

Safety Data Sheet

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



Trade name : rhenus LKG 2
Revision date : 20.04.2020
Print date : 21.04.2020

Version (Revision) : 6.1.0 (6.0.0)

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

1.1 Product identifier

rhenus LKG 2
Authorisation No. : None
UFI: None
Product category : PC-TEC-11 - Lubricants, greases, release agents

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

Relevant identified uses

PC 24 - Lubricants, greases, release products
Observe technical data sheet.

1.3 Details of the supplier of the safety data sheet

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

Rhenus Lub GmbH & Co KG

Street : Hamburgring 45

Postal code/city : 41179 Mönchengladbach

Telephone : +49 21 61 58 69 - 0

Telefax : +49 21 61 58 69 93

Information contact : Application technology - technical information:

+49 21 61 58 69 74 (Lubricants, greases, release products). Only available during office hours.

+49 21 61 58 69 77 (cooling grease). Only available during office hours.

QHSE-Information about Material-Safety-Data-Sheet:

+49 21 61 58 69 267 (Safety-Data-Sheet, QHSE [Quality-Health-Safety-Environment]). Only available during office hours.

eMail: sicherheitsdatenblatt@rhenusweb.de

1.4 Emergency telephone number

International (all languages, all informations, all time 24 h / 365 d): GBK Gefahrgutbüro GmbH +49 61 32 84 46 3.

National

+49 228 19 24 0

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

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

None

Classification procedure

Calculation method.

2.2 Label elements

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

Special rules for supplemental label elements for certain mixtures

EUH208 Contains Naphthenic acids, zinc salts ; Dipentylammonium dipentylidithiocarbamate. May produce an allergic reaction.

EUH210 Safety data sheet available on request.

2.3 Other hazards

This substance does not meet the PBT/vPvB criteria of REACH, Annex XIII.

SECTION 3: Composition/information on ingredients

3.2 Mixtures

Hazardous ingredients

Zinc-bis[0,0-bis(2-ethylhexyl)]bis(dithiophosphate) ; EC No. : 224-235-5; CAS No. : 4259-15-8

Weight fraction : $\geq 1 - < 2,5 \%$

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Classification 1272/2008 [CLP] : Eye Dam. 1 ; H318 Aquatic Chronic 2 ; H411
Specific Conc. Limits : Eye Dam. 1 ; H318: C ≥ 50 %
N-Phenylaniline, reaction product with 2,4,4-Trimethylpenten ; EC No. : 270-128-1; CAS No. : 68411-46-1
Weight fraction : ≥ 1 - < 10 %
Classification 1272/2008 [CLP] : Aquatic Chronic 3 ; H412

Additional information

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

SECTION 4: First aid measures

4.1 Description of first aid measures

General information

Avoid contact with skin, eyes and clothes. Remove contaminated, saturated clothing immediately. When in doubt or if symptoms are observed, get medical advice. Never give anything by mouth to an unconscious person or a person with cramps. If unconscious place in recovery position and seek medical advice. In the event of cardiac arrest immediately perform cardiopulmonary resuscitation.

Following inhalation

Remove casualty to fresh air and keep warm and at rest. If breathing is irregular or stopped, administer artificial respiration. When in doubt or if symptoms are observed, get medical advice.

In case of skin contact

After contact with skin, wash immediately with plenty of water and soap. In case of skin irritation, consult a physician. Oils and greases injected under your skin with high pressure equipment is a serious damage. Seek medical attention IMMEDIATELY. Bring a copy of this safety data sheet with you to the hospital for information to the medical staff.

After eye contact

After contact with the eyes, rinse with water with the eyelids open for a sufficient length of time, then consult an ophthalmologist immediately. Remove contact lenses, if present and easy to do. Continue rinsing. Protect uninjured eye. Call a physician immediately.

After ingestion

Rinse mouth thoroughly with water. Do NOT induce vomiting. Observe risk of aspiration if vomiting occurs. Call a physician immediately.

4.2 Most important symptoms and effects, both acute and delayed

Symptoms

The following symptoms may occur: Respiratory complaints , Headache , Dizziness , Nausea . Symptoms can occur only after several hours.

