



# Kroon-Oil Drauliquid-S DOT 4

## Safety Data Sheet

according to the REACH Regulation (EC) 1907/2006 amended by Regulation (EU) 2020/878  
Issue date: 3-7-2018 Revision date: 24-6-2024 Supersedes version of: 23-6-2023 Version: 2.7

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

#### 1.1. Product identifier

Product form : Mixture  
Trade name : Kroon-Oil Drauliquid-S DOT 4  
Product code : 09.40.02  
Type of product : Hydraulic Fluids  
Product group : Trade product

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

##### 1.2.1. Relevant identified uses

Intended for general public  
Main use category : Industrial use, Professional use, Consumer use  
Use of the substance/mixture : Brake fluid

##### 1.2.2. Uses advised against

No additional information available

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

Kroon-Oil B.V.  
Dollegoorweg 15  
NL 7602 EC Almelo  
Netherlands  
T 0031 (0)546 81 81 65  
[vib@kroon-oil.nl](mailto:vib@kroon-oil.nl)

#### 1.4. Emergency telephone number

| Country/Area   | Organisation/Company                                                                      | Address                           | Emergency number                                                                                       | Comment                              |
|----------------|-------------------------------------------------------------------------------------------|-----------------------------------|--------------------------------------------------------------------------------------------------------|--------------------------------------|
| Ireland        | National Poisons Information Centre<br>Beaumont Hospital                                  | PO Box 1297<br>Beaumont Road<br>9 | +353 1 809 2566<br>(Healthcare professionals-<br>24/7)<br>+353 1 809 2166 (public,<br>8am - 10pm, 7/7) |                                      |
| United Kingdom | National Poisons Information Service<br>(Cardiff Centre)<br>University Hospital Llandough | Penlan Road<br>CF64 2XX           | 0344 892 0111                                                                                          | Only for healthcare<br>professionals |

### SECTION 2: Hazards identification

#### 2.1. Classification of the substance or mixture

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

Reproductive toxicity, Category 2 H361  
Full text of H- and EUH-statements: see section 16

##### Adverse physicochemical, human health and environmental effects

Suspected of damaging fertility or the unborn child.

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### 2.2. Label elements

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

Hazard pictograms (CLP)



GHS08

Signal word (CLP)

: Warning

Contains

: Tris[2-[2-(2-methoxyethoxy)ethoxy]ethyl] orthoborate

Hazard statements (CLP)

: H361 - Suspected of damaging fertility or the unborn child.

Precautionary statements (CLP)

: P101 - If medical advice is needed, have product container or label at hand.

P102 - Keep out of reach of children.

P201 - Obtain special instructions before use.

P280 - Wear protective gloves, eye protection.

P308+P313 - IF exposed or concerned: Get medical advice/attention.

P405 - Store locked up.

P501 - Dispose of contents/container to hazardous or special waste collection point, in accordance with local, regional, national and/or international regulation.

EUH-statements

: EUH208 - Contains Dihydro-3-(tetrapropenyl)furan-2,5-dione. May produce an allergic reaction.

### 2.3. Other hazards

Contains no PBT and/or vPvB substances  $\geq 0.1\%$  assessed in accordance with REACH Annex XIII

| Component                                                                                     |                                                |
|-----------------------------------------------------------------------------------------------|------------------------------------------------|
| Substance(s) not meeting the PBT criteria of REACH regulation, in accordance with Annex XIII  | 2-[2-(2-butoxyethoxy)ethoxy]ethanol (143-22-6) |
| Substance(s) not meeting the vPvB criteria of REACH regulation, in accordance with Annex XIII | 2-[2-(2-butoxyethoxy)ethoxy]ethanol (143-22-6) |

The mixture does not contain substance(s) included in the list established in accordance with Article 59(1) of REACH for having endocrine disrupting properties, or substance(s) are not identified as having endocrine disrupting properties in accordance with the criteria set out in Commission Delegated Regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at a concentration equal to or greater than 0,1 %

## SECTION 3: Composition/information on ingredients

### 3.1. Substances

Not applicable

### 3.2. Mixtures

| Name                                                                                       | Product identifier                                                                                 | %    | Classification according to Regulation (EC) No. 1272/2008 [CLP] |
|--------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------|------|-----------------------------------------------------------------|
| Tris[2-[2-(2-methoxyethoxy)ethoxy]ethyl] orthoborate                                       | CAS-No.: 30989-05-0<br>EC-No.: 250-418-4<br>REACH-no: 01-2119462824-33                             | < 50 | Repr. 2, H361d                                                  |
| 2-[2-(2-butoxyethoxy)ethoxy]ethanol<br>substance with a Community workplace exposure limit | CAS-No.: 143-22-6<br>EC-No.: 205-592-6<br>EC Index-No.: 603-183-00-0<br>REACH-no: 01-2119475107-38 | < 10 | Eye Dam. 1, H318                                                |

