

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

1.1. Product identifier

Product form : Mixture
Product name : 43920 - BRAKE FLUID DOT 4
Product code : 43920
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

1.2.2. Uses advised against

No additional information available

1.3. Details of the supplier of the safety data sheet

77 Lubricants
1761 JA - The Netherlands
T +31 (0)78 6527652
technical@77lubricants.nl - www.77lubricants.nl

1.4. Emergency telephone number

Emergency number : +31 (0)78 6527652
Monday to Friday: 09:00 - 16:00 (CET)

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)	
United Kingdom	Guy's & St Thomas' Poisons Unit Medical Toxicology Unit, Guy's & St Thomas' Hospital Trust	Avonley Road SE14 5ER London	+44 20 7188 7188	

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

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

Serious eye damage/eye irritation, Category 2 H319
Full text of H statements : see section 16

Adverse physicochemical, human health and environmental effects

Causes serious eye damage.

2.2. Label elements

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

Hazard pictograms (CLP) :



GHS07

Signal word (CLP)

: Warning

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Hazard statements (CLP)	: H319 - Causes serious eye irritation.
Precautionary statements (CLP)	: P102 - Keep out of reach of children. P264 - Wash in contact with skin thoroughly after handling. P280 - Wear protective gloves, protective clothing, eye protection, face protection. P305+P351+P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. P337+P313 - If eye irritation persists: Get medical advice/attention.
UFI	: XRMW-334P-A009-8N75

2.3. Other hazards

Other hazards not contributing to the classification : Attacks some forms of plastics, rubber, and coatings.

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]
2-[2-(2-butoxyethoxy)ethoxy]ethanol	(CAS-No.) 143-22-6 (EC-No.) 205-592-6 (EC Index-No.) 603-183-00-0 (REACH-no) 01-2119531322-53	10 – 50	Eye Dam. 1, H318
2,2'-oxydiethanol	(CAS-No.) 111-46-6 (EC-No.) 203-872-2 (EC Index-No.) 603-140-00-6 (REACH-no) 01-2119457857-21	< 10	Acute Tox. 4 (Oral), H302
2-(2-butoxyethoxy)ethanol	(CAS-No.) 112-34-5 (EC-No.) 203-961-6 (EC Index-No.) 603-096-00-8 (REACH-no) 01-2119475104-44	1 – 10	Eye Irrit. 2, H319
2-(2-methoxyethoxy)ethanol	(CAS-No.) 111-77-3 (EC-No.) 203-906-6 (EC Index-No.) 603-107-00-6 (REACH-no) 01-2119475100-52	< 5	Repr. 2, H361d

Specific concentration limits:

Name	Product identifier	Specific concentration limits
2-[2-(2-butoxyethoxy)ethoxy]ethanol	(CAS-No.) 143-22-6 (EC-No.) 205-592-6 (EC Index-No.) 603-183-00-0 (REACH-no) 01-2119531322-53	(20 ≤C < 30) Eye Irrit. 2, H319 (30 ≤C < 100) Eye Dam. 1, H318

Full text of H-statements: see section 16

SECTION 4: First aid measures

4.1. Description of first aid measures

First-aid measures after inhalation	: Remove person to fresh air and keep comfortable for breathing.
First-aid measures after skin contact	: Wash skin with plenty of water.
First-aid measures after eye contact	: Rinse eyes with water as a precaution. Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention. Call a physician immediately.
First-aid measures after ingestion	: Call a poison center or a doctor if you feel unwell.

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

Symptoms/effects after eye contact : Serious damage to eyes.

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 water jet since it may cause the fire to spread.

5.2. Special hazards arising from the substance or mixture

Hazardous decomposition products in case of fire : Toxic fumes may be released.

5.3. Advice for firefighters

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

6.1.1. For non-emergency personnel

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".

6.2. Environmental precautions

Avoid release to the environment.

