Mabanol Radon Gear GL 4 80W

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

1.1. Product identifier
Trade name/designation:

Mabanol Radon Gear GL 4 80W

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

E-mail (competent person): giznord@giz-nord.de

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); C16-18-(even numbered, saturated and unsaturated)-alkylamines

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). May produce an allergic reaction.
EUH210	Safety data sheet available on request.

Additional information:
The mixture contains the following substances fulfilling the PBT-/vPvB criteria according to REACH Annex XIII:
C16-18-(even numbered, saturated and unsaturated)-alkylamines.
This mixture contains no substances of very high concern (SVHC) which are included in the Candidate List according to Article 59 of REACH.

2.3. Other hazards
No data available

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 (H302), Aquatic Chronic 2 (H411), Eye Dam. 1 (H318), Skin Sens. 1 (H317) Danger	1 – < 3 weight-%
CAS No.: 1213789-63-9 EC No.: 627-034-4 REACH No.: 01-2119473797-19	**C16-18-(even numbered, saturated and unsaturated)-alkylamines** Acute Tox. 4 (H302), Aquatic Acute 1 (H400), Aquatic Chronic 1 (H410), Asp. Tox. 1 (H304), Eye Dam. 1 (H318), STOT RE 2 (H373), STOT SE 3 (H335), Skin Corr. 1B (H314) Danger M-factor (acute): 10 M-factor (chronic): 10	0.3 – < 0.5 weight-%

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. In case of skin irritation, consult a physician.

After eye contact:
Rinse immediately carefully and thoroughly with eye-bath or water. In case of eye irritation consult an ophthalmologist.

Following 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.

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 (NOx).

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. Prevent spread over a wide area (e.g. by containment or oil barriers). Do not allow to enter into soil/subsoil. 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 (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: generation/formation of aerosols. Generation/formation of mist.

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.

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 (TRGS 510, Germany): 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) EC No.: 931-384-6	4.28 mg/m³	① DNEL worker ② Long-term – inhalation, systemic effects
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	1.09 mg/m³	① DNEL Consumer ② Long-term – inhalation, systemic effects
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	12.5 mg/kg bw/day	① DNEL worker ② Long-term - dermal, systemic effects
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	6.25 mg/kg bw/day	① DNEL Consumer ② Long-term - dermal, systemic effects
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	0.024 mg/cm²	① DNEL Consumer ② Acute - dermal, local effects
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	0.25 mg/kg bw/day	① DNEL Consumer ② Long-term - oral, systemic effects
C16-18-(even numbered, saturated and unsaturated)-alkylamines CAS No.: 1213789-63-9 EC No.: 627-034-4	0.38 mg/m³	① DNEL worker ② Long-term – inhalation, systemic effects

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Substance name	DNEL value	① DNEL type ② Exposure route
C16-18-(even numbered, saturated and unsaturated)-alkylamines CAS No.: 1213789-63-9 EC No.: 627-034-4	0.035 mg/m³	① DNEL Consumer ② Long-term – inhalation, systemic effects
C16-18-(even numbered, saturated and unsaturated)-alkylamines CAS No.: 1213789-63-9 EC No.: 627-034-4	1 mg/m³	① DNEL worker ② Long-term – inhalation, local effects
C16-18-(even numbered, saturated and unsaturated)-alkylamines CAS No.: 1213789-63-9 EC No.: 627-034-4	1 mg/cm²	① DNEL worker ② Acute - inhalation, local effects
C16-18-(even numbered, saturated and unsaturated)-alkylamines CAS No.: 1213789-63-9 EC No.: 627-034-4	0.04 mg/kg bw/day	① DNEL Consumer ② Long-term - oral, systemic effects

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) EC No.: 931-384-6	0.0024 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) EC No.: 931-384-6	0.00024 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) EC No.: 931-384-6	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) EC No.: 931-384-6	0.0129 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) EC No.: 931-384-6	0.00129 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) EC No.: 931-384-6	0.00117 mg/kg	① PNEC soil
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	10 mg/kg	① PNEC secondary poisoning

