

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

1.1 Product identifier

Lubrifix Fettkartusche
Article number: Id.-Nr. 1339629

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

1.2.1 Relevant uses

Grease

1.2.2 Uses advised against

None known.

1.3 Details of the supplier of the safety data sheet

Company

RÖHM GmbH
Heinrich-Roehm-Str. 50
89567 Sontheim / GERMANY
Phone +49(0)7325 16-0
Fax +49(0)7325 16-510
Homepage www.roehm.biz
E-mail info@roehm.biz

Address enquiries to

Technical information

info@roehm.biz

Safety Data Sheet

sdb@chemiebuero.de (No dispatch of safety data sheets)

Safety data sheets are available from the supplier.

1.4 Emergency telephone number

Advisory body

+49 (0)89-19240 (24h) (English)

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture [REGULATION (GB) CLP]

Aerosol 1: H222 Extremely flammable aerosol. H229 Pressurised container: May burst if heated.





Asp. Tox. 1: H304 May be fatal if swallowed and enters airways.

Skin Irrit. 2: H315 Causes skin irritation.

STOT SE 3: H336 May cause drowsiness or dizziness.

Aquatic Chronic 2: H411 Toxic to aquatic life with long lasting effects.

2.2 Label elements

	The product is required to be labelled in accordance with regulation CLP.	
Hazard pictograms	   	
Signal word	DANGER	
Contains:	Hydrocarbons, C6-C7, n-alkanes, isoalkanes, cyclics, < 5% n-hexane	
Hazard statements	H222 Extremely flammable aerosol. H229 Pressurised container: May burst if heated. H304 May be fatal if swallowed and enters airways. H315 Causes skin irritation. H336 May cause drowsiness or dizziness. H411 Toxic to aquatic life with long lasting effects.	
Precautionary statements	P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. P211 Do not spray on an open flame or other ignition source. P251 Do not pierce or burn, even after use. P410+P412 Protect from sunlight. Do not expose to temperatures exceeding 50 °C / 122°F. P261 Avoid breathing vapours. P273 Avoid release to the environment. P280 Wear protective gloves. P301+P310 IF SWALLOWED: Immediately call a POISON CENTER / doctor. P331 Do NOT induce vomiting. P391 Collect spillage.	
Special labelling	Contains: Tolutriazol Derivate, Reaction products of bis(4-methylpentan-2-yl)dithiophosphoric acid with phosphorus oxide, propylene oxide and amines, C12-14-alkyl (branched), Nickel powder. EUH208 May produce an allergic reaction.	

2.3 Other hazards

Human health dangers	If swallowed or in the event of vomiting, risk of product entering the lungs. The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.
Environmental hazards	This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher. The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.
Other hazards	Further hazards were not determined with the current level of knowledge.

SECTION 3: Composition / Information on ingredients

3.1 Substances

not applicable

3.2 Mixtures

The product is a mixture.

Range [%]	Substance
0 - 95	Butane CAS: 106-97-8, EINECS/ELINCS: 203-448-7, EU-INDEX: 601-004-00-0, Reg-No.: 01-2119474691-32-XXXX GHS/CLP: Flam. Gas 1A: H220 - Press. Gas: H280
25 - 50	Hydrocarbons, C6-C7, n-alkanes, isoalkanes, cyclics, < 5% n-hexane EINECS/ELINCS: 921-024-6, Reg-No.: 01-2119475514-35-XXXX GHS/CLP: Flam. Liq. 2: H225 - Skin Irrit. 2: H315 - Asp. Tox. 1: H304 - STOT SE 3: H336 - Aquatic Chronic 2: H411
0 - 95	Propane CAS: 74-98-6, EINECS/ELINCS: 200-827-9, EU-INDEX: 601-003-00-5, Reg-No.: 01-2119486944-21-XXXX GHS/CLP: Flam. Gas 1A: H220 - Press. Gas: H280
0 - 95	iso-Butane CAS: 75-28-5, EINECS/ELINCS: 200-857-2, EU-INDEX: 601-004-00-0, Reg-No.: 01-2119485395-27-XXXX GHS/CLP: Flam. Gas 1A: H220 - Press. Gas: H280
≤ 2,5	Aluminium powder CAS: 7429-90-5, EINECS/ELINCS: 231-072-3, EU-INDEX: 013-001-00-6, Reg-No.: 01-2119529243-45-XXXX GHS/CLP: Pyr. Sol. 1: H250 - Water-react. 2: H261
2,5 - < 10	Propylene carbonate CAS: 108-32-7, EINECS/ELINCS: 203-572-1, EU-INDEX: 607-194-00-1, Reg-No.: 01-2119537232-48-XXXX GHS/CLP: Eye Irrit. 2: H319
0,25 - < 2,5	n-Hexane CAS: 110-54-3, EINECS/ELINCS: 203-777-6, EU-INDEX: 601-037-00-0, Reg-No.: 01-2119480412-44-XXXX GHS/CLP: Flam. Liq. 2: H225 - Repr. 2: H361f - Asp. Tox. 1: H304 - STOT RE 2: H373 - Skin Irrit. 2: H315 - STOT SE 3: H336 - Aquatic Chronic 2: H411 SCL [%]: 5: STOT RE 2: H373
0 - 2	Isopentane CAS: 78-78-4, EINECS/ELINCS: 201-142-8, EU-INDEX: 601-006-00-1, Reg-No.: 01-2119475602-38-XXXX GHS/CLP: Flam. Liq. 1: H224 - Asp. Tox. 1: H304 - STOT SE 3: H336 - Aquatic Chronic 2: H411 - EUH066
≤ 1%	Chromium CAS: 7440-47-3, EINECS/ELINCS: 231-157-5 GHS/CLP: Aquatic Chronic 4: H413
0,25 - < 1	Tolutriazol Derivate CAS: 80584-90-3/80595-74-0, EINECS/ELINCS: 939-700-4, Reg-No.: 01-2119982395-25-XXXX GHS/CLP: Skin Irrit. 2: H315 - Skin Sens. 1: H317 - Aquatic Acute 1: H400 - Aquatic Chronic 2: H411
0,25 - < 1	Reaction products of bis(4-methylpentan-2-yl)dithiophosphoric acid with phosphorus oxide, propylene oxide and amines, C12-14-alkyl (branched) EINECS/ELINCS: 931-384-6, Reg-No.: 01-2119493620-38-XXXX GHS/CLP: Acute Tox. 4: H302 - Skin Sens. 1: H317 - Eye Dam. 1: H318 - Aquatic Chronic 2: H411 SCL [%]: ≥ 50: Eye Dam. 1: H318
0,1 - < 1	Nickel powder CAS: 7440-02-0, EINECS/ELINCS: 231-111-4, EU-INDEX: 028-002-01-4 GHS/CLP: Carc. 2: H351 - STOT RE 1: H372 - Skin Sens. 1: H317 - Aquatic Chronic 3: H412
0 - 2	Ethane CAS: 74-84-0, EINECS/ELINCS: 200-814-8, EU-INDEX: 601-002-00-X, Reg-No.: 01-2119486765-21-XXXX GHS/CLP: Flam. Gas 1A: H220 - Press. Gas (Compressed gas): H280

