



SAFETY DATA SHEET

according to Regulation (EC) No 1907/2006 (REACH) and Regulation (EU) 2020/878

Eni Brake Fluid DOT 4 Plus

Material number 374

Revision date: 10.2.2023

Version: 4.1

Replaces version: 4.0

Language: en-DE

Date of print: 17.2.2023

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

1.1 Product identifier

Trade name: Eni Brake Fluid DOT 4 Plus

UFI: Y440-F0XN-C00N-K040

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

General use: Brake liquid

1.3 Details of the supplier of the safety data sheet

Company name: Eni Schmiertechnik GmbH

Street/POB-No.: Paradiesstraße 14

Postal Code, city: DE-97080 Würzburg

WWW: www.enischmiertechnik.de

E-mail: info.wuerzburg@eni.com

Telephone: +49 (0)931-90098-0

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Department responsible for information:

Application Engineering & Product Management (AEPM)

Telephone: +49 (0)931-90098-0

E-mail: technik.wuerzburg@eni.com

1.4 Emergency telephone number

GIZ-Nord, Göttingen

Telephone: +49 (0)551-19240

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Classification according to EC regulation 1272/2008 (CLP)

Repr. 2; H361d Suspected of damaging the unborn child.

2.2 Label elements

Labelling (CLP)



Signal word:

Warning

Hazard statements:

H361d

Suspected of damaging the unborn child.

Precautionary statements:

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/protective clothing/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.

Special labelling

Text for labelling:

Contains

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



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2.3 Other hazards

Special danger of slipping by leaking/spilling product.

Endocrine disrupting properties, Results of PBT and vPvB assessment:

No data available

SECTION 3: Composition/information on ingredients

3.1 Substances: not applicable

3.2 Mixtures

Hazardous ingredients:

Identifiers	Designation Classification	Content
REACH 01-2119462824-33-xxxx EC No. 250-418-4 CAS 30989-05-0	Tris[2-[2-(2-methoxyethoxy)ethoxy]ethyl]orthoborate Repr. 2; H361d.	50 - 70 %
REACH 01-2119475444-34-xxxx EC No. 203-820-9 CAS 110-97-4	Diisopropanolamine Eye Irrit. 2; H319.	< 10 %
REACH 01-2119457857-21-xxxx EC No. 203-872-2 CAS 111-46-6	Diethylene glycol Acute Tox. 4; H302.	< 10 %

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

SECTION 4: First aid measures

4.1 Description of first aid measures

General information:	If medical advice is needed, have product container or label at hand. Take off contaminated clothing and wash it before reuse.
In case of inhalation:	If breathing is difficult, remove victim to fresh air and keep at rest in a position comfortable for breathing. Seek medical attention if problems persist.
Following skin contact:	Immediately clean with water and soap followed by thorough rinsing. In case of skin reactions, consult a physician.
After eye contact:	Immediately flush eyes with plenty of flowing water for 10 to 15 minutes holding eyelids apart. Remove contact lenses, if present and easy to do. Continue rinsing. Subsequently consult an ophthalmologist.
After swallowing:	Rinse mouth immediately and drink plenty of water. Never give anything by mouth to an unconscious person. Do not induce vomiting. Seek medical attention.

4.2 Most important symptoms and effects, both acute and delayed

No data available

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: Co-ordinate fire-fighting measures to the fire surroundings.
Water spray jet, foam, extinguishing powder, carbon dioxide.

Extinguishing media which must not be used for safety reasons:

Full water jet



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5.2 Special hazards arising from the substance or mixture

May form dangerous gases and vapours in case of fire.
Furthermore, there may develop: Nitrogen oxides (NOx), carbon monoxide and carbon dioxide.

5.3 Advice for firefighters

Special protective equipment for firefighters:

Wear a self-contained breathing apparatus and chemical protective clothing.

Additional information:

Use fine water spray to cool endangered containers.

In case of major fire and large quantities: Evacuate area. Fight fire remotely due to the risk of explosion.

Do not allow water used to extinguish fire to enter drains, ground or waterways.

Fire residuals and contaminated extinguishing water must be disposed of in accordance with the regulations of the local authorities.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Avoid exposure. Do not breathe mist/vapours/spray. Avoid contact with the substance.

If possible, eliminate leakage. Provide adequate ventilation.

Wear appropriate protective equipment. Keep unprotected people away.

Take off contaminated clothing and wash it before reuse.

