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

| | | | |
|---|---|---|---|
| **Trade name :** | TURMOFLUID ED 13 - Spray | | |
| **Revision date :** | 04.01.2023 | **Version (Revision) :** | 3.2.0 (3.1.0) |
| **Print date :** | 04.01.2023 | | |

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

### 1.1 Product identifier

TURMOFLUID ED 13 - Spray

UFI: WETT-SF9N-Y50J-PV40

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

#### Relevant identified uses

**Product Categories [PC]**

PC24 - Lubricants, greases, release products

### 1.3 Details of the supplier of the safety data sheet

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

Lubricant Consult GmbH

**Street :** Gutenbergstraße 13

**Postal code/city :** 63477 MAINTAL (GERMANY)

**Telephone :** +49 6109/7650-0

**Telefax :** +49 6109/7650-51

**E-mail :** msds-request@lubcon.com

**Information contact :** Environment, Health & Safety: Dr. Rüdiger Hofmann

### 1.4 Emergency telephone number

+49 6109/7650-0

Monday to Friday 8:00 AM to 4:00 PM (CET)

## SECTION 2: Hazards identification

### 2.1 Classification of the substance or mixture

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

Aquatic Chronic 3 ; H412 - Hazardous to the aquatic environment : Chronic 3 ; Harmful to aquatic life with long lasting effects.

Aerosol 1 ; H222 - Aerosols : Category 1 ; Extremely flammable aerosol.

Aerosol 1 ; H229 - Aerosols : Category 1 ; Pressurised container: May burst if heated.

### 2.2 Label elements

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

**Hazard pictograms**

Flame (GHS02)

**Signal word**

Danger

**Hazard statements**

| | |
|---|---|
| H222 | Extremely flammable aerosol. |
| H229 | Pressurised container: May burst if heated. |
| H412 | Harmful to aquatic life with long lasting effects. |

**Precautionary statements**

| | |
|---|---|
| P102 | Keep out of reach of children. |
| 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. |
| P243 | Take action to prevent static discharges. |
| P251 | Do not pierce or burn, even after use. |
| P260 | Do not breathe dust/fume/gas/mist/vapours/spray. |
| P271 | Use only outdoors or in a well-ventilated area. |
| P403+P235 | Store in a well-ventilated place. Keep cool. |
| P410+P412 | Protect from sunlight. Do not expose to temperatures exceeding 50 °C/122 °F. |

**Supplemental Hazard information (EU)**

| | |
|---|---|
| EUH018 | In use may form flammable/explosive vapour-air mixture. |
| EUH066 | Repeated exposure may cause skin dryness or cracking. |

### 2.3 Other hazards

None

## SECTION 3: Composition/information on ingredients

### 3.2 Mixtures

**Hazardous ingredients**

Propane ; REACH registration No. : 01-2119486944-21-xxxx ; EC No. : 200-827-9; CAS No. : 74-98-6

Weight fraction : ≥ 10 - < 50 %

Classification 1272/2008 [CLP] : Flam. Gas 1 ; H220 Press. Gas (Liq.) ; H280

Butane ; REACH registration No. : 01-2119474691-32-xxxx ; EC No. : 203-448-7; CAS No. : 106-97-8

Weight fraction : ≥ 10 - < 50 %

Classification 1272/2008 [CLP] : Flam. Gas 1 ; H220 Press. Gas (Liq.) ; H280

Isobutane ; REACH registration No. : 01-2119485395-27-xxxx ; EC No. : 200-857-2; CAS No. : 75-28-5

Weight fraction : ≥ 5 - < 10 %

Classification 1272/2008 [CLP] : Flam. Gas 1 ; H220 Press. Gas (Liq.) ; H280

Alkanes, C10-14- ; REACH registration No. : 01-2119531017-50-xxxx ; EC No. : 300-199-7; CAS No. : 93924-07-3

Weight fraction : ≥ 1 - < 5 %

Classification 1272/2008 [CLP] : Flam. Liq. 3 ; H226 Asp. Tox. 1 ; H304

(Z)-N-Methyl-N-(1-oxo-9-octadecenyl)glycine ; REACH registration No. : 01-2119488991-20-xxxx ; EC No. : 203-749-3; CAS No. : 110-25-8

Weight fraction : < 0,5 %

Classification 1272/2008 [CLP] : Eye Dam. 1 ; H318 Acute Tox. 4 ; H332 Skin Irrit. 2 ; H315 Aquatic Acute 1 ; H400 Aquatic Chronic 3 ; H412

2-(2-heptadec-8-enyl-2-imidazolin-1-yl)ethanol ; REACH registration No. : 01-2119777867-13-xxxx ; EC No. : 202-414-9; CAS No. : 95-38-5

Weight fraction : < 0,5 %

Classification 1272/2008 [CLP] : STOT RE 2 ; H373 Skin Corr. 1C ; H314 Eye Dam. 1 ; H318 Acute Tox. 4 ; H302 Aquatic Acute 1 ; H400 Aquatic Chronic 1 ; H410

2-Ethylhexyl zinc dithiophosphate ; REACH registration No. : 01-2119493635-27-xxxx ; EC No. : 224-235-5; CAS No. : 4259-15-8

Weight fraction : < 0,5 %

Classification 1272/2008 [CLP] : Lact. ; H362 STOT SE 2 ; H371 STOT RE 2 ; H373 Eye Dam. 1 ; H318 Aquatic Chronic 2 ; H411

**Further ingredients**

SHC (Synthetic hydrocarbon)

Additives not to declare

**Additional information**

2-Ethylhexyl zinc dithiophosphate (CAS No. 4259-15-8) is classified according to Korean law (KOSHA, Korea Occupational Safety & Health Agency). Under REACh legislation H362, H371 and H373 are not required.