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| Name                                     | Product identifier                                                                                 | %     | Classification according to Regulation (EC) No. 1272/2008 [CLP]      |
|------------------------------------------|----------------------------------------------------------------------------------------------------|-------|----------------------------------------------------------------------|
| 2,2'-oxydiethanol                        | CAS-No.: 111-46-6<br>EC-No.: 203-872-2<br>EC Index-No.: 603-140-00-6<br>REACH-no: 01-2119457857-21 | < 10  | Acute Tox. 4 (Oral), H302                                            |
| 2-(2-methoxyethoxy)ethanol               | CAS-No.: 111-77-3<br>EC-No.: 203-906-6<br>EC Index-No.: 603-107-00-6<br>REACH-no: 01-2119475100-52 | < 5   | Repr. 1B, H360D                                                      |
| Dihydro-3-(tetrapropenyl)furan-2,5-dione | CAS-No.: 26544-38-7<br>EC-No.: 247-781-6<br>REACH-no: 01-2119979080-37                             | < 0,1 | Eye Irrit. 2, H319<br>Skin Sens. 1A, H317<br>Aquatic Chronic 4, H413 |

| Specific concentration limits:           |                                                                                                    |                                                                     |
|------------------------------------------|----------------------------------------------------------------------------------------------------|---------------------------------------------------------------------|
| Name                                     | Product identifier                                                                                 | Specific concentration limits (%)                                   |
| 2-[2-(2-butoxyethoxy)ethoxy]ethanol      | CAS-No.: 143-22-6<br>EC-No.: 205-592-6<br>EC Index-No.: 603-183-00-0<br>REACH-no: 01-2119475107-38 | (20 ≤ C < 30) Eye Irrit. 2, H319<br>(30 ≤ C < 100) Eye Dam. 1, H318 |
| 2-(2-methoxyethoxy)ethanol               | CAS-No.: 111-77-3<br>EC-No.: 203-906-6<br>EC Index-No.: 603-107-00-6<br>REACH-no: 01-2119475100-52 | (3 ≤ C ≤ 100) Repr. 1B, H360D                                       |
| Dihydro-3-(tetrapropenyl)furan-2,5-dione | CAS-No.: 26544-38-7<br>EC-No.: 247-781-6<br>REACH-no: 01-2119979080-37                             | (0,1 ≤ C < 100) Skin Sens. 1A, H317                                 |

Full text of H- and EUH-statements: see section 16

## SECTION 4: First aid measures

### 4.1. Description of first aid measures

|                                       |                                                                                                                                                                |
|---------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------|
| First-aid measures general            | : IF exposed or concerned: Get medical advice/attention.                                                                                                       |
| First-aid measures after inhalation   | : Remove person to fresh air and keep comfortable for breathing.                                                                                               |
| First-aid measures after skin contact | : Gently wash with plenty of soap and water. If skin irritation occurs: Get medical advice/attention.                                                          |
| First-aid measures after eye contact  | : Rinse immediately and thoroughly, pulling the eyelids well away from the eye (15 minutes minimum). If eye irritation persists: Get medical advice/attention. |
| First-aid measures after ingestion    | : Rinse mouth out with water. Do NOT induce vomiting. Call a poison center or a doctor if you feel unwell.                                                     |

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

|                                     |                                                                                                                                         |
|-------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------|
| Symptoms/effects after inhalation   | : Although no appropriate human or animal health effects data are known to exist, this material is expected to be an inhalation hazard. |
| Symptoms/effects after skin contact | : May cause an allergic skin reaction. Redness.                                                                                         |
| Symptoms/effects after eye contact  | : May cause eye irritation. Redness.                                                                                                    |

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Symptoms/effects after ingestion : Symptoms of ingestion include drowsiness, weakness, headache, dizziness, nausea, vomiting.

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

Treat symptomatically.

## SECTION 5: Firefighting measures

### 5.1. Extinguishing media

Suitable extinguishing media : Water spray. Dry powder. Foam. Carbon dioxide.  
Unsuitable extinguishing media : Do not use a heavy water stream.

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

Fire hazard : No fire hazard.  
Explosion hazard : No direct explosion hazard.  
Hazardous decomposition products in case of fire : Nitrogen oxides. Carbon oxides (CO, CO<sub>2</sub>).

### 5.3. Advice for firefighters

Firefighting instructions : Fight fire from safe distance and protected location. Do not enter fire area without proper protective equipment, including respiratory protection.  
Protection during firefighting : Do not attempt to take action without suitable protective equipment. Self-contained breathing apparatus. Complete protective clothing.

## SECTION 6: Accidental release measures

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

General measures : Stop leak if safe to do so. Notify authorities if product enters sewers or public waters.  
Absorb spillage to prevent material damage.

#### 6.1.1. For non-emergency personnel

Protective equipment : Wear recommended personal protective equipment.  
Emergency procedures : Ventilate spillage area. Avoid contact with skin and eyes.

#### 6.1.2. For emergency responders

Protective equipment : Do not attempt to take action without suitable protective equipment. For further information refer to section 8: "Exposure controls/personal protection".  
Emergency procedures : Evacuate unnecessary personnel. Stop leak if safe to do so.

### 6.2. Environmental precautions

Avoid release to the environment.