Comment on component parts

For full text of H-statements: see SECTION 16.

SECTION 4: First aid measures

4.1 Description of first aid measures

General information	Take off contaminated clothing and wash before reuse.
Inhalation	Ensure supply of fresh air. In the event of symptoms seek medical treatment.
Skin contact	In case of contact with skin wash off immediately with soap and water. If skin irritation or rash occurs: Get medical advice/attention.
Eye contact	Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.
Ingestion	Consult a doctor immediately. Do not induce vomiting. Rinse mouth.

4.2 Most important symptoms and effects, both acute and delayed

Irritant effects
Allergic reactions

4.3 Indication of any immediate medical attention and special treatment needed

Treat symptomatically.
Forward this sheet to your doctor.
If swallowed or in the event of vomiting, risk of product entering the lungs.

SECTION 5: Fire-fighting measures

5.1 Extinguishing media

Suitable extinguishing media	Foam, dry powder, water spray jet, carbon dioxide Sand. Fire extinguishing method of surrounding areas must be considered.
Extinguishing media that must not be used	Full water jet.

5.2 Special hazards arising from the substance or mixture

Risk of formation of toxic pyrolysis products.
Bursting aerosols can be forcibly projected from a fire.

5.3 Advice for firefighters

Use self-contained breathing apparatus.
Cool containers at risk with water spray jet.
Collect contaminated firefighting water separately, must not be discharged into the drains.
Fire residues and contaminated firefighting water must be disposed of in accordance with the local regulations.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Keep away from all sources of ignition.
Ensure adequate ventilation.
Wear suitable protective equipment. For personal protection see SECTION 8.
Use breathing apparatus.
Keep people away and stay on the upwind side.

6.2 Environmental precautions

Do not discharge into the drains/surface waters/groundwater.
In case the product spills into drains/surface waters/groundwater, immediately inform the authorities.

6.3 Methods and material for containment and cleaning up

Take up mechanically.

Take up residues with absorbent material (e.g. sand, sawdust, general purpose binder, diatomaceous earth).

Dispose of absorbed material in accordance within the regulations.

6.4 Reference to other sections

See SECTION 8+13

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Use only in well-ventilated areas.

Provide good room ventilation even at ground level (vapours are heavier than air).

Avoid contact with eyes and skin. Use personal protective equipment.

Keep away from open flames, hot surfaces and sources of ignition.

Pressurised container: May burst if heated.

Do not pierce or burn, even after use.

Use explosion-proofed equipment/fittings and non-sparking tools.

Take precautionary measures against static discharges.

Do not eat, drink or smoke when using this product.

Take off contaminated clothing and wash before reuse.

Wash hands before breaks and after work.

7.2 Conditions for safe storage, including any incompatibilities

Keep only in original container.

Do not store with combustible materials.

Do not store together with oxidizing agents.

Keep container in a well-ventilated place.

Keep in a cool place, heat causes increase in pressure and risk of bursting.

Protect from heat/overheating and from sun.

Do not keep at temperatures above 50 °C.