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

## SECTION 4: First aid measures

### 4.1 Description of first aid measures

#### General information

When in doubt or if symptoms are observed, get medical advice.

#### Following inhalation

Remove casualty to fresh air and keep warm and at rest. If breathing is irregular or stopped, administer artificial respiration. In case of respiratory tract irritation, consult a physician.

#### In case of skin contact

Remove contaminated, saturated clothing immediately. Wash immediately with: Water and soap In case of skin irritation, consult a physician.

#### 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. In case of eye irritation consult an ophthalmologist.

#### After ingestion

No information available.

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

No information available.

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

None

## SECTION 5: Firefighting measures

### 5.1 Extinguishing media

#### Suitable extinguishing media

Dry extinguishing powder. Carbon dioxide (CO2). ABC-powder. BC-powder. Foam. Water spray jet.

#### Unsuitable extinguishing media

Strong water jet. High power water jet.

### 5.2 Special hazards arising from the substance or mixture

Danger of bursting container.

### 5.3 Advice for firefighters

Use suitable breathing apparatus. Use water spray jet to protect personnel and to cool endangered containers.

## SECTION 6: Accidental release measures

### 6.1 Personal precautions, protective equipment and emergency procedures

None

### 6.2 Environmental precautions

Do not allow to enter into surface water or drains.

### 6.3 Methods and material for containment and cleaning up

Soak up inert absorbent and dispose as waste requiring special attention.

#### Other information

Remove all sources of ignition. Be aware that gases can spread at ground level (heavier than air) and pay attention to the wind direction. Provide adequate ventilation.

### 6.4 Reference to other sections

None

## SECTION 7: Handling and storage

### 7.1 Precautions for safe handling

When using do not eat, drink, smoke, sniff. Do not breathe gas/fumes/vapour/spray.

### 7.2 Conditions for safe storage, including any incompatibilities

#### Requirements for storage rooms and vessels

Keep the packing dry and well sealed to prevent contamination and absorbtion of humidity. Ensure adequate ventilation of the storage area. Keep/Store only in original container. Heating causes rise in pressure with risk of bursting.

#### Hints on joint storage

**Storage class :** 2B

**Storage class (TRGS 510) :** 2B

### 7.3 Specific end use(s)

None

## SECTION 8: Exposure controls/personal protection

Keep away from food, drink and animal feeding stuffs. Keep away from sources of ignition - No smoking.

### 8.1 Control parameters

#### Occupational exposure limit values

Propane ; CAS No. : 74-98-6

| | |
|---|---|
| Limit value type (country of origin) : | TRGS 900 ( D ) |
| Limit value : | 1000 ppm / 1800 mg/m$^3$ |
| Peak limitation : | 4(II) |
| Version : | 01.09.2012 |

Butane ; CAS No. : 106-97-8

| | |
|---|---|
| Limit value type (country of origin) : | TRGS 900 ( D ) |
| Limit value : | 1000 ppm / 2400 mg/m$^3$ |
| Peak limitation : | 4(II) |
| Version : | 01.09.2012 |

Isobutane ; CAS No. : 75-28-5

| | |
|---|---|
| Limit value type (country of origin) : | TRGS 900 ( D ) |
| Limit value : | 1000 ppm / 2400 mg/m$^3$ |
| Peak limitation : | 4(II) |
| Version : | 01.09.2012 |

#### DNEL/DMEL and PNEC values

**DNEL/DMEL**

| | |
|---|---|
| Limit value type : | DNEL Consumer (local) ( (Z)-N-Methyl-N-(1-oxo-9-octadecenyl)glycine ; CAS No. : 110-25-8 ) |
| Exposure route : | Inhalation |
| Exposure frequency : | Short-term (acute) |