Substance name	PNEC Value	① PNEC type
C16-18-(even numbered, saturated and unsaturated)-alkylamines CAS No.: 1213789-63-9 EC No.: 627-034-4	0.26 µg/L	① PNEC aquatic, freshwater
C16-18-(even numbered, saturated and unsaturated)-alkylamines CAS No.: 1213789-63-9 EC No.: 627-034-4	0.026 µg/L	① PNEC aquatic, marine water
C16-18-(even numbered, saturated and unsaturated)-alkylamines CAS No.: 1213789-63-9 EC No.: 627-034-4	0.55 mg/L	① PNEC sewage treatment plant
C16-18-(even numbered, saturated and unsaturated)-alkylamines CAS No.: 1213789-63-9 EC No.: 627-034-4	3.76 mg/kg	① PNEC sediment, freshwater
C16-18-(even numbered, saturated and unsaturated)-alkylamines CAS No.: 1213789-63-9 EC No.: 627-034-4	0.376 mg/kg	① PNEC sediment, marine water
C16-18-(even numbered, saturated and unsaturated)-alkylamines CAS No.: 1213789-63-9 EC No.: 627-034-4	10 mg/kg	① PNEC soil

*
8.2. Exposure controls

8.2.1. Appropriate engineering controls
Provide adequate ventilation.

8.2.2. Personal protection equipment

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

Skin protection:
Tested protective gloves must be worn (EN ISO 374).
Suitable material: NBR (Nitrile rubber). FKM (fluoro rubber). CR (polychloroprene, chloroprene rubber).
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.

Respiratory protection:
Usually no personal respirative 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 information 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	Value	at °C	① Method ② 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	220 °C		① EN ISO 2592
Evaporation rate	*not determined*		
Auto-ignition temperature	*not determined*		
Upper/lower flammability or explosive limits	*not determined*		
Vapour pressure	< 0.1 hPa	20 °C	② calculated.
Vapour density	*not determined*		
Density	0.897 g/cm³	15 °C	① DIN 51757
Relative density	*not determined*		
Bulk density	*not determined*		
Water solubility	*not determined*		
Partition coefficient: n-octanol/water	*not determined*		
Dynamic viscosity	*not determined*		
Kinematic viscosity	114.1 mm²/s	40 °C	① EN ISO 3104
Pour point	-30 °C		① ASTM D 5985

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

10.3. Possibility of hazardous reactions

No known hazardous reactions.

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**

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
LD_{50} oral: 2,000 mg/kg (Rat) OECD 401
LD_{50} dermal: 2,201 mg/kg
LC_{50} Acute inhalation toxicity (vapour): 20.1 mg/L 4 h (Rat)
C16-18-(even numbered, saturated and unsaturated)-alkylamines CAS No.: 1213789-63-9 EC No.: 627-034-4
LD_{50} oral: >1,200 mg/kg (Rat) OECD 401
LD_{50} 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:
Contains Reaction products of bis(4-methylpentan-2-yl)dithiophosphoric acid with phosphorus oxide, propylene oxide and amines, C12-14-alkyl (branched). May produce an allergic reaction.

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.

* **11.2. Information on other hazards**

Endocrine disrupting properties:
No information available.

SECTION 12: Ecological information

* **12.1. Toxicity**

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
LC_{50}: ≈24 mg/L 4 d (fish, Oncorhynchus mykiss (Rainbow trout)) OECD 203
EC_{50}: ≈91.4 mg/L 2 d (crustaceans, Daphnia magna (Big water flea))
ErC_{50}: 6.4 mg/L 4 d (Algae/water plant, Pseudokirchneriella subcapitata) OECD 201

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C16-18-(even numbered, saturated and unsaturated)-alkylamines CAS No.: 1213789-63-9 EC No.: 627-034-4
LC_{50}: 0.06 mg/L 4 d (fish, Pimephales promelas (fathead minnow))
EC_{50}: 0.98 mg/L 2 d (crustaceans, Daphnia magna (Big water flea)) OECD 202
NOEC: 0.013 mg/L 21 d (crustaceans, Daphnia magna (Big water flea)) OECD 211
ErC_{50}: 0.38 mg/L 3 d (Algae/water plant, Desmodesmus subspicatus) 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
(The statement is derived from products of similar structure or composition.)