7.3 Specific end use(s)

See product use, SECTION 1.2

SECTION 8: Exposure controls / personal protection
8.1 Control parameters
Ingredients with occupational exposure limits to be monitored (UK)

Substance
Hydrocarbons, C6-C7, n-alkanes, isoalkanes, cyclics, < 5% n-hexane
EINECS/ELINCS: 921-024-6, Reg-No.: 01-2119475514-35-XXXX
Long-term exposure: 1200 mg/m ³
Butane
CAS: 106-97-8, EINECS/ELINCS: 203-448-7, EU-INDEX: 601-004-00-0, Reg-No.: 01-2119474691-32-XXXX
Long-term exposure: 600 ppm, 1450 mg/m ³
Short-term exposure (15-minute): 750 ppm, 1810 mg/m ³
n-Hexane
CAS: 110-54-3, EINECS/ELINCS: 203-777-6, EU-INDEX: 601-037-00-0, Reg-No.: 01-2119480412-44-XXXX
Long-term exposure: 20 ppm, 72 mg/m ³
Nickel powder
CAS: 7440-02-0, EINECS/ELINCS: 231-111-4, EU-INDEX: 028-002-01-4
Long-term exposure: 0,5 mg/m ³ , Sk, Carc
iso-Butane
CAS: 75-28-5, EINECS/ELINCS: 200-857-2, EU-INDEX: 601-004-00-0, Reg-No.: 01-2119485395-27-XXXX
Long-term exposure: 600 ppm, 1450 mg/m ³ , (Butane)
Short-term exposure (15-minute): 750 ppm, 1810 mg/m ³
Aluminium powder
CAS: 7429-90-5, EINECS/ELINCS: 231-072-3, EU-INDEX: 013-001-00-6, Reg-No.: 01-2119529243-45-XXXX
Long-term exposure: 10 mg/m ³ , inhalable dust (respirable dust: 4 mg/m ³)
Chromium
CAS: 7440-47-3, EINECS/ELINCS: 231-157-5
Long-term exposure: 0,5 mg/m ³

Ingredients with occupational exposure limits to be monitored EU (2004/37/EG)

Substance / EC LIMIT VALUES
n-Hexane
CAS: 110-54-3, EINECS/ELINCS: 203-777-6, EU-INDEX: 601-037-00-0, Reg-No.: 01-2119480412-44-XXXX
Eight hours: 20 ppm, 72 mg/m ³
Chromium
CAS: 7440-47-3, EINECS/ELINCS: 231-157-5
Eight hours: 2 mg/m ³

DNEL

Substance
Butane, CAS: 106-97-8
There are no DNEL values established for the substance.
Propane, CAS: 74-98-6
There are no DNEL values established for the substance.
n-Hexane, CAS: 110-54-3
Industrial, inhalative, Long-term - systemic effects, 75 mg/m ³
Industrial, dermal, Long-term - systemic effects, 11 mg/kg bw/day
general population, inhalative, Long-term - systemic effects, 16 mg/m ³

general population, dermal, Long-term - systemic effects, 5,3 mg/kg bw/day
general population, oral, Long-term - systemic effects, 4 mg/kg bw/day
iso-Butane, CAS: 75-28-5
There are no DNEL values established for the substance.
Propylene carbonate, CAS: 108-32-7
Industrial, inhalative, Long-term - systemic effects, 70,53 mg/m ³
Industrial, inhalative, Long-term - local effects, 20 mg/m ³
Industrial, dermal, Long-term - systemic effects, 20 mg/kg bw/day
Industrial, dermal, Long-term - local effects, 10 mg/kg bw/day
general population, inhalative, Long-term - systemic effects, 17,4 mg/m ³
general population, inhalative, Long-term - local effects, 10 mg/m ³
general population, dermal, Long-term - local effects, 10 mg/kg bw/day
general population, oral, Long-term - local effects, 10 mg/kg bw/day
Tolutriazol Derivate, CAS: 80584-90-3/80595-74-0
Industrial, inhalative, Long-term - systemic effects, 1,3 mg/m ³
Industrial, dermal, Long-term - systemic effects, 0,4 mg/kg bw/d
general population, dermal, Long-term - systemic effects, 0,2 mg/kg bw/d
general population, oral, Long-term - systemic effects, 0,2 mg/kg bw/d
general population, inhalative, Long-term - systemic effects, 0,3 mg/m ³
Isopentane, CAS: 78-78-4
Industrial, inhalative, Long-term - systemic effects, 3000 mg/m ³
Industrial, dermal, Long-term - systemic effects, 432 mg/kg bw/day
general population, inhalative, Long-term - systemic effects, 643 mg/m ³
general population, dermal, Long-term - systemic effects, 214 mg/kg bw/day
general population, oral, Long-term - systemic effects, 214 mg/kg bw/day
Hydrocarbons, C6-C7, n-alkanes, isoalkanes, cyclics, < 5% n-hexane
Industrial, dermal, Long-term - systemic effects, 773 mg/kg bw/day
Industrial, inhalative, Long-term - systemic effects, 2035 mg/m ³
general population, inhalative, Long-term - systemic effects, 608 mg/m ³
general population, dermal, Long-term - systemic effects, 699 mg/kg bw/day
general population, oral, Long-term - systemic effects, 699 mg/kg bw/day
Reaction products of bis(4-methylpentan-2-yl)dithiophosphoric acid with phosphorus oxide, propylene oxide and amines, C12-14-alkyl (branched)
Industrial, inhalative, Long-term - systemic effects, 4,28 mg/m ³
Industrial, dermal, Long-term - systemic effects, 12,5 mg/kg bw/day
Industrial, dermal, Long-term - local effects, 160 µg/cm ²
Industrial, dermal, Acute - local effects, 160 µg/cm ²
general population, inhalative, Long-term - systemic effects, 1,09 mg/m ³
general population, dermal, Long-term - systemic effects, 6,25 mg/kg bw/day
general population, dermal, Long-term - local effects, 160 µg/cm ²
general population, dermal, Acute - local effects, 160 µg/cm ²
general population, oral, Long-term - systemic effects, 250 µg/kg bw/day
Aluminium powder, CAS: 7429-90-5
Industrial, inhalative (dust), Long-term - local effects, 3,72 mg/m ³

PNEC

Substance
Butane, CAS: 106-97-8
There are no PNEC values established for the substance.

