Reaction products of bis(4-methylpentan-2-yl)dithiophosphoric acid with phosphorus oxide, propylene oxide and amines, C12-14-alkyl (branched)	0.25 mg/kg bw/day	① DNEL Consumer ② oral, long-term, systemic
Reaction product of 1,3,4-thiadiazolidine-2,5-dithione, formaldehyde and phenol, heptyl derivs.	2.35 mg/m ³	① DNEL worker ② inhalative, long-term, systemic
Reaction product of 1,3,4-thiadiazolidine-2,5-dithione, formaldehyde and phenol, heptyl derivs.	0.58 mg/m ³	① DNEL Consumer ② inhalative, short-term, systemic, (acute)
Reaction product of 1,3,4-thiadiazolidine-2,5-dithione, formaldehyde and phenol, heptyl derivs.	66.7 mg/kg bw/day	① DNEL worker ② dermal, long-term, systemic
Reaction product of 1,3,4-thiadiazolidine-2,5-dithione, formaldehyde and phenol, heptyl derivs.	33.33 mg/kg bw/day	① DNEL Consumer ② dermal, long-term, systemic
Reaction product of 1,3,4-thiadiazolidine-2,5-dithione, formaldehyde and phenol, heptyl derivs.	0.33 mg/kg bw/day	① DNEL Consumer ② oral, long-term, systemic

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Substance name	PNEC Value	① PNEC type
Reaction products of bis(4-methylpentan-2-yl)dithiophosphoric acid with phosphorus oxide, propylene oxide and amines, C12-14-alkyl (branched)	0.001 mg/l	① PNEC aquatic, freshwater
Reaction products of bis(4-methylpentan-2-yl)dithiophosphoric acid with phosphorus oxide, propylene oxide and amines, C12-14-alkyl (branched)	0.0001 mg/l	① PNEC aquatic, marine water
Reaction products of bis(4-methylpentan-2-yl)dithiophosphoric acid with phosphorus oxide, propylene oxide and amines, C12-14-alkyl (branched)	24.33 mg/l	① PNEC sewage treatment plant
Reaction products of bis(4-methylpentan-2-yl)dithiophosphoric acid with phosphorus oxide, propylene oxide and amines, C12-14-alkyl (branched)	14.4 mg/kg	① PNEC sediment, freshwater
Reaction products of bis(4-methylpentan-2-yl)dithiophosphoric acid with phosphorus oxide, propylene oxide and amines, C12-14-alkyl (branched)	1.44 mg/kg	① PNEC sediment, marine water
Reaction products of bis(4-methylpentan-2-yl)dithiophosphoric acid with phosphorus oxide, propylene oxide and amines, C12-14-alkyl (branched)	10 mg/kg	① PNEC soil
Reaction product of 1,3,4-thiadiazolidine-2,5-dithione, formaldehyde and phenol, heptyl derivs.	0.026 mg/l	① PNEC aquatic, freshwater
Reaction product of 1,3,4-thiadiazolidine-2,5-dithione, formaldehyde and phenol, heptyl derivs.	0.003 mg/l	① PNEC aquatic, marine water
Reaction product of 1,3,4-thiadiazolidine-2,5-dithione, formaldehyde and phenol, heptyl derivs.	45.5 mg/l	① PNEC sewage treatment plant
Reaction product of 1,3,4-thiadiazolidine-2,5-dithione, formaldehyde and phenol, heptyl derivs.	1,108.6 mg/kg	① PNEC sediment, freshwater
Reaction product of 1,3,4-thiadiazolidine-2,5-dithione, formaldehyde and phenol, heptyl derivs.	110.86 mg/kg	① PNEC sediment, marine water
Reaction product of 1,3,4-thiadiazolidine-2,5-dithione, formaldehyde and phenol, heptyl derivs.	221.48 mg/kg	① PNEC soil
Reaction product of 1,3,4-thiadiazolidine-2,5-dithione, formaldehyde and phenol, heptyl derivs.	6.7 mg/kg	① PNEC secondary poisoning

8.2. Exposure controls

8.2.1. Appropriate engineering controls

Provide adequate ventilation.