| | |
|---|---|
| Limit value : | = 9 mg/m³ |
| Limit value type : | DNEL Consumer (local) ( (Z)-N-Methyl-N-(1-oxo-9-octadecenyl)glycine ; CAS No. : 110-25-8 ) |
| Exposure route : | Inhalation |
| Exposure frequency : | Long-term (repeated) |
| Limit value : | = 0,005 mg/m³ |
| Limit value type : | DNEL Consumer (systemic) ( (Z)-N-Methyl-N-(1-oxo-9-octadecenyl)glycine ; CAS No. : 110-25-8 ) |
| Exposure route : | Oral |
| Exposure frequency : | Short-term (acute) |
| Limit value : | = 92 mg/kg |
| Limit value type : | DNEL Consumer (systemic) ( (Z)-N-Methyl-N-(1-oxo-9-octadecenyl)glycine ; CAS No. : 110-25-8 ) |
| Exposure route : | Oral |
| Exposure frequency : | Long-term (repeated) |
| Limit value : | = 5 mg/kg |
| Limit value type : | DNEL Consumer (systemic) ( (Z)-N-Methyl-N-(1-oxo-9-octadecenyl)glycine ; CAS No. : 110-25-8 ) |
| Exposure route : | Dermal |
| Exposure frequency : | Long-term (repeated) |
| Limit value : | = 5 mg/kg |
| Limit value type : | DNEL Consumer (systemic) ( (Z)-N-Methyl-N-(1-oxo-9-octadecenyl)glycine ; CAS No. : 110-25-8 ) |
| Exposure route : | Dermal |
| Exposure frequency : | Short-term (acute) |
| Limit value : | = 50 mg/kg |
| Limit value type : | DNEL Consumer (systemic) ( (Z)-N-Methyl-N-(1-oxo-9-octadecenyl)glycine ; CAS No. : 110-25-8 ) |
| Exposure route : | Inhalation |
| Exposure frequency : | Long-term (repeated) |
| Limit value : | = 0,1 mg/m³ |
| Limit value type : | DNEL Consumer (systemic) ( 2-Ethylhexyl zinc dithiophosphate ; CAS No. : 4259-15-8 ) |
| Exposure route : | Oral |
| Exposure frequency : | Long-term (repeated) |
| Limit value : | = 0,19 mg/kg/d |
| Limit value type : | DNEL Consumer (systemic) ( 2-Ethylhexyl zinc dithiophosphate ; CAS No. : 4259-15-8 ) |
| Exposure route : | Inhalation |
| Exposure frequency : | Long-term (repeated) |
| Limit value : | = 1,67 mg/m³ |
| Limit value type : | DNEL Consumer (systemic) ( 2-Ethylhexyl zinc dithiophosphate ; CAS No. : 4259-15-8 ) |
| Exposure route : | Dermal |
| Exposure frequency : | Long-term (repeated) |
| Limit value : | = 4,8 mg/kg |
| Limit value type : | DNEL worker (local) ( (Z)-N-Methyl-N-(1-oxo-9-octadecenyl)glycine ; CAS No. : 110-25-8 ) |
| Exposure route : | Inhalation |
| Exposure frequency : | Short-term (acute) |
| Limit value : | = 18 mg/m³ |
| Limit value type : | DNEL worker (local) ( (Z)-N-Methyl-N-(1-oxo-9-octadecenyl)glycine ; CAS No. : 110-25-8 ) |
| Exposure route : | Inhalation |
| Exposure frequency : | Long-term (repeated) |
| Limit value : | = 0,01 mg/m³ |
| Limit value type : | DNEL worker (local) ( 2-Ethylhexyl zinc dithiophosphate ; CAS No. : 4259-15-8 ) |
| Exposure route : | Dermal |

| | |
|---|---|
| Exposure frequency : | Short-term (acute) |
| Limit value : | = 0,09 mg/cm$^2$ |
| Limit value type : | DNEL worker (local) ( 2-Ethylhexyl zinc dithiophosphate ; CAS No. : 4259-15-8 ) |
| Exposure route : | Inhalation |
| Exposure frequency : | Short-term (acute) |
| Limit value : | = 0,42 ppm |
| Limit value type : | DNEL worker (local) ( 2-Ethylhexyl zinc dithiophosphate ; CAS No. : 4259-15-8 ) |
| Exposure route : | Dermal |
| Exposure frequency : | Long-term |
| Limit value : | = 0,09 mg/cm$^2$/d |
| Limit value type : | DNEL worker (local) ( 2-Ethylhexyl zinc dithiophosphate ; CAS No. : 4259-15-8 ) |
| Exposure route : | Inhalation |
| Exposure frequency : | Long-term (repeated) |
| Limit value : | = 0,07 ppm |
| Limit value type : | DNEL worker (systemic) ( 2-Ethylhexyl zinc dithiophosphate ; CAS No. : 4259-15-8 ) |
| Exposure route : | Dermal |
| Exposure frequency : | Short-term (acute) |
| Limit value : | = 0,14 mg/kg/d |
| Limit value type : | DNEL worker (systemic) ( (Z)-N-Methyl-N-(1-oxo-9-octadecenyl)glycine ; CAS No. : 110-25-8 ) |
| Exposure route : | Dermal |
| Exposure frequency : | Short-term (acute) |
| Limit value : | = 100 mg/kg |
| Limit value type : | DNEL worker (systemic) ( 2-(2-heptadec-8-enyl-2-imidazolin-1-yl)ethanol ; CAS No. : 95-38-5 ) |
| Exposure route : | Dermal |
| Exposure frequency : | Short-term (acute) |
| Limit value : | = 2 mg/kg |
| Limit value type : | DNEL worker (systemic) ( 2-(2-heptadec-8-enyl-2-imidazolin-1-yl)ethanol ; CAS No. : 95-38-5 ) |
| Exposure route : | Inhalation |
| Exposure frequency : | Short-term (acute) |
| Limit value : | = 14 mg/m$^3$ |
| Limit value type : | DNEL worker (systemic) ( (Z)-N-Methyl-N-(1-oxo-9-octadecenyl)glycine ; CAS No. : 110-25-8 ) |
| Exposure route : | Dermal |
| Exposure frequency : | Long-term (repeated) |
| Limit value : | = 10 mg/kg |
| Limit value type : | DNEL worker (systemic) ( 2-Ethylhexyl zinc dithiophosphate ; CAS No. : 4259-15-8 ) |
| Exposure route : | Inhalation |
| Exposure frequency : | Short-term (acute) |
| Limit value : | = 0,42 ppm |
| Limit value type : | DNEL worker (systemic) ( (Z)-N-Methyl-N-(1-oxo-9-octadecenyl)glycine ; CAS No. : 110-25-8 ) |
| Exposure route : | Inhalation |
| Exposure frequency : | Long-term (repeated) |
| Limit value : | = 0,2 mg/m$^3$ |
| Limit value type : | DNEL worker (systemic) ( 2-(2-heptadec-8-enyl-2-imidazolin-1-yl)ethanol ; CAS No. : 95-38-5 ) |
| Exposure route : | Dermal |
| Exposure frequency : | Long-term (repeated) |
| Limit value : | = 0,6 mg/kg |
| Limit value type : | DNEL worker (systemic) ( 2-(2-heptadec-8-enyl-2-imidazolin-1-yl)ethanol ; CAS No. : 95-38-5 ) |
| Exposure route : | Inhalation |

