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

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

1.1. Product identifier

Trade name/designation:

RAVENOL Multi ATF LVS Fluid

Article No.:
1211145

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

Use of the substance/mixture:
Lubricant

1.3. Details of the supplier of the safety data sheet

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

Ravensberger Schmierstoffvertrieb GmbH
Jöllenbecker Str. 2
33824 Werther
D
Telephone: +49 5203 9719 0
Telefax: +49 5203 9719 40
E-mail: kontakt@ravenol.de
Website: www.ravenol.de
E-mail (competent person): technik@ravenol.de

1.4. Emergency telephone number

Abt. Technik (Produktsicherheit), 24h: +49 700 24 112 112 (Contract ID: RAV) , +49 5203 9719 0 (Mo-Do 7.30 Uhr - 16.30 Uhr, Fr 7.30 Uhr - 13.15 Uhr) (Only available during office hours.)

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

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

Hazard classes and hazard categories	Hazard statements	Classification pro cedure
Hazardous to the aquatic environment *(Aquatic Chronic 3)*	H412: Harmful to aquatic life with long lasting effects.	

2.2. Label elements

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

According to EC directives or the corresponding national regulations the product does not have to be labelled.

Hazard components for labelling:
Mixture of: triphenylthio-phosphate and tertiary butylated phenyl derivatives; Reaction product of alkylthioalcohol and substituted phoshorus compound

Hazard statements for environmental hazards	
H412	Harmful to aquatic life with long lasting effects.

Supplemental hazard information: -

Precautionary Statements Prevention	
P273	Avoid release to the environment.

Precautionary Statements Disposal	
P501	Dispose of contents/container to an appropriate recycling or disposal facility.

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]	Concen-tration
CAS No.: 36878-20-3 **EC No.:** 253-249-4	**bis(nonylphenyl)amine** Aquatic Chronic 4 H413	0 – < 2 Wt %
CAS No.: 125643-61-0 **EC No.:** 406-040-9	**Isomer mixture of C7-9-alkyl-3- (3,5-di-trans-butyl-4-hydroxyphenyl) propionate** Aquatic Chronic 4 H413	0 – < 2 Wt %
EC No.: 424-820-7	**Reaction product of alkylthioalcohol and substituted phoshorus compound** Acute Tox. 4, Aquatic Acute 1, Aquatic Chronic 1, Skin Corr. 1B **Danger** H312-H314-H400-H410 M-factor (acute): 10 M-factor (chronic): 10	0 – < 0.5 Wt %
CAS No.: 192268-65-8 **EC No.:** 421-820-9	**Mixture of: triphenylthio-phosphate and tertiary butylated phenyl derivatives** Aquatic Chronic 4, Repr. 2 H361d-H413	0 – < 0.5 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). Remove victim out of the danger area. Remove contaminated, saturated clothing. If unconscious place in recovery position and seek medical advice. Do not leave affected person unattended.

Following inhalation:
Provide fresh air. Consult a doctor immediately.

In case of skin contact:
After contact with skin, wash immediately with plenty of water and soap. Consult a doctor immediately.

After eye contact:
In case of contact with eyes flush immediately with plenty of flowing water for 10 to 15 minutes holding eyelids apart and consult an ophthalmologist.

After ingestion:
Rinse mouth thoroughly with water. Do NOT induce vomiting. Consult a doctor immediately.

Self-protection of the first aider:
Use personal protection equipment. No direct artificial respiration to be given by first aider.

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

No known symptoms to date.

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

Treat symptomatically. Observe risk of aspiration if vomiting occurs.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media:
Co-ordinate fire-fighting measures to the fire surroundings.
Carbon dioxide (CO2)
Extinguishing powder
alcohol resistant foam
Use water spray jet to protect personnel and to cool endangered containers.

Unsuitable extinguishing media:
Full water jet

5.2. Special hazards arising from the substance or mixture

During heating or in case of fire, toxic gases is possible.
The formation of combustible vapours is possible at temperatures above: Flash point

Hazardous combustion products:

Carbon monoxide, Carbon dioxide (CO2), Nitrogen oxides (NOx),
During heating or in case of fire, toxic gases is possible.

5.3. Advice for firefighters

In case of fire: Wear self-contained breathing apparatus. Protective clothing.