8.2.2. Personal protection equipment



Eye/face protection:

Eye glasses with side protection (DIN EN 166). In case of increased risk, additionally: Face protection shield.

Skin protection:

Tested protective gloves must be worn (EN ISO 374).

Suitable material: NBR (Nitrile rubber). FKM (fluoro rubber). Neoprene. Breakthrough times and swelling properties of the material must be taken into consideration. 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.

Suitable protective clothing: flame-resistant.

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Respiratory protection:

Usually no personal respiratory protection necessary.

Respiratory protection necessary at: exceeding exposure limit values. aerosol or mist formation. Suitable respiratory protection apparatus: Filtering device (full mask or mouthpiece) with filter: A2, A2/P2, 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.

8.2.3. Environmental exposure controls

No data available

8.3. Additional information

air limit values:

Possibility of exposure to Aerosols (Mineral oil)

Limit value (TLV-TWA) = 5 mg/m³ (Source: ACGIH)

Limit value (TLV-STEL) = 10 mg/m³ (Source: ACGIH)

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Appearance

Physical state: Liquid

Colour: clear

Odour: not determined

Safety relevant basis data

parameter		at °C	Method	Remark
pH	not determined			
Melting point	not determined			
Freezing point	not determined			
Initial boiling point and boiling range	not determined			
Decomposition temperature	not determined			
Flash point	205 °C		DIN ISO 2592	
Evaporation rate	not determined			
Auto-ignition temperature	not determined			
Upper/lower flammability or explosive limits	not determined			
Vapour pressure	not determined			
Vapour density	not determined			
Density	0.902 g/cm ³	15 °C	DIN 51757	
Bulk density	not determined			
Water solubility	not determined			
Partition coefficient: n-octanol/water	not determined			
Dynamic viscosity	not determined			
Kinematic viscosity	215 mm ² /s	40 °C	DIN EN ISO 3104	

9.2. Other information

No data available

SECTION 10: Stability and reactivity

10.1. Reactivity

No information available.

10.2. Chemical stability

The product is stable under storage at normal ambient temperatures.

10.3. Possibility of hazardous reactions

No known hazardous reactions.

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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 toxicological effects

CAS No.	Substance name	Toxicological information
	Reaction products of bis(4-methylpentan-2-yl)dithiophosphoric acid with phosphorus oxide, propylene oxide and amines, C12-14-alkyl (branched)	LD₅₀ oral: 2,000 mg/kg (Rat) OECD 401
	Reaction Products of alcohols, C14-18, C18 unsat., esterified with phosphorus pentoxide and salted with amines, C12-14,-tert-alkyl	LD₅₀ oral: >2,000 mg/kg (Rat) LD₅₀ dermal: >2,000 mg/kg (Rat)
	Reaction product of 1,3,4-thiadiazolidine-2,5-dithione, formaldehyde and phenol, heptyl derivs.	LD₅₀ oral: >2,000 mg/kg (Rat) LD₅₀ dermal: >2,000 mg/kg (Rat) OECD 402

Acute oral toxicity:

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

Acute dermal toxicity:

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

Acute inhalation toxicity:

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

Skin corrosion/irritation:

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

Serious eye damage/irritation:

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

Respiratory or skin sensitisation:

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

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.

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.

Aspiration hazard:

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

Additional information:

Frequently or prolonged contact with skin may cause dermal irritation.

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SECTION 12: Ecological information

* 12.1. Toxicity

CAS No.	Substance name	Toxicological information
	Reaction products of bis(4-methylpentan-2-yl)dithiophosphoric acid with phosphorus oxide, propylene oxide and amines, C12-14-alkyl (branched)	LC₅₀ : 8.5 mg/l 4 d (fish, Pimephales promelas (fathead minnow)) ErC₅₀ : 6.4 mg/l 4 d (Algae/water plant, Pseudokirchneriella subcapitata)
	Reaction product of 1,3,4-thiadiazolidine-2,5-dithione, formaldehyde and phenol, heptyl derivs.	ErC₅₀ : 25 mg/l 3 d (Algae/water plant, Pseudokirchneriella subcapitata) OECD 201

Additional ecotoxicological information:

Method: OECD 211

Species: Daphnia magna (Big water flea)

Test duration: 21 day(s)

EL50: (Reproductive toxicity, Immobilisation) > 100 mg/l

NOELR: (Immobilisation) = 100 mg/l

Environmental properties: none (The statement is derived from products of similar structure or composition.)