| | |
|---|---|
| Exposure frequency : | Long-term (repeated) |
| Limit value : | = 0,46 mg/m³ |
| Limit value type : | DNEL worker (systemic) ( 2-Ethylhexyl zinc dithiophosphate ; CAS No. : 4259-15-8 ) |
| Exposure route : | Dermal |
| Exposure frequency : | Long-term |
| Limit value : | = 9,59 mg/kg |
| Limit value type : | DNEL worker (systemic) ( 2-Ethylhexyl zinc dithiophosphate ; CAS No. : 4259-15-8 ) |
| Exposure route : | Inhalation |
| Exposure frequency : | Long-term (repeated) |
| Limit value : | = 0,21 ppm |
| Limit value type : | DNEL worker (systemic) ( 2-Ethylhexyl zinc dithiophosphate ; CAS No. : 4259-15-8 ) |
| Exposure route : | Inhalation |
| Exposure frequency : | Long-term (repeated) |
| Limit value : | = 6,6 mg/m³ |
| Limit value type : | DNEL worker (systemic) ( 2-Ethylhexyl zinc dithiophosphate ; CAS No. : 4259-15-8 ) |
| Exposure route : | Dermal |
| Exposure frequency : | Long-term (repeated) |
| Limit value : | = 9,6 mg/kg/d |

**PNEC**

| | |
|---|---|
| Limit value type : | PNEC (Air) ( 2-Ethylhexyl zinc dithiophosphate ; CAS No. : 4259-15-8 ) |
| Limit value : | = 7,1 mg/m³ |
| Limit value type : | PNEC (Aquatic, freshwater) ( 2-Ethylhexyl zinc dithiophosphate ; CAS No. : 4259-15-8 ) |
| Limit value : | = 0,004 mg/l |
| Limit value type : | PNEC (Aquatic, freshwater) ( 2-(2-heptadec-8-enyl-2-imidazolin-1-yl)ethanol ; CAS No. : 95-38-5 ) |
| Limit value : | = 0,0003 mg/l |
| Limit value type : | PNEC (Aquatic, freshwater) ( (Z)-N-Methyl-N-(1-oxo-9-octadecenyl)glycine ; CAS No. : 110-25-8 ) |
| Limit value : | = 0,00043 mg/l |
| Limit value type : | PNEC (Aquatic, intermittent release) ( (Z)-N-Methyl-N-(1-oxo-9-octadecenyl)glycine ; CAS No. : 110-25-8 ) |
| Limit value : | = 0,0043 mg/l |
| Limit value type : | PNEC (Aquatic, marine water) ( (Z)-N-Methyl-N-(1-oxo-9-octadecenyl)glycine ; CAS No. : 110-25-8 ) |
| Limit value : | = 0,00004 mg/l |
| Limit value type : | PNEC (Aquatic, marine water) ( 2-(2-heptadec-8-enyl-2-imidazolin-1-yl)ethanol ; CAS No. : 95-38-5 ) |
| Limit value : | < 0,00001 mg/l |
| Limit value type : | PNEC (Aquatic, marine water) ( 2-Ethylhexyl zinc dithiophosphate ; CAS No. : 4259-15-8 ) |
| Limit value : | = 0,0046 mg/l |
| Limit value type : | PNEC (Sediment, freshwater) ( 2-Ethylhexyl zinc dithiophosphate ; CAS No. : 4259-15-8 ) |
| Limit value : | = 0,0701 mg/kg |
| Limit value type : | PNEC (Sediment, freshwater) ( 2-(2-heptadec-8-enyl-2-imidazolin-1-yl)ethanol ; CAS No. : 95-38-5 ) |
| Limit value : | = 0,376 mg/kg |
| Limit value type : | PNEC (Sediment, marine water) ( 2-(2-heptadec-8-enyl-2-imidazolin-1-yl)ethanol ; CAS No. : 95-38-5 ) |
| Limit value : | = 0,0376 mg/kg |
| Limit value type : | PNEC (Sediment, marine water) ( 2-Ethylhexyl zinc dithiophosphate ; CAS No. : 4259-15-8 ) |
| Limit value : | = 0,00701 mg/kg |
| Limit value type : | PNEC Soil ( 2-Ethylhexyl zinc dithiophosphate ; CAS No. : 4259-15-8 ) |
| Limit value : | = 0,0548 mg/kg |