6.3. Methods and material for containment and cleaning up

Methods for cleaning up : Take up liquid spill into absorbent material.
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

Precautions for safe handling : Ensure good ventilation of the work station. Avoid contact with skin and eyes. 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

Storage conditions : Store in a well-ventilated place. Keep cool.
Maximum storage period : 5 year
Storage temperature : ≤ 40 °C

7.3. Specific end use(s)

No additional information available

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SECTION 8: Exposure controls/personal protection

8.1. Control parameters

2,2'-oxydiethanol (111-46-6)

Austria - Occupational Exposure Limits

MAK (mg/m ³)	44 mg/m ³
MAK (ppm)	10 ppm
MAK Short time value (mg/m ³)	176 mg/m ³
MAK Short time value (ppm)	40 ppm

Denmark - Occupational Exposure Limits

Grænsevædi (8 timer) (mg/m ³)	11 mg/m ³
Grænsevædi (8 timer) (ppm)	2,5 ppm
Grænsevædi (STEL) (mg/m ³)	22 mg/m ³
Grænsevædi (STEL) (ppm)	5 ppm

Latvia - Occupational Exposure Limits

OEL TWA (mg/m ³)	10 mg/m ³
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Sweden - Occupational Exposure Limits

nivågränsvärde (NVG) (mg/m ³)	45 mg/m ³
nivågränsvärde (NVG) (ppm)	10 ppm
kortidsvärde (KTV) (mg/m ³)	90 mg/m ³
kortidsvärde (KTV) (ppm)	20 ppm

United Kingdom - Occupational Exposure Limits

WEL TWA (mg/m ³)	101 mg/m ³
WEL TWA (ppm)	23 ppm

Switzerland - Occupational Exposure Limits

MAK (mg/m ³)	44 mg/m ³
MAK (ppm)	10 ppm
KZGW (mg/m ³)	176 mg/m ³
KZGW (ppm)	40 ppm

2-(2-methoxyethoxy)ethanol (111-77-3)

Belgium - Occupational Exposure Limits

Limit value (mg/m ³)	50,1 mg/m ³
Limit value (ppm)	10 ppm

Denmark - Occupational Exposure Limits

Grænsevædi (8 timer) (ppm)	25 ppm
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France - Occupational Exposure Limits

VME (mg/m ³)	50,1 mg/m ³
VME (ppm)	10 ppm
VLE (mg/m ³)	0 mg/m ³

Netherlands - Occupational Exposure Limits

Local name	2-(Methoxyethoxy)ethanol
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Grenswaarde TGG 8H (mg/m ³)	45 mg/m ³
Remark (MAC)	H (Huidopname) Stoffen die relatief gemakkelijk door de huid kunnen worden opgenomen, hetgeen een substantiële bijdrage kan betekenen aan de totale inwendige blootstelling, hebben in de lijst een H-aanduiding. Bij deze stoffen moeten naast maatregelen tegen inademing ook adequate maatregelen ter voorkoming van huidcontact worden genomen.
Regulatory reference	Arbeidsomstandighedenregeling 2020
Poland - Occupational Exposure Limits	
NDS (mg/m ³)	50 mg/m ³
Spain - Occupational Exposure Limits	
VLA-ED (mg/m ³)	50,1 mg/m ³
VLA-ED (ppm)	10 ppm
United Kingdom - Occupational Exposure Limits	
WEL TWA (mg/m ³)	50,1 mg/m ³
WEL TWA (ppm)	10 ppm

2-(2-butoxyethoxy)ethanol (112-34-5)

Latvia - Occupational Exposure Limits

OEL TWA (mg/m ³)	67,5 mg/m ³
OEL TWA (ppm)	10 ppm
OEL STEL (mg/m ³)	101,2 mg/m ³
OEL STEL (ppm)	15 ppm