* 12.2. Persistence and degradability

CAS No.	Substance name	Biodegradation	Remark
	Reaction products of bis(4-methylpentan-2-yl)dithiophosphoric acid with phosphorus oxide, propylene oxide and amines, C12-14-alkyl (branched)	—	Not readily biodegradable (according to OECD criteria)
	Reaction Products of alcohols, C14-18, C18 unsat., esterified with phosphorus pentoxide and salted with amines, C12-14,-tert-alkyl	—	Not readily biodegradable (according to OECD criteria)
	Reaction product of 1,3,4-thiadiazolidine-2,5-dithione, formaldehyde and phenol, heptyl derivs.	—	Not readily biodegradable (according to OECD criteria)

Additional information:

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

* 12.3. Bioaccumulative potential

CAS No.	Substance name	Log K _{OW}	Bioconcentration factor (BCF)
	Reaction Products of alcohols, C14-18, C18 unsat., esterified with phosphorus pentoxide and salted with amines, C12-14,-tert-alkyl	5.66	
	Reaction product of 1,3,4-thiadiazolidine-2,5-dithione, formaldehyde and phenol, heptyl derivs.	5.31	

Accumulation / Evaluation:

No indication of bioaccumulation potential.

12.4. Mobility in soil

No information available.

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* 12.5. Results of PBT and vPvB assessment

CAS No.	Substance name	Results of PBT and vPvB assessment
	Reaction products of bis(4-methylpentan-2-yl)dithiophosphoric acid with phosphorus oxide, propylene oxide and amines, C12-14-alkyl (branched)	The substance in the mixture does not meet the PBT/vPvB criteria according to REACH, annex XIII.
	Reaction Products of alcohols, C14-18, C18 unsat., esterified with phosphorus pentoxide and salted with amines, C12-14,-tert-alkyl	The substance in the mixture does not meet the PBT/vPvB criteria according to REACH, annex XIII.
	Reaction product of 1,3,4-thiadiazolidine-2,5-dithione, formaldehyde and phenol, heptyl derivs.	—

This mixture contains the following substances of very high concern (SVHC) which are included in the Candidate List according to Article 59 of REACH: >0,1% Reaction product of 1,3,4-thiadiazolidine-2,5-dithione, formaldehyde and phenol, heptyl derivs. [EC No. 939-460-0] <0,1% not relevant.

12.6. Other adverse effects

No information available.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

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

13.1.1. Product/Packaging disposal

Waste codes/waste designations according to EWC/AVV

Waste code packaging:

15 01 10 *	packaging containing residues of or contaminated by dangerous substances
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*: Evidence for disposal must be provided.

Waste treatment options

Appropriate disposal / Product:

Consult the appropriate local waste disposal expert about waste disposal.

Appropriate disposal / Package:

Non-contaminated packages may be recycled. Handle contaminated packages in the same way as the substance itself.

SECTION 14: Transport information

No dangerous good in sense of these transport regulations.

14.1. UN-No.

not relevant

14.2. UN proper shipping name

not relevant

14.3. Transport hazard class(es)

not relevant

14.4. Packing group

not relevant

14.5. Environmental hazards

not relevant

14.6. Special precautions for user

not relevant

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14.7. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code
not relevant

SECTION 15: Regulatory information

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

15.1.1. EU legislation

Authorisations:

Reaction product of 1,3,4-thiadiazolidine-2,5-dithione, formaldehyde and phenol, heptyl derivs. [EC No. 939-460-0].

This substance has been listed as SVHC (substance of very high concern) in the Candidate List according to Article 59 of REACH.