| | |
|---|---|
| Limit value type : | PNEC Soil ( 2-(2-heptadec-8-enyl-2-imidazolin-1-yl)ethanol ; CAS No. : 95-38-5 ) |
| Limit value : | = 0,075 mg/kg |
| Limit value type : | PNEC (Secondary poisoning) ( 2-Ethylhexyl zinc dithiophosphate ; CAS No. : 4259-15-8 ) |
| Limit value : | = 8,3 mg/kg |
| Limit value type : | PNEC (Sewage treatment plant) ( 2-(2-heptadec-8-enyl-2-imidazolin-1-yl)ethanol ; CAS No. : 95-38-5 ) |
| Limit value : | = 0,27 mg/l |
| Limit value type : | PNEC (Sewage treatment plant) ( 2-Ethylhexyl zinc dithiophosphate ; CAS No. : 4259-15-8 ) |
| Limit value : | = 3,8 mg/l |

### 8.2 Exposure controls

#### Personal protection equipment

#### Eye/face protection

Eye protection: not required. Avoid: Eye contact.

**Recommended eye protection articles**

DIN EN 166

#### Skin protection

**Hand protection**

Hand protection is not required

**By long-term hand contact** : Wear suitable gloves.

**Suitable material** : PE (Polyethylene). NR (natural rubber, natural latex). CR (polychloroprene, chloroprene rubber). NBR (Nitrile rubber).

**Breakthrough time (maximum wearing time)** : PE < 30 min. ; NR < 10 min.; CR > 480 min.; NBR > 480 min.; BR > 120 min.

**Thickness of the glove material** : min. 0,38 mm

**Recommended glove articles** : EN ISO 374; DIN EN 420 Uvex. KCL, MAPA. Or comparable articles from other companies.

#### Respiratory protection

No special measures are necessary. Avoid: Inhalation of vapours or spray/mists

## SECTION 9: Physical and chemical properties

### 9.1 Information on basic physical and chemical properties

**Colour :** light yellow

#### Safety relevant basis data

| | | | | |
|---|---|---|---|---|
| **Physical state :** | | | Aerosol | |
| **Initial boiling point and boiling range :** | ( 1013 hPa ) | > | -44 | °C |
| **Decomposition temperature :** | ( 1013 hPa ) | > | 345 | °C |
| **Flash point :** | ( 1013 hPa ) | = | -97 | °C |
| **Lower explosion limit :** | | = | 1,5 | Vol-% |
| **Upper explosion limit :** | | = | 10,9 | Vol-% |
| **Vapour pressure :** | ( 20 °C ) | = | 4100 | hPa |
| **Vapour pressure :** | ( 50 °C ) | = | 8000 | hPa |
| **Density :** | ( 20 °C ) | = | 0,774 | g/cm$^3$ |

### 9.2 Other information

None

## SECTION 10: Stability and reactivity

### 10.1 Reactivity

No information available.

### 10.2 Chemical stability

The product is stable.

### 10.3 Possibility of hazardous reactions

In case of warming: Danger of explosion.

### 10.4 Conditions to avoid

Keep away from sources of heat (e.g. hot surfaces), sparks and open flames.

### 10.5 Incompatible materials

Material, oxygen-rich, oxidizing. Oxidizing agent

### 10.6 Hazardous decomposition products

Gases/vapours, harmful.

## SECTION 11: Toxicological information

### 11.1 Information on hazard classes as defined in Regulation (EC) No 1272/2008

By analogy:

#### Acute effects

**Acute oral toxicity**

| | |
|---|---|
| Parameter : | LD50 |
| Exposure route : | Oral |
| Species : | Rat |
| Effective dose : | > 5000 mg/kg |

**Acute dermal toxicity**

| | |
|---|---|
| Parameter : | LD50 |
| Exposure route : | Dermal |
| Species : | Rabbit |
| Effective dose : | > 2000 mg/kg |

**Acute inhalation toxicity**

| | |
|---|---|
| Parameter : | LC50 ( Butane ; CAS No. : 106-97-8 ) |
| Exposure route : | Inhalation |
| Species : | Rat |
| Effective dose : | 659 g/m$^3$ |
| Parameter : | LC50 ( Butane ; CAS No. : 106-97-8 ) |
| Exposure route : | Inhalation |
| Species : | Mouse |
| Effective dose : | 680 g/m$^3$ |
| Parameter : | LC50 ( Isobutane ; CAS No. : 75-28-5 ) |
| Exposure route : | Inhalation |
| Species : | Rat |
| Effective dose : | > 20 mg/l |
| Exposure time : | 4 h |
| Parameter : | LC50 ( (Z)-N-Methyl-N-(1-oxo-9-octadecenyl)glycine ; CAS No. : 110-25-8 ) |
| Exposure route : | Inhalation |
| Species : | Rat |
| Effective dose : | = 1,37 mg/l |
| Exposure time : | 4 h |

#### Irritant and corrosive effects

**Primary irritation to the skin**

| | |
|---|---|
| Parameter : | Primary irritation to the skin ( (Z)-N-Methyl-N-(1-oxo-9-octadecenyl)glycine ; CAS No. : 110-25-8 ) |
| Species : | Rabbit |