5.4. Additional information

Do not inhale explosion and combustion gases. Move undamaged containers from immediate hazard area if it can be done safely. Collect contaminated fire extinguishing water separately. Do not allow entering drains or surface water.

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. Special danger of slipping by leaking/spilling product. Remove persons to safety.

Protective equipment:

Wear protective gloves/protective clothing/eye protection/face protection.

Emergency procedures:

Remove persons to safety.

6.1.2. For emergency responders

Personal protection equipment:

Use personal protection equipment.

6.2. Environmental precautions

Do not allow to enter into soil/subsoil. Do not allow to enter into surface water or drains. 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 containment:

Suitable material for taking up: Sand, Kieselguhr, Universal binder, Chemical binding agents, containing acids
Prevent spread over a wide area (e.g. by containment or oil barriers).

For cleaning up:

Remove from the water surface (e.g. skimming, sucking). Absorb with liquid-binding material (e.g. sand, diatomaceous earth, acid- or universal binding agents).

Other information:

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

6.4. Reference to other sections

Safe handling: see section 7
Disposal: see section 13
Personal protection equipment: see section 8

6.5. Additional information

Clear spills immediately. Use appropriate container to avoid environmental contamination.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Protective measures

Advices on safe handling:

Personal protection equipment: see section 8. When using do not eat, drink, smoke, sniff. Wash hands before breaks and after work. Do not put any product-impregnated cleaning rags into your trouser pockets. Clear spills immediately. Use appropriate container to avoid environmental contamination.

Fire prevent measures:

No special fire protection measures are necessary.

Environmental precautions:
Shafts and sewers must be protected from entry of the product.

Advices on general occupational hygiene
Minimum standard for preventive measures while handling with working materials are specified in the TRGS 500.

7.2. Conditions for safe storage, including any incompatibilities
Technical measures and storage conditions:
Keep container tightly closed in a cool, well-ventilated place.

Requirements for storage rooms and vessels:
Suitable container/equipment material: Floors should be impervious, resistant to liquids and easy to clean. Shafts and sewers must be protected from entry of the product.
Keep/Store only in original container.

Hints on storage assembly:
not required

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

Further information on storage conditions:
Store in a cool dry place. Keep away from heat.

7.3. Specific end use(s)
Recommendation:
Observe technical data sheet.

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
bis(nonylphenyl)amine CAS No.: 36878-20-3	5 mg/kg bw/ day	① DNEL worker ② dermal, long-term, systemic
Isomer mixture of C7-9-alkyl-3- (3,5-di-trans-butyl-4-hydroxyphenyl) propionate CAS No.: 125643-61-0	2.33 mg/m³	① DNEL worker ② inhalative, long-term, systemic
Reaction product of alkylthioalcohol and substitut ed phoshorus compound	1.76 mg/m³	① DNEL worker ② inhalative, long-term, systemic
Reaction product of alkylthioalcohol and substitut ed phoshorus compound	0.5 mg/kg bw/day	① DNEL worker ② dermal, long-term, systemic
Mixture of: triphenylthio-phosphate and tertiary butylated phenyl derivatives CAS No.: 192268-65-8	1.2 mg/m³	① DNEL worker ② inhalative, long-term, systemic
thiophenes CAS No.: 398141-87-2	24.7 mg/m³	① DNEL worker ② inhalative, long-term, systemic
thiophenes CAS No.: 398141-87-2	350 mg/kg bw/day	① DNEL worker ② dermal, long-term, systemic
4,4'-thiodiethylene hydrogen -2-octadecenylsucc inate CAS No.: 93882-40-7	3.526 mg/m³	① DNEL worker ② inhalative, long-term, systemic
4,4'-thiodiethylene hydrogen -2-octadecenylsucc inate CAS No.: 93882-40-7	2 mg/kg bw/ day	① DNEL worker ② dermal, long-term, systemic
Lubricating oils (petroleum), C15-30, hydrotreate d neutral oil-based CAS No.: 72623-86-0	2.73 mg/m³	① DNEL worker ② inhalative, long-term, systemic