Propane, CAS: 74-98-6
There are no PNEC values established for the substance.
iso-Butane, CAS: 75-28-5
There are no PNEC values established for the substance.
Propylene carbonate, CAS: 108-32-7
seawater, 0,09 mg/l
freshwater, 0,9 mg/l
sewage treatment plants (STP), 7400 mg/l
soil, 0,81 mg/kg
Tolutriazol Derivate, CAS: 80584-90-3/80595-74-0
freshwater, 0,000976 mg/l
seawater, 0,000976 mg/l
sewage treatment plants (STP), 0,69 mg/l
Isopentane, CAS: 78-78-4
There are no PNEC values established for the substance.
Hydrocarbons, C6-C7, n-alkanes, isoalkanes, cyclics, < 5% n-hexane
There are no PNEC values established for the substance.
Reaction products of bis(4-methylpentan-2-yl)dithiophosphoric acid with phosphorus oxide, propylene oxide and amines, C12-14-alkyl (branched)
freshwater, 2.4 µg/L
seawater, 240 ng/L
sewage treatment plants (STP), 24.33 mg/L
sediment (freshwater), 12.9 µg/kg sediment dw
sediment (seawater), 1.29 µg/kg sediment dw
soil, 1.17 µg/kg soil dw
oral (food), 10 mg/kg food

8.2 Exposure controls

Additional advice on system design	Ensure adequate ventilation on workstation. Measurement methods for taking workplace measurements must meet the performance requirements of DIN EN 482. For example, recommendations are given in the IFA's list of hazardous substances.
Eye protection	Not required under normal conditions.
Hand protection	The details concerned are recommendations. Please contact the glove supplier for further information. 0,4 mm: Nitrile rubber, >480 min (EN 374-1/-2/-3).
Skin protection	Protective clothing (EN 340)
Other	Personal protective equipment should be selected specifically for the working place, depending on concentration and quantity handled. The resistance of this equipment to chemicals should be ascertained with the respective supplier. Do not inhale gases. Avoid contact with eyes and skin.
Respiratory protection	If workplace limit values are exceeded or if there is insufficient ventilation: Short term: filter apparatus, filter A. (DIN EN 14387)
Thermal hazards	not applicable
Delimitation and monitoring of the environmental exposition	Comply with applicable environmental regulations limiting discharge to air, water and soil.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Physical state	1) liquid 2) Liquefied gas
Form	Dual-chamber aerosol can
Color	dark grey (Liquid)
Odor	like mineral oil
Odour threshold	No information available.
pH-value	not applicable
pH-value [1%]	not applicable
Boiling point or initial boiling point and boiling range [°C]	80 - 110 (Liquid) -42 - 0 (1013 hPa) (propellant)
Flash point [°C]	< 0 (< 32 °F) (Liquid) -80 (1013 hPa) (propellant)
Flammability	not applicable
Lower explosion limit	0,8 Vol. % (EC/List no. 921-024-6) (Liquid) 5 Vol. % (propellant)
Upper explosion limit	8,0 Vol. % (EC/List no. 921-024-6) (Liquid) 10,9 Vol. % (propellant)
Oxidising properties	no
Vapour pressure/gas pressure [kPa]	220 - 840 (20°C) (propellant)
Density [g/cm ³]	ca. 0,9 (20 °C) (Liquid) 0,5 - 0,58 (20°C) (propellant)
Relative density	No information available.
Bulk density [kg/m ³]	not applicable
Solubility in water	virtually insoluble
Solubility other solvents	No information available.
Partition coefficient n-octanol/water (log value)	not applicable
Kinematic viscosity	not applicable
Relative vapour density	not applicable
Melting point [°C]	-188 - -138 (1013 hPa) (propellant)
Auto-ignition temperature [°C]	365 - 470°C (propellant) 250 °C (Liquid)
Decomposition temperature [°C]	not applicable
Particle characteristics	not applicable

9.2 Other information

Temperature class (ATEX): T2
(propellant)

SECTION 10: Stability and reactivity

10.1 Reactivity

Heat causes increase in pressure and risk of bursting.

10.2 Chemical stability

Stable under normal ambient conditions (ambient temperature).
Stable under recommended storage conditions.

10.3 Possibility of hazardous reactions

No hazardous reactions known.

10.4 Conditions to avoid

Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

10.5 Incompatible materials

No information available.

10.6 Hazardous decomposition products

No dangerous reactions known if used as directed.

SECTION 11: Toxicological information**11.1 Information on hazard classes as defined in Regulation (EC) No 1272/2008****Acute oral toxicity**

Product
Based on the available information, the classification criteria are not fulfilled.
Substance
Nickel powder, CAS: 7440-02-0
LD50, oral, Rat, > 9000 mg/kg (IUCLID)
n-Hexane, CAS: 110-54-3
LD50, oral, Rat, 16000 mg/kg bw
Propylene carbonate, CAS: 108-32-7
LD50, oral, Rat, 33520 mg/kg
NOAEL, oral, Rat, 1000 mg/kg (OECD 414)
Tolutriazol Derivate, CAS: 80584-90-3/80595-74-0
LD50, oral, Rat, > 2000 mg/kg
Isopentane, CAS: 78-78-4
LD50, oral, Rat, >2000 mg/kg bw (OECD 401)
Hydrocarbons, C6-C7, n-alkanes, isoalkanes, cyclics, < 5% n-hexane
LD50, oral, Rat, > 5840 mg/kg
Chromium, CAS: 7440-47-3
LD50, oral, Rat, > 5000 mg/kg
Reaction products of bis(4-methylpentan-2-yl)dithiophosphoric acid with phosphorus oxide, propylene oxide and amines, C12-14-alkyl (branched)
LD50, oral, Rat, 2000 mg/kg bw

