

SECTION 1: Identification of the substance/mixture and of the company/undertaking**1.1. Product identifier**

Product form : Mixture
Product name : AREOL DCT/DSG FLUID
Product code : AR111, AR156, AR157, AR158
Product group : Blend

1.2. Relevant identified uses of the substance or mixture and uses advised against**1.2.1. Relevant identified uses**

Main use category : Industrial use, Professional use, Consumer use
Industrial/Professional use spec : Non-dispersive use
Used in closed systems
Function or use category : Lubricants and additives

1.2.2. Uses advised against

No additional information available

1.3. Details of the supplier of the safety data sheet

ATH&S GmbH
Bronninghauser str. 26 33729, Bielefeld, Germany
Tel. +49 (0)521/5535919
Tel. +49 (0)521/5535938
Tel. +49 (0)521/5535923
e-mail: info@ath-s.de

1.4. Emergency telephone number

Emergency number : Belgian Anti-Poison Centre, Bruynstraat 1, 1120 Brussels, +32 (0) 70 245 245

| Country | Organisation/Company | Address | Emergency number | Comment |
|---------|---|--|--|---------|
| Ireland | National Poisons Information Centre Beaumont Hospital | PO Box 1297 Beaumont Road 9 Dublin | +353 1 809 2566 (Healthcare professionals- 24/7) +353 1 809 2166 (public, 8am - 10pm, 7/7) | |
| Israel | Israel Poison Information Center Rambam Health Care Campus | 6 Ha'Aliya Street 31096 Haifa | +972 4 854 1900 | |
| Malta | Medicines & Poisons Info Office | Mater Dei Hospital MSD 2090 Msida | +356 2545 6508 | |
| Sweden | Giftinformationscentralen | Box 60 500 171 76 Stockholm | 112 – begär Giftinformation +46 10 456 6700 (Från utlandet) | |

SECTION 2: Hazards identification**2.1. Classification of the substance or mixture****Classification according to Regulation (EC) No. 1272/2008 [CLP]**

Not classified

Adverse physicochemical, human health and environmental effects

No additional information available

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2.2. Label elements

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

EUH-statements : EUH208 - Contains Borate ester. May produce an allergic reaction.
EUH210 - Safety data sheet available on request.

2.3. Other hazards

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

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 is 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

Comments : The mineral oils in the product contain < 3% DMSO extract (IP 346)

| Name | Product identifier | % | Classification according to Regulation (EC) No. 1272/2008 [CLP] |
|---|--|-------------|--|
| Isooctadecanoic acid, reaction products with tetraethylenepentamine | EC-No.: 701-204-9 REACH-no: 01-2119960832-33 | 1 – 1.49 | Skin Irrit. 2, H315 Eye Irrit. 2, H319 |
| Borate ester | EC-No.: 939-580-3 REACH-no: 01-2119976364-28 | 0.1 – 0.49 | Skin Sens. 1B, H317 |
| 2,2'-(C16-18 (evennumbered, C18 unsaturated) alkyl imino) diethanol | CAS-No.: 1218787-32-6 EC-No.: 620-540-6 REACH-no: 01-2119510877-33 | 0.05 – 0.24 | Acute Tox. 4 (Oral), H302 (ATE=500 mg/kg bodyweight) Skin Corr. 1C, H314 Eye Dam. 1, H318 Aquatic Acute 1, H400 (M=10) Aquatic Chronic 1, H410 |

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 after inhalation : Not expected to require first aid measures.
First-aid measures after skin contact : Wash skin with mild soap and water.
First-aid measures after eye contact : In case of eye contact, immediately rinse with clean water for 10-15 minutes.
First-aid measures after ingestion : Do not induce vomiting. Rinse mouth. Get immediate medical advice/attention.

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

Symptoms/effects after inhalation : Not expected to present a significant inhalation hazard under anticipated conditions of normal use.
Symptoms/effects after skin contact : Not expected to present a significant skin hazard under anticipated conditions of normal use.
Symptoms/effects after eye contact : Not expected to present a significant eye contact hazard under anticipated conditions of normal use.

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Symptoms/effects after ingestion : Not expected to present a significant ingestion hazard under anticipated conditions of normal use.

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

No additional information available

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media : Water fog. Foam. Powder. Dry chemical product.
Unsuitable extinguishing media : Do not use a heavy water stream.