Substance name	DNEL value	① DNEL type ② Exposure route
Lubricating oils (petroleum), C15-30, hydrotreated neutral oil-based CAS No.: 72623-86-0	5.58	① DNEL worker ② inhalative, long-term, local
Lubricating oils (petroleum), C15-30, hydrotreated neutral oil-based CAS No.: 72623-86-0	0.97 mg/kg	① DNEL worker ② dermal, long-term, systemic
Reaction products of fatty acids, C14-C18 (branched and linear) and C18 (unsaturated) with tetraethylenepentamine (linear, branched, cyclic)	11.75 mg/cm²	① DNEL worker ② inhalative, long-term, systemic
Reaction products of fatty acids, C14-C18 (branched and linear) and C18 (unsaturated) with tetraethylenepentamine (linear, branched, cyclic)	3.33 mg/kg bw/day	① DNEL worker ② dermal, long-term, systemic

Substance name	PNEC Value	① PNEC type
bis(nonylphenyl)amine CAS No.: 36878-20-3	412 µg/l	① PNEC aquatic, freshwater
bis(nonylphenyl)amine CAS No.: 36878-20-3	41.2 µg/l	① PNEC aquatic, marine water
bis(nonylphenyl)amine CAS No.: 36878-20-3	1 mg/l	① PNEC aquatic, intermittent release
Reaction product of alkylthioalcohol and substituted phoshorus compound	0.9 µg/l	① PNEC aquatic, freshwater
Reaction product of alkylthioalcohol and substituted phoshorus compound	0.09 µg/l	① PNEC aquatic, marine water
Reaction product of alkylthioalcohol and substituted phoshorus compound	5 mg/l	① PNEC sewage treatment plant
Reaction product of alkylthioalcohol and substituted phoshorus compound	0.159 mg/kg bw/day	① PNEC sediment, freshwater
Reaction product of alkylthioalcohol and substituted phoshorus compound	0.0159 mg/kg bw/day	① PNEC sediment, marine water
thiophenes CAS No.: 398141-87-2	2.4 µg/l	① PNEC aquatic, freshwater
thiophenes CAS No.: 398141-87-2	0.33 µg/l	① PNEC aquatic, marine water
thiophenes CAS No.: 398141-87-2	100 mg/l	① PNEC sewage treatment plant
thiophenes CAS No.: 398141-87-2	0.433 mg/kg	① PNEC sediment, freshwater
thiophenes CAS No.: 398141-87-2	0.0596 mg/kg	① PNEC soil, marine water
4,4'-thiodiethylene hydrogen -2-octadecenylsuccinate CAS No.: 93882-40-7	9.5 µg/l	① PNEC aquatic, freshwater
4,4'-thiodiethylene hydrogen -2-octadecenylsuccinate CAS No.: 93882-40-7	0.95 µg/l	① PNEC aquatic, marine water
4,4'-thiodiethylene hydrogen -2-octadecenylsuccinate CAS No.: 93882-40-7	100 mg/l	① PNEC sewage treatment plant
4,4'-thiodiethylene hydrogen -2-octadecenylsuccinate CAS No.: 93882-40-7	95 µg/l	① PNEC aquatic, intermittent release
Lubricating oils (petroleum), C15-30, hydrotreated neutral oil-based CAS No.: 72623-86-0	9.99 mg/kg	① PNEC secondary poisoning
Reaction products of fatty acids, C14-C18 (branched and linear) and C18 (unsaturated) with tetraethylenepentamine (linear, branched, cyclic)	460 µg/l	① PNEC aquatic, freshwater
Reaction products of fatty acids, C14-C18 (branched and linear) and C18 (unsaturated) with tetraethylenepentamine (linear, branched, cyclic)	46 µg/l	① PNEC aquatic, marine water

Substance name	PNEC Value	① PNEC type
Reaction products of fatty acids, C14-C18 (branched and linear) and C18 (unsaturated) with tetraethylenepentamine (linear, branched, cyclic)	1,000 mg/l	① PNEC sewage treatment plant

8.2. Exposure controls

8.2.1. Appropriate engineering controls

See section 7. No additional measures necessary.

8.2.2. Personal protection equipment

Eye/face protection:

During transfer: Eye glasses with side protection
Wear eye/face protection. DIN EN 166

Skin protection:

Hand protection
Suitable material: NBR (Nitrile rubber), PVC (polyvinyl chloride), CR (polychloroprene, chloroprene rubber)
Thickness of the glove material: >= 0,4 mm
Breakthrough time (maximum wearing time) 480 min
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.
Tested protective gloves must be worn: EN ISO 374

Suitable protective clothing: Protective clothing

Respiratory protection:

Usually no personal respirative protection necessary.