Acute dermal toxicity

Product
Based on the available information, the classification criteria are not fulfilled.
Substance
n-Hexane, CAS: 110-54-3
LD50, dermal, Rabbit, > 3350 mg/kg 3350 mg/kg bw
Propylene carbonate, CAS: 108-32-7
LD50, dermal, Rabbit, > 2000 mg/kg
Hydrocarbons, C6-C7, n-alkanes, isoalkanes, cyclics, < 5% n-hexane
LD50, dermal, Rat, > 2920 mg/kg

Acute inhalational toxicity

Product
Based on the available information, the classification criteria are not fulfilled.
Substance
Butane, CAS: 106-97-8
LC50, inhalative, Rat, 658 mg/L (IUCLID)
Ethane, CAS: 74-84-0
LC50, Rat, 1443 mg/l/15min

LC50, mouse, 1237 mg/l/2h
Propane, CAS: 74-98-6
LC50, inhalative, Rat, > 1443 mg/l (15 min) (Lit.)
n-Hexane, CAS: 110-54-3
LC50, inhalative, Rat, 259,4 g/m ³ , 24h
iso-Butane, CAS: 75-28-5
LC50, inhalative, mouse, 1237 mg/L
Isopentane, CAS: 78-78-4
LC50, inhalativ (gas), Rat, > 25,3 mg/L, 4h
Hydrocarbons, C6-C7, n-alkanes, isoalkanes, cyclics, < 5% n-hexane
LC50, inhalative, Rat, > 25,2 mg/l (4 h)
Chromium, CAS: 7440-47-3
LC50, inhalative, Rat, 5,41 mg/l/4h
Aluminium powder, CAS: 7429-90-5
LC50, inhalativ (dust), Rat, > 5,09 mg/L (4h)

Serious eye damage/irritation

Based on the available information, the classification criteria are not fulfilled.

Substance
Butane, CAS: 106-97-8
Eye, non-irritating
Ethane, CAS: 74-84-0
no adverse effect observed
Nickel powder, CAS: 7440-02-0
no adverse effect observed
Propane, CAS: 74-98-6
Eye, non-irritating
n-Hexane, CAS: 110-54-3
Eye, non-irritating
iso-Butane, CAS: 75-28-5
Eye, non-irritating
Propylene carbonate, CAS: 108-32-7
Rabbit, in vivo, OECD 405, irritant
Isopentane, CAS: 78-78-4
no adverse effect observed
Eye, no adverse effect observed
Hydrocarbons, C6-C7, n-alkanes, isoalkanes, cyclics, < 5% n-hexane
Eye, in vivo, non-irritating
Chromium, CAS: 7440-47-3
no adverse effect observed

Skin corrosion/irritationIrritant
Calculation method

Substance
Butane, CAS: 106-97-8
dermal, non-irritating
Ethane, CAS: 74-84-0
no adverse effect observed
Nickel powder, CAS: 7440-02-0

no adverse effect observed
Propane, CAS: 74-98-6
dermal, non-irritating
n-Hexane, CAS: 110-54-3
dermal, irritant
iso-Butane, CAS: 75-28-5
dermal, non-irritating
Propylene carbonate, CAS: 108-32-7
Rabbit, in vivo, OECD 404, non-irritating
Isopentane, CAS: 78-78-4
no adverse effect observed
Hydrocarbons, C6-C7, n-alkanes, isoalkanes, cyclics, < 5% n-hexane
dermal, in vivo, irritant
Chromium, CAS: 7440-47-3
no adverse effect observed

Respiratory or skin sensitisation
 EUH208: May produce an allergic reaction.
 Calculation method

Substance
Butane, CAS: 106-97-8
dermal, non-sensitizing
inhalative, non-sensitizing
Ethane, CAS: 74-84-0
dermal, no adverse effect observed
inhalative, no adverse effect observed
Propane, CAS: 74-98-6
dermal, non-sensitizing
inhalative, non-sensitizing
n-Hexane, CAS: 110-54-3
dermal, non-sensitizing, LLNA Test,
iso-Butane, CAS: 75-28-5
dermal, non-sensitizing
inhalative, non-sensitizing
Propylene carbonate, CAS: 108-32-7
Human, in vivo (non-LLNA), non-sensitizing
Isopentane, CAS: 78-78-4
dermal, no adverse effect observed
Hydrocarbons, C6-C7, n-alkanes, isoalkanes, cyclics, < 5% n-hexane
dermal, in vivo, non-sensitizing
Chromium, CAS: 7440-47-3
dermal, no adverse effect observed
inhalative, no adverse effect observed

Specific target organ toxicity — single exposure
 Vapours may cause drowsiness and dizziness.
 Calculation method

Substance
Butane, CAS: 106-97-8
inhalative, non-irritating
Ethane, CAS: 74-84-0

inhalative, no adverse effect observed
Propane, CAS: 74-98-6
inhalative, non-irritating
iso-Butane, CAS: 75-28-5
inhalative, non-irritating
Hydrocarbons, C6-C7, n-alkanes, isoalkanes, cyclics, < 5% n-hexane
inhalative, adverse effect observed
Chromium, CAS: 7440-47-3
inhalative, no adverse effect observed

Specific target organ toxicity — repeated exposure — Based on the available information, the classification criteria are not fulfilled.