4.3 Indication of any immediate medical attention and special treatment needed

None

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media

Foam , Extinguishing powder , Carbon dioxide (CO₂) , Sand .
Co-ordinate fire-fighting measures to the fire surroundings.

Unsuitable extinguishing media

Water

5.2 Special hazards arising from the substance or mixture

Hazardous combustion products

Carbon dioxide (CO₂) , Nitrogen oxides (NO_x) , Sulphur oxides , Carbon monoxide , Aliphatic and aromatic pyrolysis products , Phosphorus oxides

5.3 Advice for firefighters

Special protective equipment for firefighters

Do not inhale explosion and combustion gases. In case of fire: Wear self-contained breathing apparatus.

5.4 Additional information

Collect contaminated fire extinguishing water separately. Do not allow entering drains or surface water. Use water spray jet to protect

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personnel and to cool endangered containers. Move undamaged containers from immediate hazard area if it can be done safely.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Special danger of slipping by leaking/spilling product. Provide fresh air.

Avoid contact with skin, eyes and clothes.

Directive 98/24/EC of 7 April 1998 on the protection of the health and safety of workers from the risks related to chemical agents at work

For non-emergency personnel

Avoid contact with skin, eyes and clothes. Use personal protection equipment. Remove all sources of ignition. Wear breathing apparatus if exposed to vapours/dusts/aerosols. Special danger of slipping by leaking/spilling product. Provide adequate ventilation. See protective measures under point 7 and 8.

For emergency responders

Suitable material : NBR (Nitrile rubber)

Unsuitable material : Butyl caoutchouc (butyl rubber) , NR (natural rubber, natural latex) , CR (polychloroprene, chloroprene rubber)

6.2 Environmental precautions

Make sure spills can be contained, e.g. in sump pallets or kerbed areas. Do not allow to enter into surface water or drains. Do not allow to enter into soil/subsoil.

6.3 Methods and material for containment and cleaning up

For containment

Clear spills immediately. Cover drains.

For cleaning up

Take up mechanically, placing in appropriate containers for disposal. Treat the recovered material as prescribed in the section on waste disposal. Never return spills in original containers for re-use. Clean contaminated articles and floor according to the environmental legislation. Retain contaminated washing water and dispose it.

6.4 Reference to other sections

Wear personal protection equipment (refer to section 8). Disposal: see section 13 .

SECTION 7: Handling and storage

7.1 Precautions for safe handling

No hazardous reaction when handled and stored according to provisions. (Health hazards : None) . Avoid contact with skin, eyes and clothes.

Do not breathe vapour/aerosol. Provide fresh air.

Respiratory protection necessary at: generation/formation of aerosols , insufficient ventilation , insufficient exhaust .

Protective measures

Measures to prevent fire

No special fire protection measures are necessary.

Measures to prevent aerosol and dust generation

No special measures are necessary.

Specific requirements or handling rules

No special measures are necessary.

7.2 Conditions for safe storage, including any incompatibilities

Packaging materials

Unsuitable container/equipment material: None

Requirements for storage rooms and vessels

Floors should be impervious, resistant to liquids and easy to clean. Make sure spills can be contained, e.g. in sump pallets or kerbed areas. Shafts and sewers must be protected from entry of the product. Keep/Store only in original container. Protect containers against damage. Ensure adequate ventilation of the storage area.

Hints on joint storage

Possibility of hazardous reactions : Oxidizing agent .

Storage class (TRGS 510) : 11

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Further information on storage conditions

Keep/Store only in original container. Keep in a cool, well-ventilated place.

Do not store at temperatures below : 0 °C .

Recommended storage temperature : 0 °C - 40 °C .

Protect against : Protect against direct sunlight. Keep away from heat.

Storage stability : >= 6 months . Observe technical data sheet.