8.2.3. Environmental exposure controls

See section 7. No additional measures necessary.

8.3. Additional information

Mineral oil mist limits:
OSHA PEL - value 5 mg / m³, ACGIH STEL - value of 10 mg / m³

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Appearance

Physical state: Liquid
Colour: yellow
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	220 °C			
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	854 kg/m³	20 °C		

parameter		at °C	Method	Remark
Bulk density	*not determined*			
Water solubility	The study does not need to be conducted because the substance is known to be insoluble in water.			
Partition coefficient: n-octanol/ water	*not determined*			
Dynamic viscosity	*not determined*			
Kinematic viscosity	29.8 mm²/s	40 °C		

9.2. Other information
No data available

SECTION 10: Stability and reactivity

10.1. Reactivity
No known hazardous reactions. Risk of explosion if heated under confinement.

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

10.3. Possibility of hazardous reactions
No hazardous reaction when handled and stored according to provisions.

10.4. Conditions to avoid
To avoid thermal decomposition do not overheat.

10.5. Incompatible materials
Materials to avoid: Acid, Oxidising agent, Reducing agent

10.6. Hazardous decomposition products
Hazardous combustion products: Carbon dioxide, Carbon monoxide, Nitrogen oxides (NOx)

SECTION 11: Toxicological information

11.1. Information on toxicological effects

CAS No.	Substance name	Toxicological information
36878-20-3	bis(nonylphenyl)amine	**LD_{50} oral:** 5,000 g/m³ (Rat) **LD_{50} dermal:** >2,000 g/m³ (Rabbit)
125643-61-0	Isomer mixture of C7-9-alkyl-3- (3,5-di-trans-butyl-4-hydroxyphenyl) propionate	**LD_{50} dermal:** >2,000 mg/kg (Ratte) **LD_{50} oral:** >2,000 mg/kg (Ratte)
	Reaction product of alkylthioalcohol and substituted phoshorus compound	**LD_{50} oral:** 2,000 mg/kg (rat) **LD_{50} dermal:** 500 mg/kg (rabbit)

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.
Frequently or prolonged contact with skin may cause dermal irritation.

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:
No data available

SECTION 12: Ecological information

12.1. Toxicity

CAS No.	Substance name	Toxicological information
36878-20-3	bis(nonylphenyl)amine	**LC_{50}:** >100 mg/l 4 d (fish) **EC_{50}:** >100 mg/l 2 d (crustaceans) **EC_{50}:** 600 mg/l 3 d (Algae/water plant)
125643-61-0	Isomer mixture of C7-9-alkyl-3- (3,5-di-trans-butyl-4-hydroxyphenyl) propionate	**NOEC:** >3 mg/l 3 d (Algae/water plant, Alge) **EC_{50}:** >100 mg/l 2 d (crustaceans, Daphnie)
	Reaction product of alkylthioalcohol and substituted phoshorus compound	**LC_{50}:** 1.5 mg/l 4 d (fish) **EC_{50}:** 0.09 mg/l 2 d (crustaceans) **EC_{50}:** 0.31 mg/l 3 d (Algae/water plant)

Aquatic toxicity:
Harmful to aquatic life with long lasting effects.

12.2. Persistence and degradability

CAS No.	Substance name	Biodegradation	Remark
36878-20-3	bis(nonylphenyl)amine	—	

12.3. Bioaccumulative potential

CAS No.	Substance name	Log K_{OW}	Bioconcentration factor (BCF)
36878-20-3	bis(nonylphenyl)amine	7.6	1,584.89

12.4. Mobility in soil
No data available

12.5. Results of PBT and vPvB assessment

CAS No.	Substance name	Results of PBT and vPvB assessment
36878-20-3	bis(nonylphenyl)amine	The substance in the mixture does not meet the PBT/vPvB criteria according to REACH, annex XIII.
125643-61-0	Isomer mixture of C7-9-alkyl-3- (3,5-di-trans-butyl-4-hydroxyphenyl) propionate	The substance in the mixture does not meet the PBT/vPvB criteria according to REACH, annex XIII.
	Reaction product of alkylthioalcohol and substituted phoshorus compound	The substance in the mixture does not meet the PBT/vPvB criteria according to REACH, annex XIII.
192268-65-8	Mixture of: triphenylthio-phosphate and tertiary butylated phenyl derivatives	The substance in the mixture does not meet the PBT/vPvB criteria according to REACH, annex XIII.