Substance
Propane, CAS: 74-98-6
NOAEC, inhalative, Rat, 4437 mg/m ³ , The effects observed are not sufficient for classification.
n-Hexane, CAS: 110-54-3
LOAEC, inhalative, mouse, 1760 mg/m ³
Isopentane, CAS: 78-78-4
NOAEC, inhalative, Rat, 20000 mg/m ³ , no adverse effect observed
Reaction products of bis(4-methylpentan-2-yl)dithiophosphoric acid with phosphorus oxide, propylene oxide and amines, C12-14-alkyl (branched)
NOAEL, oral, Rat, 150 mg/kg bw/day

Mutagenicity — Based on the available information, the classification criteria are not fulfilled.

Substance
n-Hexane, CAS: 110-54-3
in vitro, negativ
in vivo, negativ
Propylene carbonate, CAS: 108-32-7
in vitro DANN damage and/or repair study, OECD 482, negativ
mouse, in vivo mammalian somatic cell study, OECD 474, negativ
Isopentane, CAS: 78-78-4
in vitro, negativ
in vivo, negativ
Hydrocarbons, C6-C7, n-alkanes, isoalkanes, cyclics, < 5% n-hexane
in vivo, negativ

Reproduction toxicity — Based on the available information, the classification criteria are not fulfilled.

- Fertility

Substance
n-Hexane, CAS: 110-54-3
NOAEC, inhalative, Rat, 31680 mg/m ³
Propylene carbonate, CAS: 108-32-7
NOAEL, oral, mouse, 10 100 mg/kg bw/d (Effect on fertility), no adverse effect observed
Isopentane, CAS: 78-78-4
NOAEC, inhalative, Rat, 24080 mg/m ³ , no adverse effect observed
Hydrocarbons, C6-C7, n-alkanes, isoalkanes, cyclics, < 5% n-hexane
NOAEC, inhalative, (systemic): 8117 mg/m ³ , The effects observed are not sufficient for classification.

- Development

Substance
n-Hexane, CAS: 110-54-3
NOAEC, inhalative, Rat, 31680 mg/m ³
Propylene carbonate, CAS: 108-32-7
NOAEC, oral, Rat, 1000 mg/kg bw/d (Effect on developmental toxicity), adverse effect observed
Isopentane, CAS: 78-78-4
NOAEL, oral, Rat, 1000 mg/kg bw/day, no adverse effect observed
Hydrocarbons, C6-C7, n-alkanes, isoalkanes, cyclics, < 5% n-hexane
NOAEC, inhalative, (systemic): 8117 mg/m ³ , The effects observed are not sufficient for classification.

Carcinogenicity

Based on the available information, the classification criteria are not fulfilled.

Substance
n-Hexane, CAS: 110-54-3
NOAEC, inhalative, mouse, 10560 mg/m ³
Propylene carbonate, CAS: 108-32-7
no adverse effect observed
Hydrocarbons, C6-C7, n-alkanes, isoalkanes, cyclics, < 5% n-hexane
no adverse effect observed

Aspiration hazardMay be fatal if swallowed and enters airways.
Calculation method**General remarks**

The toxicity data listed pertaining to the ingredients are intended for those working in the medicinal professions, experts for occupational health and safety and toxicologists. The toxicity data pertaining to the ingredients were supplied by the manufacturers of raw materials. Toxicological data of complete product are not available.

11.2 Information on other hazards**11.2.1 Endocrine disrupting properties**

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

11.2.2 Other information

none

SECTION 12: Ecological information**12.1 Toxicity**

Substance
Butane, CAS: 106-97-8
LC50, (48h), Invertebrates, 14,22 - 69,43 mg/L
Nickel powder, CAS: 7440-02-0
LC50, (96h), Brachidanio rerio, > 100 mg/l (OECD 203)
EC50, (48h), Daphnia magna, > 100 mg/l (OECD 202)
IC50, (72h), Selenastrum capricornutum, 100 mg/l (OECD 201)
n-Hexane, CAS: 110-54-3
EL50, (48h), Invertebrates, 21,85 mg/L
EL50, (72h), Algae, 9,285 mg/L
NOELR, (72h), Algae, 2,077 mg/L
NOELR, (21d), Invertebrates, 4,888 mg/L
NOELR, (28d), fish, 2,8 mg/L
LL50, (96h), fish, 12,51 mg/L
Propylene carbonate, CAS: 108-32-7
LC50, (96h), fish, > 1000 mg/l (EU EC C.1)
EC50, (16h), Bacteria, 25619 mg/l (DIN DIN 38412 Part 8)
EC50, (48h), Daphnia magna, > 1000 mg/l (OECD 202)
NOEC, (72h), Algae, 900 mg/l (OECD 201)
ErC50, (72h), Algae, > 900 mg/l (OECD 201)
Tolutriazol Derivate, CAS: 80584-90-3/80595-74-0
LC50, (96h), fish, 1,3 mg/l
EC50, (48h), Daphnia magna, 2,05 mg/l
EC50, (72h), Algae, 0,976 mg/l
Isopentane, CAS: 78-78-4
EL50, (48h), Daphnia magna, 59,9 mg/L
EL50, (72h), Pseudokirchneriella subcapitata, 25,3 mg/L
LL50, (96h), Oncorhynchus mykiss, 34,3 mg/L
EL10, (21d), Daphnia magna, 11,5 mg/L
EL10, (60d), Oncorhynchus mykiss, 6,57 mg/L
Hydrocarbons, C6-C7, n-alkanes, isoalkanes, cyclics, < 5% n-hexane
LC50, (96h), Oncorhynchus mykiss, 11,4 mg/L
EC50, (48h), Daphnia magna, 3 mg/L
NOELR, (28d), Oncorhynchus mykiss, 2,045 mg/L
NOELR, (21d), Daphnia magna, 1 mg/L
Reaction products of bis(4-methylpentan-2-yl)dithiophosphoric acid with phosphorus oxide, propylene oxide and amines, C12-14-alkyl (branched)
EC50, (96h), Algae, 6.4 - 15 mg/L
EL50, (48h), Invertebrates, 91.4 mg/L
EL50, (21d), Invertebrates, 660 - 910 µg/L
LL50, (96h), fish, 24 mg/L
Aluminium powder, CAS: 7429-90-5
LC50, (96h), Pimephales promelas, 1,16 mg/L
LC50, (48h), Ceriodaphnia dubia, 0,72 mg/L