Result : Irritant
Method : OECD 404
Parameter : Primary irritation to the skin ( 2-(2-heptadec-8-enyl-2-imidazolin-1-yl)ethanol ; CAS No. : 95-38-5 )
Species : Rabbit
Result : Causes burns
Method : OECD 404
Parameter : Primary irritation to the skin ( 2-Ethylhexyl zinc dithiophosphate ; CAS No. : 4259-15-8 )
Species : Rabbit
Result : Not an irritant

**Irritation to eyes**

Parameter : Irritation to eyes ( 2-Ethylhexyl zinc dithiophosphate ; CAS No. : 4259-15-8 )
Species : Rabbit
Result : Risk of serious damage to eyes
Method : OECD 405
Parameter : Irritation to eyes ( (Z)-N-Methyl-N-(1-oxo-9-octadecenyl)glycine ; CAS No. : 110-25-8 )
Species : Rabbit
Result : Irreversible.
Parameter : Irritation to eyes ( 2-(2-heptadec-8-enyl-2-imidazolin-1-yl)ethanol ; CAS No. : 95-38-5 )
Species : Rabbit
Result : Causes serious eye damage
Method : OECD 405

## Sensitisation

**In case of skin contact**

Parameter : Skin sensitisation ( (Z)-N-Methyl-N-(1-oxo-9-octadecenyl)glycine ; CAS No. : 110-25-8 )
Species : Guinea pig
Result : Not sensitising.
Method : OECD 406
Parameter : Skin sensitisation ( 2-Ethylhexyl zinc dithiophosphate ; CAS No. : 4259-15-8 )
Species : Guinea pig
Result : Not sensitising.
Method : OECD 406
Parameter : Skin sensitisation ( (Z)-N-Methyl-N-(1-oxo-9-octadecenyl)glycine ; CAS No. : 110-25-8 )
Species : Mouse
Result : Not sensitising.
Method : OECD 429

**In case of inhalation**

Parameter : Sensitisation to the respiratory tract ( 2-(2-heptadec-8-enyl-2-imidazolin-1-yl)ethanol ; CAS No. : 95-38-5 )
Species : Guinea pig
Result : Not sensitising.
Method : OECD 406

## Repeated dose toxicity (subacute, subchronic, chronic)

**Subacute oral toxicity**

Parameter : NOAEL(C) ( 2-Ethylhexyl zinc dithiophosphate ; CAS No. : 4259-15-8 )
Exposure route : Oral
Species : Rat
Effective dose : = 125 mg/kg

**Subacute dermal toxicity**

Parameter : NOAEL(C) ( 2-Ethylhexyl zinc dithiophosphate ; CAS No. : 4259-15-8 )
Exposure route : Dermal

Effective dose : = 1250 mg/kg
Exposure time : 1 d

**Subacute inhalation toxicity**

Parameter : NOAEC ( 2-Ethylhexyl zinc dithiophosphate ; CAS No. : 4259-15-8 )
Exposure route : Inhalation
Effective dose : = 214 mg/m$^3$
Exposure time : 1 d

**Chronic dermal toxicity**

Prolonged or repeated skin contact may cause removal of natural fat from the skin resulting in dermatitis (skin inflammation).

## CMR effects (carcinogenicity, mutagenicity and toxicity for reproduction)

**Carcinogenicity**

Parameter : Carcinogenicity ( 2-Ethylhexyl zinc dithiophosphate ; CAS No. : 4259-15-8 )
Test result : Negative.
Parameter : NOAEL(C) ( 2-Ethylhexyl zinc dithiophosphate ; CAS No. : 4259-15-8 )
Exposure route : Oral
Species : Rat
Effective dose : = 30 mg/kg

**Germ cell mutagenicity**

**In vitro mutagenicity**

Parameter : In vitro mutagenicity ( 2-Ethylhexyl zinc dithiophosphate ; CAS No. : 4259-15-8 )
Test result : Ames test negative.
Parameter : Gene-mutations microrganisms ( (Z)-N-Methyl-N-(1-oxo-9-octadecenyl)glycine ; CAS No. : 110-25-8 )
Test result : Negative.
Parameter : Gene-mutations mammalian cells ( 2-(2-heptadec-8-enyl-2-imidazolin-1-yl)ethanol ; CAS No. : 95-38-5 )
Test result : Negative.
Parameter : Gene-mutations mammalian cells ( (Z)-N-Methyl-N-(1-oxo-9-octadecenyl)glycine ; CAS No. : 110-25-8 )
Test result : Negative.

**In vivo mutagenicity**

Parameter : In vivo mutagenicity ( 2-Ethylhexyl zinc dithiophosphate ; CAS No. : 4259-15-8 )
Test result : Negative.