12.6. Other adverse effects
No data available

SECTION 13: Disposal considerations

13.1. Waste treatment methods
Dispose of waste according to applicable legislation.

Waste treatment options

Appropriate disposal / Product:

Dispose of waste according to applicable legislation. Consult the appropriate local waste disposal expert about waste disposal.

Appropriate disposal / Package:

Non-contaminated packages may be recycled.

13.2. Additional information

The allocation of waste identity numbers/waste descriptions must be carried out according to the EEC, specific to the industry and process.

SECTION 14: Transport information

No dangerous good in sense of these transport regulations.

Land transport (ADR/RID)	Inland waterway craft (ADN)	Sea transport (IMDG)	Air transport (ICAO-TI / IATA-DGR)
14.1. UN-No.			
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			
14.4. Packing group			
not relevant			
14.5. Environmental hazards			
not relevant			
14.6. Special precautions for user			
not relevant			

14.7. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

No transport as bulk according to IBC Code.

SECTION 15: Regulatory information

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

15.1.1. EU legislation

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.

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)

Remark:

To follow: 5.2.5.

Water hazard class (WGK)

WGK:

2 - deutlich wassergefährdend

Source:
Self-classification (mixture; calculation rule).
Identification number 436

Technische Regeln für Gefahrstoffe
TRGS 510
Minimum standard for preventive measures while handling with working materials are specified in the TRGS 500.

Berufsgenossenschaftliche Vorschriften (BGV)
Berufsgenossenschaftliche Informationen (BGI) 868
Berufsgenossenschaftliche Regeln (BGR) 189, 190, 192, 195

Other regulations, restrictions and prohibition regulations
Altöl-Verordnung (AltölV)

[DK] National regulations

Other regulations, restrictions and prohibition regulations
Lister over stoffer og processer, der anses for at være kræftfremkaldende

[FR] National regulations

Other regulations, restrictions and prohibition regulations
Tableaux de maladies professionnelles
Nomenclature des installations classées pour la protection de l'environnement

[NL] National regulations

Other regulations, restrictions and prohibition regulations
Lijst van kankerverwekkende, mutagene, en voor de voortplanting giftige stoffen SZW
Algemeene beoordelingsmethodiek Water (ABM)
Nederlandse emissierichtlijn (NeR)

[CH] National regulations

Other regulations, restrictions and prohibition regulations
Mengenschwelle (Schweiz - StFV)
Gefahrencode
Brandverhütung, BVD (Schweiz)

15.2. Chemical Safety Assessment
Chemical safety assessments for substances in this mixture were not carried out.

SECTION 16: Other information

16.1. Indication of changes
No data available

16.2. Abbreviations and acronyms
See overview table at www.euphrac.eu
For abbreviations and acronyms, see: ECHA Guidance on information requirements and chemical safety assessment, chapter R.20 (Table of terms and abbreviations).

16.3. Key literature references and sources for data
67/548/EEC - Dangerous Substances Directive
1999/45/EEC - Dangerous Preparations Directive
EC 1907/2006 - REACH Regulation
1272/2008 EC - Regulation on classification, labeling and packaging of substances and mixtures, and amending Directives 67/548/EEC and 1999/45/EC and Regulation (EC) No 1907/2006
Regulation (EC) No 1907/2006 (REACH), Annex II
European Chemicals Agency (ECHA), C & L classification and labeling inventory
European Chemicals Agency (ECHA), ECHA CHEM Registered substances
OECD The Global Portal to Information on Chemical Substances (ChemPortal)
Institute for Occupational Safety and Health of the German Social Accident Insurance (IFA): GESTIS substance database and International limit values for chemical substances
Federal Environment Agency, Section IV 2.4: Documentation and Information Centre substances hazardous to water Rigoletto (catalog substances hazardous to water)

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]:

Hazard classes and hazard categories	Hazard statements	Classification pro cedure
Hazardous to the aquatic environment *(Aquatic Chronic 3)*	H412: Harmful to aquatic life with long lasting effects.	

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

Hazard statements	
H312	Harmful in contact with skin.
H314	Causes severe skin burns and eye damage.
H361d	Suspected of damaging the unborn child.
H400	Very toxic to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.
H413	May cause long lasting harmful effects to aquatic life.

16.6. Training advice

No data available

16.7. Additional information

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.