Netherlands - Occupational Exposure Limits

Local name	2-(2-Butoxyethoxy)ethanol
Grenswaarde TGG 8H (mg/m ³)	50 mg/m ³
Grenswaarde TGG 15MIN (mg/m ³)	100 mg/m ³
Remark (MAC)	H (Huidopname) Stoffen die relatief gemakkelijk door de huid kunnen worden opgenomen, hetgeen een substantiële bijdrage kan betekenen aan de totale inwendige blootstelling, hebben in de lijst een H-aanduiding. Bij deze stoffen moeten naast maatregelen tegen inademing ook adequate maatregelen ter voorkoming van huidcontact worden genomen.
Regulatory reference	Arbeidsomstandighedenregeling 2020

Poland - Occupational Exposure Limits

NDS (mg/m ³)	67,5 mg/m ³
NDSCh (mg/m ³)	100 mg/m ³

Spain - Occupational Exposure Limits

VLA-ED (mg/m ³)	67,5 mg/m ³
VLA-ED (ppm)	10 ppm
VLA-EC (mg/m ³)	101,2 mg/m ³
VLA-EC (ppm)	15 ppm

Sweden - Occupational Exposure Limits

nivågränsvärde (NVG) (mg/m ³)	100 mg/m ³
nivågränsvärde (NVG) (ppm)	15 ppm
kortidsvärde (KTV) (mg/m ³)	200 mg/m ³
kortidsvärde (KTV) (ppm)	30 ppm

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United Kingdom - Occupational Exposure Limits	
WEL TWA (mg/m ³)	67,5 mg/m ³
WEL TWA (ppm)	10 ppm
WEL STEL (mg/m ³)	101,2 mg/m ³
WEL STEL (ppm)	15 ppm
Switzerland - Occupational Exposure Limits	
MAK (mg/m ³)	50 mg/m ³
KZGW (mg/m ³)	100 mg/m ³
USA - ACGIH - Occupational Exposure Limits	
ACGIH TWA (mg/m ³)	67,5 mg/m ³
ACGIH TWA (ppm)	10 ppm
ACGIH STEL (mg/m ³)	101,2
ACGIH STEL (ppm)	15 ppm

8.2. Exposure controls

Appropriate engineering controls:

Use adequate ventilation to keep oil mist below applicable standard. Use splash goggles when eye contact due to splashing is possible. Ocular shower with suitable liquid.

Personal protective equipment:

Gloves. Safety glasses. Protective clothing. Avoid all unnecessary exposure.

Materials for protective clothing:

Wear suitable protective clothing

Hand protection:

Breakthrough time : refer to the recommendations of the supplier

Eye protection:

Chemical goggles or safety glasses. Use splash goggles when eye contact due to splashing is possible. EN 166

Skin and body protection:

Avoid prolonged and repeated contact with skin. If repeated skin contact or contamination of clothing is likely, protective clothing should be worn

Respiratory protection:

Where excessive vapour, mist, or dust may result, use approved respiratory protection equipment. Particle filter. EN 143

Personal protective equipment symbol(s):



Environmental exposure controls:

Avoid release to the environment.

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SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	: Liquid
Colour	: amber.
Odour	: No data available
Odour threshold	: No data available
pH	: 7 – 11,5 SAE J 1703
Relative evaporation rate (butylacetate=1)	: < 0,1
Melting point	: < -50 °C Not applicable
Freezing point	: No data available
Boiling point	: > 260 °C SAE J 1703
Flash point	: > 100 °C IP 35
Auto-ignition temperature	: > 300 °C
Decomposition temperature	: > 300 °C
Flammability (solid, gas)	: Not applicable
Vapour pressure	: < 2 mbar @20°C Reid
Relative vapour density at 20 °C	: > 1
Relative density	: No data available
Density	: 1,02 – 1,07 kg/l DIN 51757
Solubility	: Soluble in water. Water: 100 % Ethanol: 100 %
Partition coefficient n-octanol/water (Log Pow)	: < 2
Viscosity, kinematic	: 10 – 20 mm ² /s @20°C
Viscosity, dynamic	: No data available
Explosive properties	: No data available
Oxidising properties	: No data available
Explosive limits	: 0,6 – 7 vol %

9.2. Other information

No additional information available

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.