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

For containment : Absorb spilled material with sand or earth. Contain any spills with dikes or absorbents to prevent migration and entry into sewers or streams. Stop leak without risks if possible.  
Methods for cleaning up : Take up liquid spill into absorbent material. Notify authorities if product enters sewers or public waters.  
Other information : Dispose of materials or solid residues at an authorized site.

### 6.4. Reference to other sections

For further information refer to section 13.

## SECTION 7: Handling and storage

### 7.1. Precautions for safe handling

Additional hazards when processed : Not expected to present a significant hazard under anticipated conditions of normal use.

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|                               |                                                                                                                                                                                                                                        |
|-------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Precautions for safe handling | : Ensure good ventilation of the work station. Avoid contact with skin and eyes. Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Wear personal protective equipment. |
| Hygiene measures              | : Do not eat, drink or smoke when using this product. Always wash hands after handling the product.                                                                                                                                    |

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

|                     |                                                                             |
|---------------------|-----------------------------------------------------------------------------|
| Technical measures  | : Keep in a cool, well-ventilated place away from heat.                     |
| Storage conditions  | : Store locked up.                                                          |
| Storage temperature | : < 40 °C                                                                   |
| Packaging materials | : Store always product in container of same material as original container. |

### 7.3. Specific end use(s)

No additional information available

## SECTION 8: Exposure controls/personal protection

### 8.1. Control parameters

#### 8.1.1 National occupational exposure and biological limit values

| 2-[2-(2-butoxyethoxy)ethoxy]ethanol (143-22-6)     |                      |
|----------------------------------------------------|----------------------|
| EU - Indicative Occupational Exposure Limit (IOEL) |                      |
| IOEL TWA                                           | 50 mg/m <sup>3</sup> |
|                                                    | 9 ppm                |

#### 8.1.2. Recommended monitoring procedures

No additional information available

#### 8.1.3. Air contaminants formed

No additional information available

#### 8.1.4. DNEL and PNEC

No additional information available

#### 8.1.5. Control banding

No additional information available

### 8.2. Exposure controls

#### 8.2.1. Appropriate engineering controls

##### Appropriate engineering controls:

Ensure good ventilation of the work station.

#### 8.2.2. Personal protection equipment

##### Personal protective equipment:

Wear recommended personal protective equipment.

##### Personal protective equipment symbol(s):



##### 8.2.2.1. Eye and face protection

##### Eye protection:

Safety glasses

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| Eye protection |                      |                 |          |
|----------------|----------------------|-----------------|----------|
| Type           | Field of application | Characteristics | Standard |
| Safety glasses | Droplet              | clear           | EN 166   |

### 8.2.2.2. Skin protection

**Skin and body protection:**

Wear suitable protective clothing

**Hand protection:**

Protective gloves

| Hand protection |                      |                   |                |             |            |
|-----------------|----------------------|-------------------|----------------|-------------|------------|
| Type            | Material             | Permeation        | Thickness (mm) | Penetration | Standard   |
| Reusable gloves | Nitrile rubber (NBR) | 6 (> 480 minutes) | ≥0.35          |             | EN ISO 374 |

### 8.2.2.3. Respiratory protection

**Respiratory protection:**

[In case of inadequate ventilation] wear respiratory protection.

### 8.2.2.4. Thermal hazards

No additional information available

### 8.2.3. Environmental exposure controls

**Environmental exposure controls:**

Avoid release to the environment.

## SECTION 9: Physical and chemical properties

### 9.1. Information on basic physical and chemical properties

|                                                 |                        |
|-------------------------------------------------|------------------------|
| Physical state                                  | : Liquid               |
| Colour                                          | : Colourless to Amber. |
| Odour                                           | : Faint. mild.         |
| Odour threshold                                 | : Not available        |
| Melting point                                   | : < -50 °C             |
| Freezing point                                  | : Not available        |
| Boiling point                                   | : > 230 °C             |
| Flammability                                    | : Not applicable       |
| Lower explosion limit                           | : Not available        |
| Upper explosion limit                           | : Not available        |
| Flash point                                     | : > 100 °C             |
| Auto-ignition temperature                       | : > 300 °C             |
| Decomposition temperature                       | : > 300 °C             |
| pH                                              | : 7 – 11,5             |
| Viscosity, kinematic                            | : 5 – 10 mm²/s @ 20°C  |
| Solubility                                      | : Water: Miscible      |
| Partition coefficient n-octanol/water (Log Kow) | : Not available        |
| Vapour pressure                                 | : Not available        |
| Vapour pressure at 50°C                         | : Not available        |
| Density                                         | : Not available        |
| Relative density                                | : 1,07 (Water = 1)     |
| Relative vapour density at 20°C                 | : Not available        |
| Particle characteristics                        | : Not applicable       |

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### 9.2. Other information

#### 9.2.1. Information with regard to physical hazard classes

No additional information available

#### 9.2.2. Other safety characteristics

Other properties : Material is hygroscopic

## SECTION 10: Stability and reactivity

### 10.1. Reactivity

The product is non-reactive under normal conditions of use, storage and transport.

### 10.2. Chemical stability

Stable under normal conditions.

### 10.3. Possibility of hazardous reactions

No dangerous reactions known under normal conditions of use.