6.2 Environmental precautions

Do not allow to enter into ground-water, surface water or drains.

If necessary notify appropriate authorities.

6.3 Methods and material for containment and cleaning up

Absorb with liquid-binding material (e.g. sand, diatomaceous earth, acid- or universal binding agents) and place in closed containers for disposal.

Never return spills in original containers for re-use.

Additional information:

Special danger of slipping by leaking/spilling product.

6.4 Reference to other sections

Refer additionally to section 8 and 13.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Advices on safe handling:

Provide adequate ventilation, and local exhaust as needed. Do not breathe mist/vapours/spray. Do not get in eyes, on skin, or on clothing. Obtain special instructions before use. Wear appropriate protective equipment.

Do not eat, drink or smoke when using this product. Wash hands thoroughly after handling.

Take off contaminated clothing and wash it before reuse.

7.2 Conditions for safe storage, including any incompatibilities

Requirements for storerooms and containers:

Keep container tightly closed and in a well-ventilated place.

Keep container dry. Keep only in the original container.

Protect from heat and direct sunlight.

Store containers in upright position.

Hints on joint storage:

Do not store together with: Strong alkalis, strong oxidizing agents and strong acids

Keep away from food, drink and animal feedingstuffs.

Storage class:

10 = Combustible liquids, unless storage class 3

7.3 Specific end use(s)

No information available.



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SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Occupational exposure limit values:

CAS No.	Designation	Type	Limit value
111-46-6	Diethylene glycol	Germany: TRGS 900 Kurzzeit	176 mg/m ³ ; 40 ppm (Aerosol and vapour)
		Germany: TRGS 900 Langzeit	44 mg/m ³ ; 10 ppm (Aerosol and vapour)

DNEL/DMEL:

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

DNEL workers, long-term, inhalative, systemic: 14,8 mg/m³

DNEL workers, long-term, dermal, systemic: 4,2 mg/kg bw/d

DNEL consumers, long-term, inhalative, systemic: 2,6 mg/m³

DNEL consumers, long-term, dermal, systemic: 1,5 mg/kg bw/d

DNEL consumers, long-term, oral, systemic: 1,5 mg/kg bw/d

Information about Diisopropanolamine:

DNEL workers, long-term, inhalative, systemic: 6,4 mg/m³

DNEL workers, long-term, dermal, systemic: 5 mg/kg bw/d

DNEL workers, long-term, dermal, local: 120 µg/cm²

DNEL consumers, long-term, inhalative, systemic: 3,9 mg/m³

DNEL consumers, long-term, dermal, systemic: 6,3 mg/kg bw/d

DNEL consumers, long-term, oral, systemic: 1,3 mg/kg bw/d

Information about Diethylene glycol:

DNEL workers, long-term, inhalative, systemic: 44 mg/m³

DNEL workers, long-term, inhalative, local: 60 mg/m³

DNEL workers, long-term, dermal, systemic: 43 mg/kg bw/d

DNEL consumers, long-term, inhalative, systemic: 12 mg/m³

DNEL consumers, long-term, inhalative, local: 12 mg/m³

DNEL consumers, long-term, dermal, systemic: 21 mg/kg bw/d

PNEC:

Information about Diisopropanolamine:

PNEC water (freshwater): 0,278 mg/L

PNEC water (marine water): 0,028 mg/L

PNEC sediment (freshwater): 2,33 mg/kg

PNEC sediment (marine water): 0,233 mg/kg

PNEC soil: 0,303 mg/kg

PNEC sewage treatment plant: 15.000 mg/L

Information about Diethylene glycol:

PNEC water (freshwater): 10 mg/L

PNEC water (marine water): 1 mg/L

PNEC sediment (freshwater): 20,9 mg/kg

PNEC sediment (marine water): 2,09 mg/kg

PNEC soil: 1,53 mg/kg

PNEC sewage treatment plant: 199,5 mg/L

8.2 Exposure controls

Provide good ventilation and/or an exhaust system in the work area.

Personal protection equipment

Occupational exposure controls

Respiratory protection: Respiratory protection must be worn whenever the WEL levels have been exceeded.

The filter class must be suitable for the maximum contaminant concentration (gas/vapour/aerosol/particulates) that may arise when handling the product.

Hand protection: Protective gloves according to EN 374

Observe glove manufacturer's instructions concerning penetrability and breakthrough time.

Eye protection: Tightly sealed goggles according to EN 166.