7.3 Specific end use(s)

None

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

DNEL-/PNEC-values

DNEL/DMEL

Zinc-bis[0,0-bis(2-ethylhexyl)]bis(dithiophosphate) ; CAS No. : 4259-15-8

Limit value type : DNEL Consumer (systemic)

Exposure route : Oral

Exposure frequency : Long-term

Limit value : 0,19 mg/kg

Safety factor : 24 h

Limit value type : DNEL Consumer (systemic)

Exposure route : Dermal

Exposure frequency : Long-term

Limit value : 4,8 mg/kg

Safety factor : 24 h

Limit value type : DNEL Consumer (systemic)

Exposure route : Inhalation

Exposure frequency : Long-term

Limit value : 1,67 mg/m³

Limit value type : DNEL worker (systemic)

Exposure route : Dermal

Exposure frequency : Long-term

Limit value : 9,6 mg/kg

Safety factor : 24 h

Limit value type : DNEL worker (systemic)

Exposure route : Inhalation

Exposure frequency : Long-term

Limit value : 6,6 mg/m³

PNEC

Zinc-bis[0,0-bis(2-ethylhexyl)]bis(dithiophosphate) ; CAS No. : 4259-15-8

Limit value type : PNEC (Aquatic, freshwater)

Exposure route : Water (Including sewage plant)

Exposure time : Short-term

Limit value : 4 µL/L

Limit value type : PNEC (Aquatic, marine water)

Exposure route : Water (Including sewage plant)

Exposure time : Short-term

Limit value : 4,6 µg/l

Limit value type : PNEC (Sediment, freshwater)

Exposure route : Water (Including sewage plant)

Exposure time : Short-term

Limit value : 0,0701 mg/kg

Limit value type : PNEC (Sediment, marine water)

Exposure route : Water (Including sewage plant)

Exposure time : Short-term

Limit value : 0,00701 mg/kg

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Limit value type : PNEC (Secondary poisoning)
Limit value : 8,33 mg/kg
Limit value type : PNEC (Sewage treatment plant)
Limit value : 3,8 mg/l

8.2 Exposure controls

A substance-tailored exposure-driven testing according to REACH, annex XI, chapter 3 was not performed.

Appropriate engineering controls

See section 7. No additional measures necessary.

Personal protection equipment

Technical measures and the application of suitable work processes have priority over personal protection equipment.

Eye/face protection

Additional eye protection measures : Wear eye/face protection.

Skin protection

Hand protection

Tested protective gloves must be worn . DIN-/EN-Norms : EN ISO 374 . Breakthrough time (maximum wearing time) : 4 hours (NBR (Nitrile rubber) , Thickness of the glove material : 0,12 mm) . See information supplied by the manufacturer. 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.

Unsuitable material : Butyl caoutchouc (butyl rubber) , NR (natural rubber, natural latex) , CR (polychloroprene, chloroprene rubber)

Respiratory protection

Usually no personal respiratory protection necessary.

General information

Avoid contact with skin, eyes and clothes. Remove contaminated, saturated clothing immediately. Wash hands before breaks and after work. Keep away from food, drink and animal feeding stuffs. Directive 98/24/EC of 7 April 1998 on the protection of the health and safety of workers from the risks related to chemical agents at work

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Appearance

Physical state : solid

Colour : beige

Odour

characteristic

Safety characteristics

Melting point/freezing point :	(1013 hPa)	>	270	°C	
Initial boiling point and boiling range :	(1013 hPa)	>	250	°C	
Decomposition temperature :			not determined		
Flash point :		>	200	°C	
Lower explosion limit :			not determined		
Upper explosion limit :			not determined		
Danger of explosion:			No explosive hazard		
Density :	(20 °C)	approx.	0,89	g/cm ³	DIN 51757
Solubility in / Miscibility with Water:			Not miscible or difficult to mix.		
log P O/W :			not determined		
Odour threshold :			not determined		
Relative vapour density :	(20 °C)		not determined		
Vapourisation rate :			not determined		
Flammable solids :			Not determined.		
Oxidising solids :			Not oxidising.		

9.2 Other information

None

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SECTION 10: Stability and reactivity

10.1 Reactivity

This material is considered to be non-reactive under normal use conditions.