12.2 Persistence and degradability

Behaviour in environment compartments No information available.

Behaviour in sewage plant No information available.

Biological degradability

Substance
Nickel powder, CAS: 7440-02-0
The methods for determining the biological degradability are not applicable to inorganic substances.
n-Hexane, CAS: 110-54-3
The product is readily biodegradable.
Propylene carbonate, CAS: 108-32-7
OECD 301 B, The product is readily biodegradable.
Isopentane, CAS: 78-78-4
The product is readily biodegradable.
Hydrocarbons, C6-C7, n-alkanes, isoalkanes, cyclics, < 5% n-hexane (28d), 98%, OECD 301 F
Chromium, CAS: 7440-47-3
The methods for determining the biological degradability are not applicable to inorganic substances.
Reaction products of bis(4-methylpentan-2-yl)dithiophosphoric acid with phosphorus oxide, propylene oxide and amines, C12-14-alkyl (branched)
The product is not biodegradable.
Aluminium powder, CAS: 7429-90-5
The methods for determining the biological degradability are not applicable to inorganic substances.

12.3 Bioaccumulative potential

Substance
Propylene carbonate, CAS: 108-32-7
log Pow, -0,41
Reaction products of bis(4-methylpentan-2-yl)dithiophosphoric acid with phosphorus oxide, propylene oxide and amines, C12-14-alkyl (branched)
BCF, 432

12.4 Mobility in soil

No information available.

12.5 Results of PBT and vPvB assessment

Based on all available information not to be classified as PBT or vPvB respectively.

12.6 Endocrine disrupting properties

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

12.7 Other adverse effects

Ecological data of complete product are not available.
Do not discharge product unmonitored into the environment.

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Waste material must be disposed of in accordance with the Directive on waste 2008/98/EC as well as other national and local regulations. It is not possible to determine a waste code for this product in accordance with the European Waste Catalogue (EWC) since it is only possible to classify it according to how it is used by the customer. The waste code is to be determined within the EU in liaison with the waste-disposal operator.

Product

For recycling, consult manufacturer.

Waste no. (recommended)

160504* gases in pressure containers (including halons) containing dangerous substances

Contaminated packaging

Uncontaminated packaging may be taken for recycling.

Waste no. (recommended)

150111*

SECTION 14: Transport information

14.1 UN number or ID number





Transport by land according to ADR/RID 1950

Inland navigation (ADN) 1950

Marine transport in accordance with IMDG 1950

Air transport in accordance with IATA 1950

14.2 UN proper shipping name

Transport by land according to ADR/RID	Aerosols
- Classification Code	5F
- Label	
- ADR LQ	1 I
- ADR 1.1.3.6 (8.6)	Transport category (tunnel restriction code) 2 (D)
Inland navigation (ADN)	Aerosols
- Classification Code	5F
- Label	
Marine transport in accordance with IMDG	Aerosols (Hydrocarbons, C6-C7, n-alkanes, isoalkanes, cyclics, < 5% n-hexane)
- EMS	F-D, S-U
- Label	
- IMDG LQ	1 I
Air transport in accordance with IATA	Aerosols, flammable
- Label	

14.3 Transport hazard class(es)

Transport by land according to ADR/RID	2
Inland navigation (ADN)	2
Marine transport in accordance with IMDG	2.1
Air transport in accordance with IATA	2.1

14.4 Packing group

Transport by land according to ADR/RID	not applicable
Inland navigation (ADN)	not applicable
Marine transport in accordance with IMDG	not applicable
Air transport in accordance with IATA	not applicable

14.5 Environmental hazards

Transport by land according to ADR/RID yes

Inland navigation (ADN) yes

Marine transport in accordance with IMDG MARINE POLLUTANT

Air transport in accordance with IATA yes

14.6 Special precautions for user

Relevant information under SECTION 6 to 8.

14.7 Maritime transport in bulk according to IMO instruments

No information available.