5.2. Special hazards arising from the substance or mixture

No additional information available

5.3. Advice for firefighters

Precautionary measures fire : Exercise caution when fighting any chemical fire.
Firefighting instructions : Use water spray or fog for cooling exposed containers.
Protection during firefighting : Do not enter fire area without proper protective equipment, including respiratory protection.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

6.1.1. For non-emergency personnel

Protective equipment : Wear suitable protective clothing and gloves.

6.1.2. For emergency responders

Protective equipment : Wear suitable protective clothing and gloves.

6.2. Environmental precautions

Prevent entry to sewers and public waters. Notify authorities if product enters sewers or public waters.

6.3. Methods and material for containment and cleaning up

For containment : Impound and recover large spill by mixing it with inert granular solids.
Methods for cleaning up : Detergent. Take up liquid spill into absorbent material sand, saw dust, kieselguhr.
Other information : Spill area may be slippery. Use suitable disposal containers.

6.4. Reference to other sections

No additional information available

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling : Avoid all unnecessary exposure. Both local exhaust and general room ventilation are usually required.
Handling temperature : < 40 °C
Hygiene measures : Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work.

7.2. Conditions for safe storage, including any incompatibilities

Storage temperature : ≤ 40 °C
Storage area : Store in dry, cool, well-ventilated area.

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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

| AREOL DCT/DSG FLUID | |
|--|--|
| Belgium - Occupational Exposure Limits | |
| Local name | Huiles minérales (brouillards) # Olie (minerale-; nevel) |
| OEL TWA | 5 mg/m ³ |
| OEL STEL | 10 mg/m ³ |
| Regulatory reference | Koninklijk besluit/Arrêté royal 02/09/2018 |

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

No additional information available

8.2.2. Personal protection equipment

Personal protective equipment:

Safety glasses. Gloves.

Personal protective equipment symbol(s):



8.2.2.1. Eye and face protection

No additional information available

8.2.2.2. Skin protection

Skin and body protection:

No special clothing/skin protection equipment is recommended under normal conditions of use

Hand protection:

Permeation time: minimum >480min long term exposure; material / thickness [mm]: >0,35 mm. Nitrile rubber (NBR) /

8.2.2.3. Respiratory protection

Respiratory protection:

No special respiratory protection equipment is recommended under normal conditions of use with adequate ventilation.

8.2.2.4. Thermal hazards

No additional information available

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8.2.3. Environmental exposure controls

No additional information available

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

| | |
|---|---|
| Physical state | : Liquid |
| Colour | : brown. |
| Appearance | : Oily liquid. |
| Odour | : Characteristic. |
| Odour threshold | : Not available |
| Melting point | : Not available |
| Freezing point | : Not available |
| Boiling point | : Not available |
| Flammability | : Not available |
| Explosive limits | : Not available |
| Lower explosion limit | : Not available |
| Upper explosion limit | : Not available |
| Flash point | : > 180 °C @ ASTM D92 |
| Auto-ignition temperature | : Not available |
| Decomposition temperature | : Not available |
| pH | : Not available |
| Viscosity, kinematic | : 38 mm ² /s @ 40°C |
| Solubility | : Slightly soluble, the product remains on the water surface. |
| Partition coefficient n-octanol/water (Log Kow) | : Not available |
| Vapour pressure | : Not available |
| Vapour pressure at 50°C | : Not available |
| Density | : 849 kg/m ³ @15°C |
| Relative density | : Not available |
| Relative vapour density at 20°C | : Not available |
| Particle characteristics | : Not applicable |

9.2. Other information

9.2.1. Information with regard to physical hazard classes

No additional information available

9.2.2. Other safety characteristics

No additional information available

SECTION 10: Stability and reactivity

10.1. Reactivity

None under normal conditions.

10.2. Chemical stability

Stable under normal conditions.

10.3. Possibility of hazardous reactions

None under normal conditions.

10.4. Conditions to avoid

No data available.

10.5. Incompatible materials

Strong oxidizers. acids. Bases.

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10.6. Hazardous decomposition products

None under normal conditions.