10.2 Chemical stability

The product 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

In case of exceeding the storage temperature: Danger of bursting container.

10.5 Incompatible materials

Reaction with oxidizing agents possible. Acid

10.6 Hazardous decomposition products

Does not decompose when used for intended uses. Thermal decomposition can lead to the escape of irritating gases and vapours.

Hazardous decomposition products : Carbon monoxide , Carbon dioxide. , aldehydes. , Ketone , Sulphur oxides , Nitrogen oxides (NOx) , Phosphorus oxides

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Acute toxicity

Acute oral toxicity

Parameter : LD50 (Zinc-bis[0,0-bis(2-ethylhexyl)]bis(dithiophosphate) ; CAS No. : 4259-15-8)

Exposure route : Oral

Species : Rat

Effective dose : 3100 mg/kg

Parameter : LD50 (N-Phenylaniline, reaction product with 2,4,4-Trimethylpenten ; CAS No. : 68411-46-1)

Exposure route : Oral

Species : Rat

Effective dose : > 2000 mg/kg

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

Acute dermal toxicity

Parameter : LD50 (Zinc-bis[0,0-bis(2-ethylhexyl)]bis(dithiophosphate) ; CAS No. : 4259-15-8)

Exposure route : Dermal

Species : Rabbit

Effective dose : > 5000 mg/kg

Parameter : LD50 (N-Phenylaniline, reaction product with 2,4,4-Trimethylpenten ; CAS No. : 68411-46-1)

Exposure route : Dermal

Species : Rat

Effective dose : > 2000 mg/kg

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

Acute inhalation toxicity

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

Corrosion

Skin corrosion/irritation

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

Serious eye damage/eye irritation

Parameter : Serious eye damage/eye irritation (Zinc-bis[0,0-bis(2-ethylhexyl)]bis(dithiophosphate) ; CAS No. : 4259-15-8)

Species : Rabbit

Effective dose : >= 50 %

Exposure time : 72 h

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

Irritation to respiratory tract

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

Respiratory or skin sensitisation

Skin sensitisation

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

Sensitisation to the respiratory tract

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

Repeated dose toxicity (subacute, subchronic, chronic)

Subacute oral toxicity

Parameter :	NOAEL(C) (Zinc-bis[0,0-bis(2-ethylhexyl)]bis(dithiophosphate) ; CAS No. : 4259-15-8)
Exposure route :	Oral
Species :	Rat
Effective dose :	125 mg/kg
Exposure time :	28 D

CMR effects (carcinogenicity, mutagenicity and toxicity for reproduction)

Carcinogenicity

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

Germ cell mutagenicity

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.

11.3 Symptoms related to the physical, chemical and toxicological characteristics

In case of ingestion

No known symptoms to date.

In case of skin contact

No known symptoms to date.

In case of inhalation

No known symptoms to date.

In case of eye contact

No known symptoms to date.

SECTION 12: Ecological information

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

12.1 Toxicity

harmless to aquatic organisms up to the tested concentration

Aquatic toxicity

Acute (short-term) fish toxicity

Parameter :	LC50
Species :	Brachydanio rerio (zebra-fish)
Evaluation parameter :	Acute (short-term) fish toxicity
Effective dose :	> 100 mg/l
Exposure time :	96 h

Acute (short-term) toxicity to crustacea

Parameter :	EC50
Species :	Daphnia magna (Big water flea)
Evaluation parameter :	Acute (short-term) daphnia toxicity
Effective dose :	> 100 mg/l

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Exposure time : 48 h

Acute (short-term) toxicity to aquatic algae and cyanobacteria

Parameter : EC50
Species : Desmodesmus subspicatus
Evaluation parameter : Inhibition of growth rate
Effective dose : > 100 mg/l
Exposure time : 72 h

Chronic (long-term) algae toxicity

Parameter : NOEC
Species : Desmodesmus subspicatus
Evaluation parameter : Chronic (long-term) algae toxicity
Effective dose : > 100 mg/l
Exposure time : 72 h

12.2 Persistence and degradability

There are no data available on the mixture itself.