### 10.4. Conditions to avoid

None under recommended storage and handling conditions (see section 7).

### 10.5. Incompatible materials

No additional information available

### 10.6. Hazardous decomposition products

Under normal conditions of storage and use, hazardous decomposition products should not be produced.

## SECTION 11: Toxicological information

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

Acute toxicity (oral) : Not classified  
Acute toxicity (dermal) : Not classified  
Acute toxicity (inhalation) : Not classified

| 2-(2-methoxyethoxy)ethanol (111-77-3)                             |                                                                                                                                     |
|-------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------|
| LD50 dermal rabbit                                                | 9404 mg/kg bodyweight Animal: rabbit, Animal sex: male, Guideline: OECD Guideline 402 (Acute Dermal Toxicity), 95% CL: 6696 - 13212 |
| Tris[2-[2-(2-methoxyethoxy)ethoxy]ethyl] orthoborate (30989-05-0) |                                                                                                                                     |
| LD50 oral rat                                                     | > 2000 mg/kg bodyweight                                                                                                             |
| LD50 dermal rat                                                   | > 2000 mg/kg bodyweight                                                                                                             |
| 2-[2-(2-butoxyethoxy)ethoxy]ethanol (143-22-6)                    |                                                                                                                                     |
| LD50 oral rat                                                     | > 5000 mg/kg bodyweight Animal: rat, Guideline: EU Method B.1 bis (Acute Oral Toxicity - Fixed Dose Procedure)                      |
| LD50 oral                                                         | 5170 mg/kg bodyweight                                                                                                               |
| LD50 dermal rabbit                                                | 3540 mg/kg bodyweight Animal: rabbit, Animal sex: male, Remarks on results: other:, 95% CL: 1050 - 11800                            |
| LD50 dermal                                                       | 3540 mg/kg bodyweight                                                                                                               |
| LC50 Inhalation - Rat (Dust/Mist)                                 | > 2400 mg/l                                                                                                                         |

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|                                                                          |                                                                                                                                                                     |
|--------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>2,2'-oxydiethanol (111-46-6)</b>                                      |                                                                                                                                                                     |
| LD50 dermal rabbit                                                       | > 13300 mg/kg                                                                                                                                                       |
| LC50 Inhalation - Rat (Dust/Mist)                                        | > 4,6 mg/l/4h                                                                                                                                                       |
| Skin corrosion/irritation                                                | : Not classified<br>pH: 7 – 11,5                                                                                                                                    |
| <b>2-[2-(2-butoxyethoxy)ethoxy]ethanol (143-22-6)</b>                    |                                                                                                                                                                     |
| pH                                                                       | 7 Temp.: 20 °C Concentration: ]70 vol%,80 vol%] Remarks on result: 'other:'                                                                                         |
| Serious eye damage/irritation                                            | : Not classified<br>pH: 7 – 11,5                                                                                                                                    |
| <b>2-[2-(2-butoxyethoxy)ethoxy]ethanol (143-22-6)</b>                    |                                                                                                                                                                     |
| pH                                                                       | 7 Temp.: 20 °C Concentration: ]70 vol%,80 vol%] Remarks on result: 'other:'                                                                                         |
| Respiratory or skin sensitisation                                        | : Not classified                                                                                                                                                    |
| Germ cell mutagenicity                                                   | : Not classified                                                                                                                                                    |
| Carcinogenicity                                                          | : Not classified                                                                                                                                                    |
| <b>2,2'-oxydiethanol (111-46-6)</b>                                      |                                                                                                                                                                     |
| NOAEL (chronic, oral, animal/male, 2 years)                              | 1210 mg/kg bodyweight Animal: rat, Animal sex: male                                                                                                                 |
| NOAEL (chronic, oral, animal/female, 2 years)                            | 1160 mg/kg bodyweight Animal: rat, Animal sex: female                                                                                                               |
| Reproductive toxicity                                                    | : Suspected of damaging fertility or the unborn child.                                                                                                              |
| STOT-single exposure                                                     | : Not classified                                                                                                                                                    |
| STOT-repeated exposure                                                   | : Not classified                                                                                                                                                    |
| <b>2-(2-methoxyethoxy)ethanol (111-77-3)</b>                             |                                                                                                                                                                     |
| LOAEL (oral, rat, 90 days)                                               | 1800 mg/kg bodyweight Animal: rat, Animal sex: male, Guideline: OECD Guideline 407 (Repeated Dose 28-Day Oral Toxicity Study in Rodents)                            |
| NOAEL (oral, rat, 90 days)                                               | 900 mg/kg bodyweight Animal: rat, Animal sex: male, Guideline: OECD Guideline 407 (Repeated Dose 28-Day Oral Toxicity Study in Rodents), Remarks on results: other: |
| NOAEC (inhalation, rat, vapour, 90 days)                                 | > 1,06 mg/l air Animal: rat, Guideline: OECD Guideline 413 (Subchronic Inhalation Toxicity: 90-Day Study)                                                           |
| <b>Tris[2-[2-(2-methoxyethoxy)ethoxy]ethyl] orthoborate (30989-05-0)</b> |                                                                                                                                                                     |
| NOAEL (oral, rat, 90 days)                                               | 1000 mg/kg bodyweight/day                                                                                                                                           |
| <b>2-[2-(2-butoxyethoxy)ethoxy]ethanol (143-22-6)</b>                    |                                                                                                                                                                     |
| LOAEL (oral, rat, 90 days)                                               | 1200 mg/kg bodyweight Animal: rat, Guideline: OECD Guideline 408 (Repeated Dose 90-Day Oral Toxicity Study in Rodents)                                              |
| NOAEL (oral, rat, 90 days)                                               | 400 mg/kg bodyweight Animal: rat, Guideline: OECD Guideline 408 (Repeated Dose 90-Day Oral Toxicity Study in Rodents)                                               |
| NOAEL (dermal, rat/rabbit, 90 days)                                      | 4000 mg/kg bodyweight Animal: rat, Guideline: other:                                                                                                                |
| <b>2,2'-oxydiethanol (111-46-6)</b>                                      |                                                                                                                                                                     |
| LOAEL (oral, rat, 90 days)                                               | 40000 mg/kg bodyweight Animal: rat, Guideline: OECD Guideline 407 (Repeated Dose 28-Day Oral Toxicity Study in Rodents)                                             |
| Aspiration hazard                                                        | : Not classified                                                                                                                                                    |
| <b>Kroon-Oil Drauliquid-S DOT 4</b>                                      |                                                                                                                                                                     |
| Viscosity, kinematic                                                     | 5 – 10 mm²/s @ 20°C                                                                                                                                                 |
| <b>Dihydro-3-(tetrapropenyl)furan-2,5-dione (26544-38-7)</b>             |                                                                                                                                                                     |
| Viscosity, kinematic                                                     | 0,428 mm²/s                                                                                                                                                         |