**Reproductive toxicity**

**Adverse effects on developmental toxicity**

Parameter : Adverse effects on developmental toxicity ( (Z)-N-Methyl-N-(1-oxo-9-octadecenyl)glycine ; CAS No. : 110-25-8 )
Species : Mammalian cells (with metabolic activation)
Test result : Negative.
Method : OECD 421

**Developmental toxicity/teratogenicity**

**One generation reproduction toxicity test**

Parameter : One generation reproduction toxicity test ( 2-Ethylhexyl zinc dithiophosphate ; CAS No. : 4259-15-8 )
Exposure route : Oral
Species : Rat
Effective dose : = 30 mg/kg
Method : OECD 421
Parameter : One generation reproduction toxicity test ( 2-(2-heptadec-8-enyl-2-imidazolin-1-yl)ethanol ; CAS No. : 95-38-5 )
Test result : Negative.
Method : OECD 422
Parameter : NOAEL(C) ( 2-Ethylhexyl zinc dithiophosphate ; CAS No. : 4259-15-8 )

| | |
|---|---|
| Exposure route : | Oral |
| Species : | Rat |
| Effective dose : | = 30 mg/kg |
| Test result : | Questionable. |

### STOT-single exposure

#### STOT SE 1 and 2

| | |
|---|---|
| Parameter : | NOAEL(C) ( 2-Ethylhexyl zinc dithiophosphate ; CAS No. : 4259-15-8 ) |
| Exposure route : | Oral |
| Species : | Rat |
| Effective dose : | = 30 mg/kg |

## 11.2 Information on other hazards

No information available.

## SECTION 12: Ecological information

## 12.1 Toxicity

### Aquatic toxicity

#### Acute (short-term) fish toxicity

| | |
|---|---|
| Parameter : | LC50 ( (Z)-N-Methyl-N-(1-oxo-9-octadecenyl)glycine ; CAS No. : 110-25-8 ) |
| Species : | Leuciscus idus (golden orfe) |
| Evaluation parameter : | Acute (short-term) fish toxicity |
| Effective dose : | 3,2 - 4,6 mg/l |
| Exposure time : | 96 h |
| Evaluation : | Very toxic to fish. |
| Method : | DIN 38412 / part 15 |
| Parameter : | LC50 ( 2-(2-heptadec-8-enyl-2-imidazolin-1-yl)ethanol ; CAS No. : 95-38-5 ) |
| Species : | Brachydanio rerio (Zebra-fish) |
| Evaluation parameter : | Acute (short-term) fish toxicity |
| Effective dose : | = 0,3 mg/l |
| Exposure time : | 96 h |
| Method : | OECD 203 |
| Parameter : | LC50 ( 2-Ethylhexyl zinc dithiophosphate ; CAS No. : 4259-15-8 ) |
| Species : | Fish |
| Evaluation parameter : | Acute (short-term) fish toxicity |
| Effective dose : | = 46 mg/l |
| Exposure time : | 96 h |

#### Acute (short-term) daphnia toxicity

| | |
|---|---|
| Parameter : | EC50 ( (Z)-N-Methyl-N-(1-oxo-9-octadecenyl)glycine ; CAS No. : 110-25-8 ) |
| Species : | Daphnia magna (Big water flea) |
| Evaluation parameter : | Acute (short-term) daphnia toxicity |
| Effective dose : | = 0,53 mg/l |
| Exposure time : | 48 h |
| Evaluation : | Very toxic to daphnia. |
| Parameter : | EC50 ( 2-(2-heptadec-8-enyl-2-imidazolin-1-yl)ethanol ; CAS No. : 95-38-5 ) |
| Species : | Daphnia magna (Big water flea) |
| Evaluation parameter : | Acute (short-term) daphnia toxicity |
| Effective dose : | = 0,136 mg/l |
| Exposure time : | 48 h |
| Method : | OECD 202 |
| Parameter : | EL50 ( 2-Ethylhexyl zinc dithiophosphate ; CAS No. : 4259-15-8 ) |
| Species : | Daphnia |
| Evaluation parameter : | Acute (short-term) daphnia toxicity |

| | |
|---|---|
| Effective dose : | = 75 mg/l |
| Exposure time : | 48 h |

**Acute (short-term) algae toxicity**

| | |
|---|---|
| Parameter : | EC50 ( (Z)-N-Methyl-N-(1-oxo-9-octadecenyl)glycine ; CAS No. : 110-25-8 ) |
| Species : | Scenedesmus subspicatus |
| Evaluation parameter : | Acute (short-term) algae toxicity |
| Effective dose : | = 5,1 mg/l |
| Exposure time : | 72 h |
| Evaluation : | Very toxic to algae. |
| Parameter : | EC50 ( 2-(2-heptadec-8-enyl-2-imidazolin-1-yl)ethanol ; CAS No. : 95-38-5 ) |
| Species : | Desmodesmus subspicatus |
| Evaluation parameter : | Acute (short-term) algae toxicity |
| Effective dose : | = 0,03 mg/l |
| Exposure time : | 72 h |
| Method : | OECD 201 |

**Bacteria toxicity**

| | |
|---|---|
| Parameter : | EC50 ( 2-Ethylhexyl zinc dithiophosphate ; CAS No. : 4259-15-8 ) |
| Species : | Pseudomonas putida |
| Evaluation parameter : | Bacteria toxicity |
| Effective dose : | = 380 mg/l |
| Exposure time : | 16 h |
| Method : | OECD 209 |

## 12.2 Persistence and degradability

### Biodegradation

| | |
|---|---|
| Parameter : | Biodegradation ( (Z)-N-Methyl-N-(1-oxo-9-octadecenyl)glycine ; CAS No. : 110-25-8 ) |
| Evaluation : | Readily biodegradable (according to OECD criteria). |
| Parameter : | Biodegradation ( 2-(2-heptadec-8-enyl-2-imidazolin-1-yl)ethanol ; CAS No. : 95-38-5 ) |
| Evaluation : | Poorly biodegradable. |
| Parameter : | Biodegradation ( 2-Ethylhexyl zinc dithiophosphate ; CAS No. : 4259-15-8 ) |
| Inoculum : | Degree of elimination |
| Effective dose : | < 5 % |
| Exposure time : | 5 d |
| Evaluation : | Poorly biodegradable. |
| Method : | OECD 301D |
| Parameter : | CO2 formation (% of the theoretical value) ( (Z)-N-Methyl-N-(1-oxo-9-octadecenyl)glycine ; CAS No. : 110-25-8 ) |
| Effective dose : | = 85 % |
| Exposure time : | 28 d |
| Method : | OECD 301B |

Overall evaluation on the mixture: Not readily biodegradable (according to OECD criteria).