Other regulations (EU):

Directive 2012/18/EU on the control of major-accident hazards involving dangerous substances [Seveso-III-Directive]: This product is not assigned to a hazard category.

Directive 2010/75/EU on industrial emissions: No information available.

Directive 2004/42/EC on the limitation of emissions of volatile organic compounds: No information available.

Observe in addition any national regulations!

15.1.2. National regulations

 **[DE] National regulations**

Störfallverordnung

for substances contained in the product:

This product is not assigned to a hazard category.

Technische Anleitung Luft (TA-Luft)

Klasse 1:

5.2.5: organic substances, to be indicated as total carbon at $m \geq 0.50$ kg/h: Konz. 50 mg/m^3

Anteil 1:

95 %

Water hazard class (WGK)

WGK:

2 - deutlich wassergefährdend

Remark:

Self-classification (mixture; calculation rule).

15.2. Chemical Safety Assessment

not applicable.

15.3. Additional information

To follow: SECTION 12: Ecological information.

SECTION 16: Other information

16.1. Indication of changes

2.1.	Classification of the substance or mixture
2.2.	Label elements
2.3.	Other hazards
3.2.	Mixtures
7.1.	Precautions for safe handling
8.1.	Control parameters
8.3.	Additional information
11.1.	Information on toxicological effects
12.1.	Toxicity
12.2.	Persistence and degradability

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12.3.	Bioaccumulative potential
12.5.	Results of PBT and vPvB assessment
15.1.	Safety, health and environmental regulations/legislation specific for the substance or mixture

16.2. Abbreviations and acronyms

ACGIH: American Conference of Governmental Industrial Hygienists
ADR: Accord européen sur le transport des marchandises dangereuses par Route (International Carriage of Dangerous Goods by Road)
AwSV: Verordnung über Anlagen zum Umgang mit wassergefährdenden Stoffen
CAS Chemical Abstracts Service
DNEL: Derived No Effect Level
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)
LOAEL: Lowest observed adverse effect level
LOAEC: Lowest observed adverse effect concentration
LC50: Lethal concentration, 50 percent
LD50: Lethal dose, 50 percent
NIOSH: National Institute of Occupational Safety and Health
NOAEL: No observed adverse effect level
NOAEC: No observed adverse effect level
NTP: National Toxicology Program
N/A: not applicable
OEL: Occupational Exposure limit (Arbeitsplatzgrenzwert)
OSHA: Occupational Safety and Health Administration
PEL: permissible exposure limit (Zulässiger Expositionsgrenzwert)
PBT: persistent bioaccumulative toxic
PNEC: predicted no effect concentration
REL: Recommended exposure limit (Empfohlene Expositionsgrenze)
RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)
SARA: Superfund Amendments and Reauthorization Act
STEL: Short Term Exposure Limit (Kurzzeitgrenzwert) (15 min)
SVHC: substance of very high concern
TLV: Threshold Limit Values (Schwellwert Grenzwerte)
TRGS Technische Regeln für Gefahrstoffe
TSCA: Toxic Substances Control Act
TWA: Time Weighted Average (Zeitlich gewichteter Mittelwert) (8 h)
VOC: Volatile Organic Compounds
vPvB: very persistent and very bioaccumulative
VwVwS: Verwaltungsvorschrift wassergefährdender Stoffe
WGK: Wassergefährdungsklasse

16.3. Key literature references and sources for data

No data available

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

Classification according to Regulation (EC) No 1272/2008 [CLP]:

The mixture is classified as not hazardous according to regulation (EC) No 1272/2008 [CLP].

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006 (REACH)

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16.5. Relevant R-, H- and EUH-phrases (Number and full text)

Hazard statements	
H226	Flammable liquid and vapour.
H302	Harmful if swallowed.
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H318	Causes serious eye damage.
H411	Toxic to aquatic life with long lasting effects.
H412	Harmful to aquatic life with long lasting effects.

16.6. Training advice

No data available

16.7. Additional 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.

* Data changed compared with the previous version