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| Tris[2-[2-(2-methoxyethoxy)ethoxy]ethyl] orthoborate (30989-05-0) |                                                                                                   |
|-------------------------------------------------------------------|---------------------------------------------------------------------------------------------------|
| Viscosity, kinematic                                              | 16,2 mm²/s @20°C                                                                                  |
| 2-[2-(2-butoxyethoxy)ethoxy]ethanol (143-22-6)                    |                                                                                                   |
| Viscosity, kinematic                                              | 9,2 mm²/s Temp.: 'other:' Parameter: 'kinematic viscosity (in mm²/s)' Remarks on result: 'other:' |

### 11.2. Information on other hazards

No additional information available

## SECTION 12: Ecological information

### 12.1. Toxicity

|                                                           |                                                                                                                         |
|-----------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------|
| Ecology - general                                         | : The product is not considered harmful to aquatic organisms nor to cause long-term adverse effects in the environment. |
| Hazardous to the aquatic environment, short-term (acute)  | : Not classified                                                                                                        |
| Hazardous to the aquatic environment, long-term (chronic) | : Not classified                                                                                                        |

| 2-(2-methoxyethoxy)ethanol (111-77-3) |                                                                                                                                             |
|---------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------|
| LC50 - Fish [1]                       | 5741 mg/l Test organisms (species): Pimephales promelas                                                                                     |
| EC50 - Crustacea [1]                  | 1192 mg/l Test organisms (species): Daphnia magna                                                                                           |
| EC50 96h - Algae [1]                  | > 1000 mg/l Test organisms (species): Pseudokirchneriella subcapitata (previous names: Raphidocelis subcapitata, Selenastrum capricornutum) |

| Dihydro-3-(tetrapropenyl)furan-2,5-dione (26544-38-7) |                                                                                                                                          |
|-------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------|
| LC50 - Fish [1]                                       | > 100 mg/l Test organisms (species): Oncorhynchus mykiss (previous name: Salmo gairdneri)                                                |
| EC50 96h - Algae [1]                                  | 110 mg/l Test organisms (species): Pseudokirchneriella subcapitata (previous names: Raphidocelis subcapitata, Selenastrum capricornutum) |

| Tris[2-[2-(2-methoxyethoxy)ethoxy]ethyl] orthoborate (30989-05-0) |            |
|-------------------------------------------------------------------|------------|
| LC50 - Fish [1]                                                   | 222,2 mg/l |
| EC50 - Crustacea [1]                                              | 211,2 mg/l |
| EC50 72h - Algae [1]                                              | 224,2 mg/l |
| NOEC chronic algae                                                | 224,2 mg/l |

| 2-[2-(2-butoxyethoxy)ethoxy]ethanol (143-22-6) |                                                                                                                                           |
|------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------|
| LC50 - Fish [1]                                | 2200 – 4600 mg/l Test organisms (species): Leuciscus idus                                                                                 |
| LC50 - Fish [2]                                | 2400 mg/l Test organisms (species): Pimephales promelas                                                                                   |
| EC50 - Crustacea [1]                           | > 500 mg/l (Daphnia magna, 48h)                                                                                                           |
| EC50 - Other aquatic organisms [1]             | > 5000 mg/l (Microorganisms, 16 h)                                                                                                        |
| EC50 - Other aquatic organisms [2]             | > 500 mg/l                                                                                                                                |
| EC50 72h - Algae [1]                           | 1589 mg/l Test organisms (species): Pseudokirchneriella subcapitata (previous names: Raphidocelis subcapitata, Selenastrum capricornutum) |
| EC50 72h - Algae [2]                           | 3211 mg/l Test organisms (species): Pseudokirchneriella subcapitata (previous names: Raphidocelis subcapitata, Selenastrum capricornutum) |
| ErC50 other aquatic plants                     | 2490 mg/l (Selenastrum capricornutum, 72h)                                                                                                |