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

Isooctadecanoic acid, reaction products with tetraethylenepentamine

| | |
|-----------------------------------|------------------|
| LD50 oral rat | > 5000 mg/kg |
| LD50 dermal rabbit | > 2000 mg/kg |
| Skin corrosion/irritation | : Not classified |
| Serious eye damage/irritation | : Not classified |
| Respiratory or skin sensitisation | : Not classified |
| Germ cell mutagenicity | : Not classified |
| Carcinogenicity | : Not classified |
| Reproductive toxicity | : Not classified |
| STOT-single exposure | : Not classified |

Isooctadecanoic acid, reaction products with tetraethylenepentamine

| | |
|------------------------|----------------------------------|
| NOAEL (oral, rat) | > 1000 mg/kg bodyweight OECD 421 |
| STOT-repeated exposure | : Not classified |
| Aspiration hazard | : Not classified |

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| | |
|----------------------|------------------------------|
| Viscosity, kinematic | 38 mm ² /s @ 40°C |
|----------------------|------------------------------|

11.2. Information on other hazards

No additional information available

SECTION 12: Ecological information

12.1. Toxicity

Hazardous to the aquatic environment, short-term (acute) : Not classified
Hazardous to the aquatic environment, long-term (chronic) : Not classified

Isooctadecanoic acid, reaction products with tetraethylenepentamine

| | |
|----------------------|----------------------|
| LC50 - Fish [1] | > 1000 mg/l OECD 203 |
| EC50 - Crustacea [1] | > 1000 mg/l OECD 202 |

Borate ester

| | |
|----------------------|--|
| LC50 - Fish [1] | > 100 mg/l (Oncorhynchus mykiss) |
| EC50 - Crustacea [1] | > 100 mg/l (Daphnia magna) |
| EC50 72h - Algae [1] | > 100 mg/l (Selenastrum capricornutum) |
| NOEC (acute) | 32 mg/l @ 2DY (Daphnia magna) |

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2,2'-(C16-18 (evennumbered, C18 unsaturated) alkyl imino) diethanol (1218787-32-6)

| | |
|----------------------|--|
| LC50 - Fish [1] | 0.1 mg/l Brachydanio rerio |
| EC50 - Crustacea [1] | 0.043 mg/l Daphnia magna |
| EC50 72h - Algae [1] | 0.0053 mg/l Pseudokirchneriella subcapitata |
| NOEC chronic algae | 0.0156 mg/l @3DY (Pseudokirchneriella subcapitata) |

12.2. Persistence and degradability

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Persistence and degradability Not soluble in water, so only minimally biodegradable.

Isooctadecanoic acid, reaction products with tetraethylenepentamine

Persistence and degradability Readily biodegradable.

2,2'-(C16-18 (evennumbered, C18 unsaturated) alkyl imino) diethanol (1218787-32-6)

BOD (% of ThOD) 63 % ThOD

12.3. Bioaccumulative potential

Borate ester

Partition coefficient n-octanol/water (Log Kow) 9.4 Calc.

2,2'-(C16-18 (evennumbered, C18 unsaturated) alkyl imino) diethanol (1218787-32-6)

BCF - Fish [1] 110.2 mg/kg

Partition coefficient n-octanol/water (Log Kow) 3.6

12.4. Mobility in soil

No additional information available

12.5. Results of PBT and vPvB assessment

No additional information available

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

Additional information : Dispose in a safe manner in accordance with local/national regulations.

SECTION 14: Transport information

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

14.1. UN number or ID number

UN-No. (ADR) : Not applicable
UN-No. (IMDG) : Not applicable
UN-No. (IATA) : Not applicable

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UN-No. (ADN) : Not applicable
UN-No. (RID) : Not applicable

14.2. UN proper shipping name

Proper Shipping Name (ADR) : Not applicable
Proper Shipping Name (IMDG) : Not applicable
Proper Shipping Name (IATA) : Not applicable
Proper Shipping Name (ADN) : Not applicable
Proper Shipping Name (RID) : Not applicable

14.3. Transport hazard class(es)

ADR
Transport hazard class(es) (ADR) : Not applicable

IMDG
Transport hazard class(es) (IMDG) : Not applicable

IATA
Transport hazard class(es) (IATA) : Not applicable

ADN
Transport hazard class(es) (ADN) : Not applicable

RID
Transport hazard class(es) (RID) : Not applicable

14.4. Packing group

Packing group (ADR) : Not applicable
Packing group (IMDG) : Not applicable
Packing group (IATA) : Not applicable
Packing group (ADN) : Not applicable
Packing group (RID) : Not applicable

14.5. Environmental hazards

Dangerous for the environment : No
Marine pollutant : No
Other information : No supplementary information available

14.6. Special precautions for user

Overland transport
No data available

Transport by sea
No data available

Air transport
No data available

Inland waterway transport
No data available

Rail transport
No data available

14.7. Maritime transport in bulk according to IMO instruments

Not applicable

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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)

Contains no substance(s) listed on REACH Annex XVII (Restriction Conditions)

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)