## 12.3 Bioaccumulative potential

| | |
|---|---|
| Parameter : | Partition coefficient: n-octanol/water ( 2-Ethylhexyl zinc dithiophosphate ; CAS No. : 4259-15-8 ) |
| Concentration : | = 3,59 |

## 12.4 Mobility in soil

No information available.

## 12.5 Results of PBT and vPvB assessment

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

## 12.6 Endocrine disrupting properties

Endocrine disrupting potential: None known.

## 12.7 Other adverse effects

This product does not contain nanoparticles.

### 12.8 Overall evaluation

If product enters soil, it will be mobile and may contaminate groundwater. In accordance with the required stability the product is poorly biodegradable.

## SECTION 13: Disposal considerations

Dispose according to legislation. Completely emptied packages can be recycled. The allocation of waste identity numbers/waste descriptions must be carried out according to the EEC, specific to the industry and process.

### 13.1 Waste treatment methods

#### Product/Packaging disposal

**Waste codes/waste designations according to EWC/AVV**

**Waste code product**

16 05 04 - Gases in pressure containers (including halons) containing hazardous substances

## SECTION 14: Transport information

### 14.1 UN number or ID number

UN 1950

### 14.2 UN proper shipping name

**Land transport (ADR/RID)**

AEROSOLS

**Sea transport (IMDG)**

AEROSOLS

**Air transport (ICAO-TI / IATA-DGR)**

AEROSOLS, FLAMMABLE

### 14.3 Transport hazard class(es)

**Land transport (ADR/RID)**

| | |
|---|---|
| **Class(es) :** | 2 |
| **Classification code :** | 5F |
| **Hazard identification number (Kemler No.) :** | 23 |
| **Tunnel restriction code :** | D |
| **Special provisions :** | LQ 1 l · E 0 |
| **Hazard label(s) :** | 2.1 |

**Sea transport (IMDG)**

| | |
|---|---|
| **Class(es) :** | 2.1 |
| **EmS-No. :** | F-D / S-U |
| **Special provisions :** | LQ 1 l · E 0 |
| **Hazard label(s) :** | 2.1 |

**Air transport (ICAO-TI / IATA-DGR)**

| | |
|---|---|
| **Class(es) :** | 2.1 |
| **Special provisions :** | E 0 |
| **Hazard label(s) :** | 2.1 |

### 14.4 Packing group

### 14.5 Environmental hazards

**Land transport (ADR/RID) :** No

**Sea transport (IMDG) :** No

**Air transport (ICAO-TI / IATA-DGR) :** No

### 14.6 Special precautions for user

None

### 14.7 Maritime transport in bulk according to IMO instruments

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

**National regulations**

**Restrictions of occupation**

Not relevant

**Störfallverordnung**

Subject to StörfallVO (2017): Column 1.2.3.1 No. P3a aerosols with combustible gas, threshold value 150,000 kg (net).

**Emission control act (TA-Luft)**

Weight fraction (Number 5.2.5. I) : = 60 %

**Water hazard class (WGK)**

Class : 2 (Significant hazardous to water) Classification according to AwSV

**Other regulations, restrictions and prohibition regulations**

**Switzerland**

**VOCV-Regulation**

Volatile organic compounds (VOC) content in percent by weight : 60 %

**Additional information**

**TSCA (Toxic Substances Control Act) - USA, United States of America**

All chemical substances in this mixture are included on or are exempted from listing on the TSCA Inventory for Chemical Substances.

**California Proposition 65 - State of California**

Based on available information this product does not contain any components or chemicals currently known to the State of California to cause cancer, birth defects or reproductive harm at levels which would be subject to Proposition 65.

### 15.2 Chemical safety assessment

No information available.

## SECTION 16: Other information

### 16.1 Indication of changes

03. Hazardous ingredients · 15. National regulations

### 16.2 Abbreviations and acronyms

None

### 16.3 Key literature references and sources for data

None

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

The statement is derived from the properties of the single components.

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

| | |
|---|---|
| H220 | Extremely flammable gas. |
| H226 | Flammable liquid and vapour. |
| H280 | Contains gas under pressure; may explode if heated. |
| H302 | Harmful if swallowed. |
| H304 | May be fatal if swallowed and enters airways. |

| | |
|---|---|
| H314 | Causes severe skin burns and eye damage. |
| H315 | Causes skin irritation. |
| H318 | Causes serious eye damage. |
| H332 | Harmful if inhaled. |
| H362 | May cause harm to breast-fed children. |
| H371 | May cause damage to organs. |
| 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. |
| H412 | Harmful to aquatic life with long lasting effects. |

### 16.6 Training advice

None

### 16.7 Additional information

None

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.