Body protection: Wear suitable protective clothing.



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General protection and hygiene measures:

Obtain special instructions before use. Do not breathe mist/vapours/spray. Do not get in eyes, on skin, or on clothing.
Take off contaminated clothing and wash it before reuse. Do not eat, drink or smoke when using this product. Wash hands thoroughly after handling.

Environmental exposure controls

Refer to "6.2 Environmental precautions".

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Physical state at 20 °C and 101.3 kPa	liquid
Colour:	yellow
Odour:	Characteristic
Odour threshold:	No data available
Melting point/freezing point:	Not determined
Initial boiling point and boiling range:	> 260 °C (FMVSS 116)
Flammability:	No data available
Upper/lower flammability or explosive limits:	LEL (Lower Explosion Limit): 1,50 Vol-% UEL (Upper Explosive Limit): Not determined
Flash point/flash point range:	> 134 °C (DIN EN ISO 2719)
Decomposition temperature:	360 °C
pH:	at 20 °C: 8,5 (FMVSS 116)
Viscosity, kinematic:	at 20 °C: 15 - 17 mm ² /s (FMVSS 116)
Water solubility:	Completely miscible
Partition coefficient: n-octanol/water:	-0,82 log P(o/w) (Diisopropanolamine) Based on the n-octanol/water partition coefficient accumulation in organisms is not expected.
Vapour pressure:	at 20 °C: < 1 hPa
Density:	at 20 °C: 1,06 g/mL (DIN 51757)
Vapour density:	No data available
Particle characteristics:	Not applicable

9.2 Other information

Explosive properties:	Product is not explosive.
Oxidizing characteristics:	No data available
Auto-ignition temperature:	> 200 °C
Solid content:	Not determined
Evaporation rate:	Not determined
Additional information:	Pour point: < -70 °C (DIN 51583)

SECTION 10: Stability and reactivity

10.1 Reactivity

Refer to subsection "Possibility of hazardous reactions".

10.2 Chemical stability

Stable under recommended storage conditions.

10.3 Possibility of hazardous reactions

Product is hygroscopic.



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10.4 Conditions to avoid

Keep away from heat sources, sparks and open flames. Protect from direct sunlight. Protect from moisture contamination.

10.5 Incompatible materials

Strong oxidizing agents, strong acids and strong alkalis.

10.6 Hazardous decomposition products

No decomposition when used properly.

Thermal decomposition: 360 °C

SECTION 11: Toxicological information

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

Toxicological effects: The statements are derived from the properties of the single components. No toxicological data is available for the product as such.

Acute toxicity (oral): Based on available data, the classification criteria are not met.

ATEmix (calculated): > 2.000 mg/kg

Acute toxicity (dermal): Lack of data.

Acute toxicity (inhalative): Lack of data.

Skin corrosion/irritation: Lack of data.

Serious eye damage/irritation: Lack of data.

Sensitisation to the respiratory tract: Lack of data.

Skin sensitisation: Lack of data.

Germ cell mutagenicity/Genotoxicity: Lack of data.

Carcinogenicity: Lack of data.

Reproductive toxicity: Repr. 2; H361d = Suspected of damaging the unborn child.

Effects on or via lactation: Lack of data.

Specific target organ toxicity (single exposure): Lack of data.

Specific target organ toxicity (repeated exposure): Lack of data.

Aspiration hazard: Lack of data.

11.2 Information on other hazards

Endocrine disrupting properties: No data available

Other information: Information about Tris[2-[2-(2-methoxyethoxy)ethoxy]ethyl]orthoborate:

LD50, Rat, oral: > 2.000 mg/kg (OECD 401)

LD50, Rat, dermal: > 2.000 mg/kg (OECD 402)

Information about Diisopropanolamine:

LD50, Rat, oral: > 2.000 mg/kg (OECD 401)

LD50, Rabbit, dermal: 8.000 mg/kg

Information about Diethylene glycol:

ATE, oral: 500 mg/kg

SECTION 12: Ecological information

12.1 Toxicity

Aquatic toxicity: Information about Diisopropanolamine:

Fish toxicity: LC50, Leuciscus idus: > 1.000 - 2.200 mg/L/96h

Water Hazard Class: 1 = slightly hazardous to water (Self-classification (mixture).)