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| 2,2'-oxydiethanol (111-46-6) |                                                                                                                                                   |
|------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------|
| LC50 - Fish [1]              | 75200 mg/l Test organisms (species): Pimephales promelas                                                                                          |
| EC50 96h - Algae [1]         | 6500 – 13000 mg/l Test organisms (species): Pseudokirchneriella subcapitata (previous names: Raphidocelis subcapitata, Selenastrum capricornutum) |
| EC50 96h - Algae [2]         | 9362 mg/l Test organisms (species): other:                                                                                                        |
| NOEC (chronic)               | ≥ 1000 mg/l Test organisms (species): Americamysis bahia (previous name: Mysidopsis bahia) Duration: '23 d'                                       |

### 12.2. Persistence and degradability

| Kroon-Oil Drauliquid-S DOT 4                                      |                        |
|-------------------------------------------------------------------|------------------------|
| Persistence and degradability                                     | Rapidly degradable     |
| 2-(2-methoxyethoxy)ethanol (111-77-3)                             |                        |
| Persistence and degradability                                     | Rapidly degradable     |
| Dihydro-3-(tetrapropenyl)furan-2,5-dione (26544-38-7)             |                        |
| Persistence and degradability                                     | Rapidly degradable     |
| Tris[2-[2-(2-methoxyethoxy)ethoxy]ethyl] orthoborate (30989-05-0) |                        |
| Persistence and degradability                                     | Not rapidly degradable |
| 2-[2-(2-butoxyethoxy)ethoxy]ethanol (143-22-6)                    |                        |
| Persistence and degradability                                     | Rapidly degradable     |
| Biodegradation                                                    | 85 % [28d, OECD 301 D] |
| 2,2'-oxydiethanol (111-46-6)                                      |                        |
| Persistence and degradability                                     | Rapidly degradable     |

### 12.3. Bioaccumulative potential

| Tris[2-[2-(2-methoxyethoxy)ethoxy]ethyl] orthoborate (30989-05-0) |         |
|-------------------------------------------------------------------|---------|
| Partition coefficient n-octanol/water (Log Pow)                   | 1 @20°C |
| 2-[2-(2-butoxyethoxy)ethoxy]ethanol (143-22-6)                    |         |
| Partition coefficient n-octanol/water (Log Pow)                   | 0,51    |
| 2,2'-oxydiethanol (111-46-6)                                      |         |
| Partition coefficient n-octanol/water (Log Pow)                   | -1,98   |

### 12.4. Mobility in soil

| 2-[2-(2-butoxyethoxy)ethoxy]ethanol (143-22-6)             |            |
|------------------------------------------------------------|------------|
| Surface tension                                            | 0,0612 N/m |
| Organic Carbon Normalized Adsorption Coefficient (Log Koc) | ≈ 10       |

### 12.5. Results of PBT and vPvB assessment

| Component                                                                                    |                                                |
|----------------------------------------------------------------------------------------------|------------------------------------------------|
| Substance(s) not meeting the PBT criteria of REACH regulation, in accordance with Annex XIII | 2-[2-(2-butoxyethoxy)ethoxy]ethanol (143-22-6) |

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| Component                                                                                     |                                                |
|-----------------------------------------------------------------------------------------------|------------------------------------------------|
| Substance(s) not meeting the vPvB criteria of REACH regulation, in accordance with Annex XIII | 2-[2-(2-butoxyethoxy)ethoxy]ethanol (143-22-6) |

### 12.6. Endocrine disrupting properties

No additional information available

### 12.7. Other adverse effects

No additional information available

## SECTION 13: Disposal considerations

### 13.1. Waste treatment methods

|                                            |                                                                                                                                 |
|--------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------|
| Regional waste regulation                  | : Disposal must be done according to official regulations.                                                                      |
| Waste treatment methods                    | : Dispose of contents/container in accordance with licensed collector's sorting instructions.                                   |
| Sewage disposal recommendations            | : Disposal must be done according to official regulations.                                                                      |
| Product/Packaging disposal recommendations | : Disposal must be done according to official regulations.                                                                      |
| Additional information                     | : Do not re-use empty containers.                                                                                               |
| European List of Waste (LoW, EC 2000/532)  | : 16 01 13* - brake fluids                                                                                                      |
| HP Code                                    | : HP4 - "Irritant – skin irritation and eye damage:" waste which on application can cause skin irritation or damage to the eye. |