* 12.2. Persistence and degradability

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
Biodegradation: —
Remark: Not readily biodegradable (according to OECD criteria)
C16-18-(even numbered, saturated and unsaturated)-alkylamines CAS No.: 1213789-63-9 EC No.: 627-034-4
Biodegradation: —
Remark: 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

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
Log K_{OW}: < 0.3
Bioconcentration factor (BCF): 436 Species: Oncorhynchus mykiss (Rainbow trout)
C16-18-(even numbered, saturated and unsaturated)-alkylamines CAS No.: 1213789-63-9 EC No.: 627-034-4
Log K_{OW}: 5.16
Bioconcentration factor (BCF): 173

Accumulation / Evaluation:
No indication of bioaccumulation potential.

12.4. Mobility in soil
No information available.

* 12.5. 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) EC No.: 931-384-6
Results of PBT and vPvB assessment: This substance does not meet the PBT/vPvB criteria of REACH, Annex XIII.
C16-18-(even numbered, saturated and unsaturated)-alkylamines CAS No.: 1213789-63-9 EC No.: 627-034-4
Results of PBT and vPvB assessment: This substance does not meet the PBT/vPvB criteria of REACH, Annex XIII.

The mixture contains the following substances fulfilling the PBT-/vPvB criteria according to REACH Annex XIII:
C16-18-(even numbered, saturated and unsaturated)-alkylamines

* 12.6. Endocrine disrupting properties
No information available.

* 12.7. 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

**: 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

Land transport (ADR/RID)	Inland waterway craft (ADN)	Sea transport (IMDG)	Air transport (ICAO-TI / IATA-DGR)
14.1. UN number or ID number			
No dangerous good in sense of these transport regulations.	No dangerous good in sense of these transport regulations.	No dangerous good in sense of these transport regulations.	No dangerous good in sense of these transport regulations.
14.2. UN proper shipping name			
No dangerous good in sense of these transport regulations.	No dangerous good in sense of these transport regulations.	No dangerous good in sense of these transport regulations.	No dangerous good in sense of these transport regulations.
14.3. Transport hazard class(es)			
not relevant	not relevant	not relevant	not relevant
14.4. Packing group			
not relevant	not relevant	not relevant	not relevant
14.5. Environmental hazards			
not relevant	not relevant	not relevant	not relevant
14.6. Special precautions for user			
not relevant	not relevant	not relevant	not relevant

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**

15.1.1. EU legislation

Restrictions on use:

Use restriction according to REACH annex XVII, no.: 75.

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 [Industrial Emissions Directive]: 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 (12. BImschV)

for substances contained in the product:

This product is not assigned to a hazard category.

Technische Anleitung zur Reinhaltung der Luft (TA-Luft)

Klasse 1:

5.2.5: organic substances, to be indicated as total carbon at m >= 0.50 kg/h: conc. 50 mg/m³.

Anteil 1:

95 %

Water hazard class

WGK:

1 - schwach wassergefährdend

Remark:

Self-classification (mixture; calculation rule).

15.2. Chemical Safety Assessment

not applicable.

*

15.3. 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.
Water hazard class (WGK): 1 (slightly hazardous to water).

SECTION 16: Other information

*

16.1. Indication of changes

2.2.	Label elements
3.2.	Mixtures
8.1.	Control parameters
8.2.	Exposure controls
9.1.	Information on basic physical and chemical properties
10.2.	Chemical stability
11.1.	Information on hazard classes as defined in Regulation (EC) No 1272/2008
11.2.	Information on other hazards
12.1.	Toxicity
12.2.	Persistence and degradability
12.3.	Bioaccumulative potential
12.5.	Results of PBT and vPvB assessment
12.6.	Endocrine disrupting properties
12.7.	Other adverse effects
15.1.	Safety, health and environmental regulations/legislation specific for the substance or mixture
15.3.	Additional information
16.1.	Indication of changes
16.5.	Relevant R-, H- and EUH-phrases (Number and full text)

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
LC_{50}: Lethal concentration, 50 percent
LD_{50}: 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 imit (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]
The mixture is classified as not hazardous according to regulation (EC) No 1272/2008 [CLP].

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

Hazard statements	
H302	Harmful if swallowed.
H304	May be fatal if swallowed and enters airways.
H314	Causes severe skin burns and eye damage.
H317	May cause an allergic skin reaction.
H318	Causes serious eye damage.
H335	May cause respiratory irritation.
H373	May cause damage to organs through prolonged or repeated exposure.
H400	Very toxic to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.
H411	Toxic to aquatic life with long lasting effects.

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.