Biodegradation

Parameter : Biodegradation (Zinc-bis[0,0-bis(2-ethylhexyl)]bis(dithiophosphate) ; CAS No. : 4259-15-8)
Inoculum : Biodegradation
Degradation rate : < 5 %
Test duration : 27 D

12.3 Bioaccumulative potential

There are no data available on the mixture itself.

12.4 Mobility in soil

There are no data available on the mixture itself.

12.5 Results of PBT and vPvB assessment

There are no data available on the mixture itself.

The substances in the mixture do not meet the PBT/vPvB criteria according to REACH, annex XIII.

12.6 Other adverse effects

There are no data available on the mixture itself.

SECTION 13: Disposal considerations

Waste disposal according to directive 2008/98/EC, covering waste and dangerous waste. Recycle according to official regulations.

13.1 Waste treatment methods

Evidence for disposal must be provided. Send to a hazardous waste incinerator facility under observation of official regulations. Contaminated packages must be completely emptied and can be re-used following proper cleaning. Non-contaminated packages must be recycled or disposed of. Packing which cannot be properly cleaned must be disposed of. Handle contaminated packages in the same way as the substance itself. Evidence for disposal must be provided.

Directive 2008/98/EC (Waste Framework Directive)

Before intended use

Waste codes/waste designations according to EWC/AVV

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

After intended use

The waste is to be kept separate from other types of waste until its recycling. Recycle according to official regulations. Waste for recycling is to be classified and labelled.

Waste codes/waste designations according to EWC/AVV

The allocation of waste identity numbers/waste descriptions must be carried out according to the EEC, specific to the industry and process. List of proposed waste codes/waste designations in accordance with AAV : 120112*

Other disposal recommendations

Dispose according to legislation. Do not allow to enter into surface water or drains.

SECTION 14: Transport information

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14.1 UN number

No dangerous good in sense of these transport regulations.

14.2 UN proper shipping name

No dangerous good in sense of these transport regulations.

14.3 Transport hazard class(es)

No dangerous good in sense of these transport regulations.

14.4 Packing group

No dangerous good in sense of these transport regulations.

14.5 Environmental hazards

No dangerous good in sense of these transport regulations.

14.6 Special precautions for user

None

14.7 Transport in bulk according to Annex II of Marpol and the IBC Code

No dangerous good in sense of these transport regulations.

SECTION 15: Regulatory information

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

EU legislation

REACH Regulation – the European Parliament and Council Regulation (EC) No 1907/2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals

CLP Regulation – the European Parliament and Council Regulation (EC) No 1272/2008 concerning reclassification, labelling and packaging of substances and mixtures

Classification for mixtures and used evaluation method according to regulation (EC) No 1272/2008 [CLP]. This mixture contains the following substances of very high concern (SVHC) which are included in the Candidate List according to Article 59 of REACH: Keine

Other regulations (EU)

Directive 2004/42/EC on the limitation of emissions of volatile organic compounds

Volatile organic compounds (VOC) content in percent by weight : <3

Regulation (EC) No. 1005/2009 on substances that lead to the depletion of the ozone layer

not relevant

National regulations

Technische Anleitung Luft (TA-Luft)

Weight fraction (Number 5.2.5. I) : < 5 %

Water hazard class (WGK)

Classification according to AwSV - Class : 1 (Slightly hazardous to water)

15.2 Chemical safety assessment

For this mixture a chemical safety assessment has been carried out.

SECTION 16: Other information

16.1 Indication of changes

13. Waste treatment methods · 13. After intended use - Waste codes/waste designations according to EWC/AVV · 15. Directive 2012/18/EU on the control of major-accident hazards involving dangerous substances [Seveso-III-Directive] · 15. Water hazard class (WGK)

16.2 Abbreviations and acronyms

None

16.3 Key literature references and sources for data

Data arise from reference works and literature.

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

Calculation method.

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

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GHS Hazard statements of components

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

None

16.7 Additional information

During mixing, observe all labels and safety data sheets of all the components. Please refer to our internet website for more information: See section 1.

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.