## SECTION 14: Transport information

In accordance with ADR / IMDG / IATA / ADN / RID

| ADR                                    | IMDG          | IATA          | ADN           | RID           |
|----------------------------------------|---------------|---------------|---------------|---------------|
| 14.1. UN number or ID number           |               |               |               |               |
| Not regulated for transport            |               |               |               |               |
| 14.2. UN proper shipping name          |               |               |               |               |
| Not regulated                          | Not regulated | Not regulated | Not regulated | Not regulated |
| 14.3. Transport hazard class(es)       |               |               |               |               |
| Not regulated                          | Not regulated | Not regulated | Not regulated | Not regulated |
| 14.4. Packing group                    |               |               |               |               |
| Not regulated                          | Not regulated | Not regulated | Not regulated | Not regulated |
| 14.5. Environmental hazards            |               |               |               |               |
| Not regulated                          | Not regulated | Not regulated | Not regulated | Not regulated |
| No supplementary information available |               |               |               |               |

### 14.6. Special precautions for user

#### Overland transport

Not regulated

#### Transport by sea

Not regulated

#### Air transport

Not regulated

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### Inland waterway transport

Not regulated

### Rail transport

Not regulated

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

Not applicable

## SECTION 15: Regulatory information

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

#### 15.1.1. EU-Regulations

##### REACH Annex XVII (Restriction List)

| EU restriction list (REACH Annex XVII) |                                                                                                                                                                                                                       |                                                                                                                                                                                                                                                                                                                   |
|----------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Reference code                         | Applicable on                                                                                                                                                                                                         | Entry title or description                                                                                                                                                                                                                                                                                        |
| 3(b)                                   | Kroon-Oil Drauliquid-S DOT 4 ; 2-(2-methoxyethoxy)ethanol ; Dihydro-3-(tetrapropenyl)furan-2,5-dione ; Tris[2-[2-(2-methoxyethoxy)ethoxy]ethyl] orthoborate ; 2-[2-(2-butoxyethoxy)ethoxy]ethanol ; 2,2'-oxydiethanol | Substances or mixtures fulfilling the criteria for any of the following hazard classes or categories set out in Annex I to Regulation (EC) No 1272/2008: Hazard classes 3.1 to 3.6, 3.7 adverse effects on sexual function and fertility or on development, 3.8 effects other than narcotic effects, 3.9 and 3.10 |
| 3(c)                                   | Dihydro-3-(tetrapropenyl)furan-2,5-dione                                                                                                                                                                              | Substances or mixtures fulfilling the criteria for any of the following hazard classes or categories set out in Annex I to Regulation (EC) No 1272/2008: Hazard class 4.1                                                                                                                                         |
| 54.                                    | 2-(2-methoxyethoxy)ethanol                                                                                                                                                                                            | 2-(2-methoxyethoxy)ethanol (DEGME)                                                                                                                                                                                                                                                                                |

##### REACH Annex XIV (Authorisation List)

Contains no substance(s) listed on REACH Annex XIV (Authorisation List)

##### REACH Candidate List (SVHC)

Contains no substance(s) listed on the REACH Candidate List

##### PIC Regulation (Prior Informed Consent)

Contains no substance(s) listed on the PIC list (Regulation EU 649/2012 concerning the export and import of hazardous chemicals)

##### POP Regulation (Persistent Organic Pollutants)

Contains no substance(s) listed on the POP list (Regulation EU 2019/1021 on persistent organic pollutants)

##### Ozone Regulation (1005/2009)

Contains no substance(s) listed on the Ozone Depletion list (Regulation EU 1005/2009 on substances that deplete the ozone layer)

##### Dual-Use Regulation (428/2009)

Contains no substance subject to the COUNCIL REGULATION (EC) No 428/2009 of 5 May 2009 setting up a Community regime for the control of exports, transfer, brokering and transit of dual-use items.

##### Biocide Regulation (528/2012)

Child-resistant fastening : Not applicable  
Tactile warning : Applicable

##### Explosives Precursors Regulation (2019/1148)

Contains no substance(s) listed on the Explosives Precursors list (Regulation EU 2019/1148 on the marketing and use of explosives precursors)

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### Drug Precursors Regulation (273/2004)

Contains no substance(s) listed on the Drug Precursors list (Regulation EC 273/2004 on the manufacture and the placing on market of certain substances used in the illicit manufacture of narcotic drugs and psychotropic substances)