SECTION 15: Regulatory information**15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**

EEC-REGULATIONS	2008/98/EG (2000/532/EC); 2010/75/EU; 2004/42/EG; (EG) 648/2004; (EC) 1907/2006 (REACH); (EU) 1272/2008; 75/324/EWG ((EC) 2016/2037); (EU) 2020/878; (EU) 2016/131; (EU) 517/2014; (EU) 2019/1148; (EU) 2019/1021, (EU) 2023/707
- Comment on component parts	Substances of Very High Concern - SVHC: substances are not contained or are below 0.1%.
- Annex XIV (REACH)	According to Annex XIV of Regulation (EC) 1907/2006 (REACH) the product does not contain any substances \geq 0.1% that are subject to authorisation.
- Annex XVII (REACH)	According to Annex XVII of Regulation (EC) 1907/2006 (REACH) the product contains \geq 0.1% of substances with the following restrictions. 27, 40, 75 According to Annex XVII of Regulation (EC) 1907/2006 (REACH) the product is subject to the following restrictions. 3
TRANSPORT-REGULATIONS	ADR (2023); IMDG-Code (2023, 41. Amdt.); IATA-DGR (2024)
NATIONAL REGULATIONS (UK):	EH40/2005 Workplace exposure limits (Second edition, published December 2011); UK REACH; GB CLP.
- Observe employment restrictions for people	Observe employment restrictions for mothers-to-be and nursing mothers. Observe employment restrictions for young people. SEVESO III (Directive 2012/18/EU), Hazard categories in accordance with Regulation (EC) No 1272/2008: P3a FLAMMABLE AEROSOLS Qualifying quantity (tonnes), Column 2: 150 Qualifying quantity (tonnes), Column 3: 500 E2 ENVIRONMENTAL HAZARDS Qualifying quantity (tonnes), Column 2: 200 Qualifying quantity (tonnes), Column 3: 500
- VOC (2010/75/CE)	46,8 % (Liquid) 100% (Propellant)

15.2 Chemical safety assessment

For this product a chemical safety assessment has not been carried out.

SECTION 16: Other information**16.1 Hazard statements (SECTION 3)**

H412 Harmful to aquatic life with long lasting effects.
 H372 Causes damage to organs through prolonged or repeated exposure.
 H351 Suspected of causing cancer.
 H318 Causes serious eye damage.
 H302 Harmful if swallowed.
 H400 Very toxic to aquatic life.
 H317 May cause an allergic skin reaction.
 H413 May cause long lasting harmful effects to aquatic life.
 EUH066 Repeated exposure may cause skin dryness or cracking.
 H224 Extremely flammable liquid and vapour.

H373 May cause damage to organs through prolonged or repeated exposure.
 H361f Suspected of damaging fertility.
 H319 Causes serious eye irritation.
 H261 In contact with water releases flammable gases.
 H250 Catches fire spontaneously if exposed to air.
 H411 Toxic to aquatic life with long lasting effects.
 H336 May cause drowsiness or dizziness.
 H304 May be fatal if swallowed and enters airways.
 H315 Causes skin irritation.
 H225 Highly flammable liquid and vapour.
 H280 Contains gas under pressure; may explode if heated.
 H220 Extremely flammable gas.

16.2 Abbreviations and acronyms:

ADR = Accord européen relatif au transport international des marchandises Dangereuses par Route
 RID = Règlement concernant le transport international ferroviaire de marchandises dangereuses
 ADN = Accord européen relatif au transport international des marchandises dangereuses par voie de navigation intérieure
 ATE = acute toxicity estimate
 CAS = Chemical Abstracts Service
 CLP = Classification, Labelling and Packaging
 DMEL = Derived Minimum Effect Level
 DNEL = Derived No Effect Level
 EC50 = Median effective concentration
 ECB = European Chemicals Bureau
 EEC = European Economic Community
 EINECS = European Inventory of Existing Commercial Chemical Substances
 EL50 = Median effective loading
 ELINCS = European List of Notified Chemical Substances
 EmS = Emergency Schedules
 GHS = Globally Harmonized System of Classification and Labelling of Chemicals
 IATA = International Air Transport Association
 IBC-Code = International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk
 IC50 = Inhibition concentration, 50%
 IMDG = International Maritime Code for Dangerous Goods
 IUCLID = International Uniform Chemical Information Database
 IVIS = In vitro irritation score
 LC50 = Lethal concentration, 50%
 LD50 = Median lethal dose
 LC0 = lethal concentration, 0%
 LOAEL = lowest-observed-adverse-effect level
 LL50 = Median lethal loading
 LQ = Limited Quantities
 MARPOL = International Convention for the Prevention of Marine Pollution from Ships
 NOAEL = No Observed Adverse Effect Level
 NOEC = No Observed Effect Concentration
 PBT = Persistent, Bioaccumulative and Toxic substance
 PNEC = Predicted No-Effect Concentration
 REACH = Registration, Evaluation, Authorisation and Restriction of Chemicals
 STP = Sewage Treatment Plant
 TLV@/TWA = Threshold limit value – time-weighted average
 TLV@STEL = Threshold limit value – short-time exposure limit
 VOC = Volatile Organic Compounds
 vPvB = very Persistent and very Bioaccumulative

16.3 Other information

Classification procedure

Aerosol 1: H222 Extremely flammable aerosol. (Calculation method) H229 Pressurised container: May burst if heated. (Calculation method)
Asp. Tox. 1: H304 May be fatal if swallowed and enters airways. (Calculation method)
Skin Irrit. 2: H315 Causes skin irritation. (Calculation method)
STOT SE 3: H336 May cause drowsiness or dizziness. (Calculation method)
Aquatic Chronic 2: H411 Toxic to aquatic life with long lasting effects. (Calculation method)

Modified position

5.1, 9.1, 15.1

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