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)

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

Germany

Water hazard class (WGK) : WGK 2, Significantly hazardous to water (Classification according to AwSV, Annex 1).
Storage class (LGK, TRGS 510) : LGK 10-13 - Other combustible and non-combustible substances.
Hazardous Incident Ordinance (12. BImSchV) : Is not subject of the Hazardous Incident Ordinance (12. BImSchV)

Netherlands

SZW-lijst van kankerverwekkende stoffen : None of the components are listed
SZW-lijst van mutagene stoffen : None of the components are listed
SZW-lijst van reprotoxische stoffen – Borstvoeding : None of the components are listed
SZW-lijst van reprotoxische stoffen – Vruchtbaarheid : None of the components are listed
SZW-lijst van reprotoxische stoffen – Ontwikkeling : None of the components are listed

Sweden

Swedish product registration number : 680531-1

Switzerland

Storage class (LK) : LK 10/12 - Liquids

15.2. Chemical safety assessment

No chemical safety assessment has been carried out for the substance or the mixture by the supplier

SECTION 16: Other information

| Indication of changes | | | |
|-----------------------|---------------|----------|----------|
| Section | Changed item | Change | Comments |
| | Revision date | Modified | |
| | Supersedes | Modified | |

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| Indication of changes | | | |
|-----------------------|---|----------|----------|
| Section | Changed item | Change | Comments |
| 2.1 | Classification according to Regulation (EC) No. 1272/2008 [CLP] | Removed | |
| 15.1 | Water hazard class (WGK) | Modified | |
| 15.1 | Storage class (LGK, TRGS 510) | Added | |

| Abbreviations and acronyms: | |
|-----------------------------|--|
| | ACGIH: American Conference of Governmental Industrial Hygienists |
| | TWA: Time Weighted Average |
| | TLV: Threshold Limit Value |
| | ASTM: American Society for Testing and Materials |
| | ADR: Accord Européen Relatif au Transport International des Marchandises Dangereuses par Route |
| | RID: Regulations Concerning the International Carriage of Dangerous Goods by Rail |
| | ADNR: Accord Européen relatif au Transport International des Marchandises Dangereuses par voie de Navigation du Rhin |
| | IMDG: International Maritime Dangerous Goods |
| | ICAO: International Civil Aviation Organization |
| | IATA: International Air Transport Association |
| | STEL: Short Term Exposure Limit |
| | LD50: median Lethal Dose for 50% of subjects |
| | ATE: acute toxicity estimate |
| | LC50: median Lethal Concentration for 50% of subjects |
| | EC50: concentration producing 50% effect |

Other information

: The information in this SDS was obtained from sources which we believe are reliable. However, the information is provided without any warranty, express or implied, regarding its correctness. The conditions or methods of handling, storage, use or disposal of the product are beyond our control and may be beyond our knowledge. For this and other reasons, we do not assume responsibility and expressly disclaim liability for loss, damage or expense arising out of or in any way connected with the handling, storage, use or disposal of the product. This MSDS was prepared and is to be used only for this product. If the product is used as a component in another product, this MSDS information may not be applicable.

| Full text of H- and EUH-statements: | |
|-------------------------------------|---|
| Acute Tox. 4 (Oral) | Acute toxicity (oral), Category 4 |
| Aquatic Acute 1 | Hazardous to the aquatic environment – Acute Hazard, Category 1 |
| Aquatic Chronic 1 | Hazardous to the aquatic environment – Chronic Hazard, Category 1 |
| EUH208 | Contains Borate ester. May produce an allergic reaction. |
| EUH210 | Safety data sheet available on request. |
| Eye Dam. 1 | Serious eye damage/eye irritation, Category 1 |
| Eye Irrit. 2 | Serious eye damage/eye irritation, Category 2 |
| H302 | Harmful if swallowed. |
| H314 | Causes severe skin burns and eye damage. |

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| Full text of H- and EUH-statements: | |
|-------------------------------------|--|
| H315 | Causes skin irritation. |
| H317 | May cause an allergic skin reaction. |
| H318 | Causes serious eye damage. |
| H319 | Causes serious eye irritation. |
| H400 | Very toxic to aquatic life. |
| H410 | Very toxic to aquatic life with long lasting effects. |
| Skin Corr. 1C | Skin corrosion/irritation, Category 1, Sub-Category 1C |
| Skin Irrit. 2 | Skin corrosion/irritation, Category 2 |
| Skin Sens. 1B | Skin sensitisation, category 1B |

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.