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12.2 Persistence and degradability

Further details: No data available

12.3 Bioaccumulative potential

Partition coefficient: n-octanol/water:

-0,82 log P(o/w) (Diisopropanolamine)

Based on the n-octanol/water partition coefficient accumulation in organisms is not expected.

12.4 Mobility in soil

No data available

12.5 Results of PBT and vPvB assessment

No data available

12.6 Endocrine disrupting properties

No data available

12.7 Other adverse effects

General information: Do not allow to enter into ground-water, surface water or drains.

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Product

Waste key number: 16 01 13* = Brake fluids

* = Evidence for disposal must be provided.

Recommendation: Dispose of waste according to applicable legislation.
Do not dispose of with household waste.

Package

Recommendation: Dispose of waste according to applicable legislation. Handle contaminated packages in the same way as the substance itself.

SECTION 14: Transport information

14.1 UN number or ID number

ADR/RID, ADN, IMDG, IATA-DGR:

not applicable

14.2 UN proper shipping name

ADR/RID, ADN, IMDG, IATA-DGR:

Not restricted

14.3 Transport hazard class(es)

ADR/RID, ADN, IMDG, IATA-DGR:

not applicable

14.4 Packing group

ADR/RID, ADN, IMDG, IATA-DGR:

not applicable

14.5 Environmental hazards

Dangerous for the environment: Substance/mixture is not environmentally hazardous according to the criteria of the UN model regulations.

Marine pollutant - IMDG: no



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14.6 Special precautions for user

No dangerous good in sense of these transport regulations.

14.7 Maritime transport in bulk according to IMO instruments

No data available

SECTION 15: Regulatory information

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

National regulations - Germany

Storage class: 10 = Combustible liquids, unless storage class 3

Water Hazard Class: 1 = slightly hazardous to water (Self-classification (mixture).)

Technical guidance air: 5.2.5

Information on working limitations:

Observe employment restrictions for young people.

Observe employment restrictions for expectant or nursing mothers.

Further regulations, limitations and legal requirements:

The product is not subject to the Chemicals Prohibition Ordinance (ChemVerbotsV).

National regulations - EC member states

Further regulations, limitations and legal requirements:

Use restriction according to REACH annex XVII, no.: 3, 75.

15.2 Chemical Safety Assessment

For this mixture a chemical safety assessment is not required.

SECTION 16: Other information

Wording of the H-phrases under paragraph 2 and 3:

H302 = Harmful if swallowed.

H319 = Causes serious eye irritation.

H361d = Suspected of damaging the unborn child.

Reason of change: General revision

Date of first version: 6.4.2022

Department issuing data sheet: see section 1: Department responsible for information



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Abbreviations and acronyms:

- Acute Tox.: Acute toxicity
- 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
- AS/NZS: Australian Standards/New Zealand Standards
- ATE: Acute toxicity estimate
- CAS: Chemical Abstracts Service
- CFR: Code of Federal Regulations
- CLP: Classification, Labelling and Packaging
- DMEL: Derived minimal effect level
- DNEL: Derived no-effect level
- EC: European Community
- EN: European Standard
- EQ: Excepted quantities
- EU: European Union
- Eye Irrit.: Eye irritation
- IATA: International Air Transport Association
- IATA-DGR: International Air Transport Association – Dangerous Goods Regulations
- IBC Code: International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk
- IMDG Code: International Maritime Dangerous Goods Code
- LC50: Median lethal concentration
- LD50: Lethal dose 50%
- LEL: Lower Explosion Limit
- log P(o/w): Partition coefficient: octanol/water
- MARPOL: Maritime Pollution: The International Convention for the Prevention of Pollution from Ships
- OECD: Organisation for Economic Co-operation and Development
- OEL: Occupational Exposure Limit Value
- OSHA: Occupational Safety and Health Administration
- PBT: Persistent, bioaccumulative and toxic
- PNEC: Predicted no-effect concentration
- REACH: Registration, Evaluation, Authorisation and Restriction of Chemicals
- Repr.: Reproductive toxicity
- RID: Regulations Concerning the International Carriage of Dangerous Goods by Rail
- TLV: Threshold Limit Value
- TRGS: Technical Rules for Hazardous Substances
- vPvB: Very persistent and very bioaccumulative
- WEL: Workplace Exposure Limit

The information in this data sheet has been established to our best knowledge and was up-to-date at time of revision. It does not represent a guarantee for the properties of the product described in terms of the legal warranty regulations.

Most recent product information is available at:
<http://sumdat.net/t3x0e86>