### 15.1.2. National regulations

No additional information available

## 15.2. Chemical safety assessment

No chemical safety assessment has been carried out

## SECTION 16: Other information

| Indication of changes |                                                  |          |          |
|-----------------------|--------------------------------------------------|----------|----------|
| Section               | Changed item                                     | Change   | Comments |
|                       | Supersedes                                       | Modified |          |
|                       | Revision date                                    | Modified |          |
|                       | Type of product                                  | Added    |          |
| 1.1                   | Trade name                                       | Modified |          |
| 1.2                   | Function or use category                         | Removed  |          |
| 2.2                   | Precautionary statements (CLP)                   | Modified |          |
| 3                     | Composition/information on ingredients           | Modified |          |
| 4.2                   | Symptoms/effects after inhalation                | Added    |          |
| 5.2                   | Explosion hazard                                 | Added    |          |
| 5.2                   | Fire hazard                                      | Modified |          |
| 5.2                   | Hazardous decomposition products in case of fire | Modified |          |
| 5.3                   | Firefighting instructions                        | Added    |          |
| 6.1                   | Emergency procedures                             | Added    |          |
| 6.1                   | Protective equipment                             | Added    |          |
| 6.1                   | General measures                                 | Added    |          |
| 6.3                   | For containment                                  | Added    |          |
| 7.1                   | Additional hazards when processed                | Added    |          |
| 7.2                   | Technical measures                               | Added    |          |
| 7.2                   | Packaging materials                              | Added    |          |
| 7.2                   | Storage conditions                               | Modified |          |
| 8                     | Generic OEL data                                 | Removed  |          |
| 8.2                   | Personal protective equipment                    | Added    |          |
| 9.1                   | Flash point                                      | Modified |          |
| 9.1                   | Boiling point                                    | Modified |          |
| 10.3                  | Possibility of hazardous reactions               | Modified |          |
| 13.1                  | Waste disposal recommendations                   | Added    |          |
| 13.1                  | Sewage disposal recommendations                  | Added    |          |
| 13.1                  | Additional information                           | Added    |          |

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| Indication of changes |                           |        |          |
|-----------------------|---------------------------|--------|----------|
| Section               | Changed item              | Change | Comments |
| 13.1                  | Regional waste regulation | Added  |          |

| Abbreviations and acronyms: |                                                                                                 |
|-----------------------------|-------------------------------------------------------------------------------------------------|
| ADN                         | European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways |
| ADR                         | European Agreement concerning the International Carriage of Dangerous Goods by Road             |
| ATE                         | Acute Toxicity Estimate                                                                         |
| BCF                         | Bioconcentration factor                                                                         |
| BLV                         | Biological limit value                                                                          |
| BOD                         | Biochemical oxygen demand (BOD)                                                                 |
| COD                         | Chemical oxygen demand (COD)                                                                    |
| DMEL                        | Derived Minimal Effect level                                                                    |
| DNEL                        | Derived-No Effect Level                                                                         |
| EC-No.                      | European Community number                                                                       |
| EC50                        | Median effective concentration                                                                  |
| EN                          | European Standard                                                                               |
| IARC                        | International Agency for Research on Cancer                                                     |
| IATA                        | International Air Transport Association                                                         |
| IMDG                        | International Maritime Dangerous Goods                                                          |
| LC50                        | Median lethal concentration                                                                     |
| LD50                        | Median lethal dose                                                                              |
| LOAEL                       | Lowest Observed Adverse Effect Level                                                            |
| NOAEC                       | No-Observed Adverse Effect Concentration                                                        |
| NOAEL                       | No-Observed Adverse Effect Level                                                                |
| NOEC                        | No-Observed Effect Concentration                                                                |
| OECD                        | Organisation for Economic Co-operation and Development                                          |
| OEL                         | Occupational Exposure Limit                                                                     |
| PBT                         | Persistent Bioaccumulative Toxic                                                                |
| PNEC                        | Predicted No-Effect Concentration                                                               |
| RID                         | Regulations concerning the International Carriage of Dangerous Goods by Rail                    |
| SDS                         | Safety Data Sheet                                                                               |
| STP                         | Sewage treatment plant                                                                          |
| ThOD                        | Theoretical oxygen demand (ThOD)                                                                |
| TLM                         | Median Tolerance Limit                                                                          |
| VOC                         | Volatile Organic Compounds                                                                      |
| CAS-No.                     | Chemical Abstract Service number                                                                |
| N.O.S.                      | Not Otherwise Specified                                                                         |
| vPvB                        | Very Persistent and Very Bioaccumulative                                                        |
| ED                          | Endocrine disrupting properties                                                                 |

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| Full text of H- and EUH-statements: |                                                                                      |
|-------------------------------------|--------------------------------------------------------------------------------------|
| Acute Tox. 4 (Oral)                 | Acute toxicity (oral), Category 4                                                    |
| Aquatic Chronic 4                   | Hazardous to the aquatic environment – Chronic Hazard, Category 4                    |
| EUH208                              | Contains Dihydro-3-(tetrapropenyl)furan-2,5-dione. May produce an allergic reaction. |
| Eye Dam. 1                          | Serious eye damage/eye irritation, Category 1                                        |
| Eye Irrit. 2                        | Serious eye damage/eye irritation, Category 2                                        |
| H302                                | Harmful if swallowed.                                                                |
| H317                                | May cause an allergic skin reaction.                                                 |
| H318                                | Causes serious eye damage.                                                           |
| H319                                | Causes serious eye irritation.                                                       |
| H360D                               | May damage the unborn child.                                                         |
| H361                                | Suspected of damaging fertility or the unborn child.                                 |
| H361d                               | Suspected of damaging the unborn child.                                              |
| H413                                | May cause long lasting harmful effects to aquatic life.                              |
| Repr. 1B                            | Reproductive toxicity, Category 1B                                                   |
| Repr. 2                             | Reproductive toxicity, Category 2                                                    |
| Skin Sens. 1A                       | Skin sensitisation, category 1A                                                      |

Safety Data Sheet (SDS), EU

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.