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SECTION 11: Toxicological information

11.1. Information on toxicological effects

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

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LD50 oral (rat)	≥ 5000 mg/kg
LD50 dermal (rat)	≥ 3000 mg/kg

Skin corrosion/irritation : Not classified
pH: 7 – 11,5 SAE J 1703
Serious eye damage/irritation : Causes serious eye irritation.
pH: 7 – 11,5 SAE J 1703
Respiratory or skin sensitisation : Not classified
Germ cell mutagenicity : Not classified
Carcinogenicity : Not classified
Reproductive toxicity : Not classified
STOT-single exposure : Not classified
STOT-repeated exposure : Not classified
Aspiration hazard : Not classified

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Viscosity, kinematic	10 – 20 mm ² /s @20°C

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

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LC50 fish 1	≥ 100 mg/l Oncorhynchus Mykiss

12.2. Persistence and degradability

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Biodegradation	100 % 21 days.

12.3. Bioaccumulative potential

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Partition coefficient n-octanol/water (Log Pow)	< 2

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2-[2-(2-butoxyethoxy)ethoxy]ethanol (143-22-6)

Partition coefficient n-octanol/water (Log Pow)	0,51
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12.4. Mobility in soil

No additional information available

12.5. Results of PBT and vPvB assessment

No additional information available

12.6. Other adverse effects

No additional information available

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Waste treatment methods	: Dispose of contents/container in accordance with licensed collector's sorting instructions.
European List of Waste (LoW) code	: 16 01 13* - brake fluids

SECTION 14: Transport information

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

14.1. UN number

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

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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. Transport in bulk according to Annex II of Marpol and the IBC Code

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

Contains no REACH substances with Annex XVII restrictions

Contains no substance on the REACH candidate list

Contains no REACH Annex XIV substances

Contains no substance subject to Regulation (EU) No 649/2012 of the European Parliament and of the Council of 4 July 2012 concerning the export and import of hazardous chemicals.

Contains no substance subject to Regulation (EU) No 2019/1021 of the European Parliament and of the Council of 20 June 2019 on persistent organic pollutants

15.1.2. National regulations

Germany

Water hazard class (WGK) : WGK 1, Slightly hazardous to water (Classification according to AwSV, Annex 1)

Hazardous Incident Ordinance (12. BImSchV) : Is not subject of the Hazardous Incident Ordinance (12. BImSchV)

Netherlands

Ministry's list of carcinogens : None of the components are listed

Ministry's list of mutagens : None of the components are listed

NON-exhaustive list of reproductive toxins - : None of the components are listed

Breastfeeding

NON-exhaustive list of reproductive toxins - Fertility : None of the components are listed

NON-exhaustive list of reproductive toxins - Evolution : 2-(2-methoxyethoxy)ethanol is listed

Evolution

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
	Issue date	Modified	
	Supersedes	Removed	

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2.2	Precautionary statements (CLP)	Modified	
3	Composition/information on ingredients	Modified	

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
CLP	Classification Labelling Packaging Regulation; Regulation (EC) No 1272/2008
DMEL	Derived Minimal Effect level
DNEL	Derived-No Effect Level
EC50	Median effective concentration
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
REACH	Registration, Evaluation, Authorisation and Restriction of Chemicals Regulation (EC) No 1907/2006
PNEC	Predicted No-Effect Concentration
PBT	Persistent Bioaccumulative Toxic
RID	Regulations concerning the International Carriage of Dangerous Goods by Rail
SDS	Safety Data Sheet
vPvB	Very Persistent and Very Bioaccumulative

Full text of H- and EUH-statements:

Acute Tox. 4 (Oral)	Acute toxicity (oral), Category 4
Eye Dam. 1	Serious eye damage/eye irritation, Category 1
Eye Irrit. 2	Serious eye damage/eye irritation, Category 2
Repr. 2	Reproductive toxicity, Category 2
H302	Harmful if swallowed.
H318	Causes serious eye damage.
H319	Causes serious eye irritation.
H361d	Suspected of damaging the unborn child.

SDS EU (REACH Annex II)

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