

Brake Fluid DOT 4 ESPRevision nr : 8.0
Issue date : 18/11/2024
Supersedes : 04/11/2022**SECTION 1: Identification of the substance/mixture and of the company/undertaking****1.1. Product identifier**Product form : Mixture
Trade name : Brake Fluid DOT 4 ESP
UFI : 9D05-000D-Q009-QPCK
Product Code : 1810, 5635**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 : Consumer use, Industrial use, Professional use
Use of the substance/mixture : Brake Fluids**1.2.2. Uses advised against**

No additional information available

1.3. Details of the supplier of the safety data sheet**Supplier****Granville Oil & Chemicals Ltd**
29 Goldthorpe Ind. Est
Goldthorpe
Rotherham
South Yorkshire
S63 9BL
T 01709 890099
lab@granvilleoil.com**Other****Veedol Ireland Ltd**
77 Camden Street Lower
Saint Kevin's
Dublin
Ireland
D02 XE80
T +353 151 363 47**1.4. Emergency telephone number**

Emergency number : +44 (0)1709 890099

Country/Area	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)	

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 H361fd

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

Adverse physicochemical, human health and environmental effects

No additional information available

2.2. Label elements

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

Hazard pictograms (CLP)

:



GHS08

Signal word

: Warning

Contains

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

Hazard statements (CLP)

: H361fd - Suspected of damaging fertility. Suspected of damaging 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, protective clothing, eye protection, face protection.
P308+P313 - IF exposed or concerned: Get medical advice, medical attention.
P405 - Store locked up.
P501 - Dispose of contents and container to an approved waste disposal plant.
EUH208 - Contains . May produce an allergic reaction.
Not applicable
Applicable

Extra phrases

Child-resistant fastening

Tactile warning

2.3. Other hazards

Other hazards

: Results of PBT and vPvB assessment : Contains no PBT and/or 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 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

Substance 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 EC-No.: 250-418-4	< 60	Repr. 2, H361fd
2-[2-(2-butoxyethoxy)ethoxy]ethanol; TEGBE; triethylene glycol monobutylether; butoxytriethylene glycol	CAS-No.: 143-22-6 EC-No.: 205-592-6 EC Index: 603-183-00-0	≤ 10	Eye Dam. 1, H318
2-(2-methoxyethoxy)ethanol; diethylene glycol monomethyl ether substance with a Community workplace exposure limit	CAS-No.: 111-77-3 EC-No.: 203-906-6 EC Index: 603-107-00-6	< 3	Repr. 1B, H360D
Dihydro-3-(tetrapropenyl)furan-2,5-dione	CAS-No.: 26544-38-7 EC-No.: 247-781-6 REACH-no: 01-2119979080-37-XXXX	< 0.1	Eye Irrit. 2, H319 Skin Sens. 1A, H317 Aquatic Chronic 4, H413

Specific concentration limits:

Substance name	Product identifier	Specific concentration limits (%)
2-[2-(2-butoxyethoxy)ethoxy]ethanol; TEGBE; triethylene glycol monobutylether; butoxytriethylene glycol	CAS-No.: 143-22-6 EC-No.: 205-592-6 EC Index: 603-183-00-0	(20 ≤ C < 30) Eye Irrit. 2; H319 (30 ≤ C < 100) Eye Dam. 1; H318
2-(2-methoxyethoxy)ethanol; diethylene glycol monomethyl ether	CAS-No.: 111-77-3 EC-No.: 203-906-6 EC Index: 603-107-00-6	(3 ≤ C ≤ 100) Repr. 1B; H360D
Dihydro-3-(tetrapropenyl)furan-2,5-dione	CAS-No.: 26544-38-7 EC-No.: 247-781-6 REACH-no: 01-2119979080-37-XXXX	(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

Additional advice	: First aider: Pay attention to self-protection!. Concerning personal protective equipment to use, see section 8. Never give anything by mouth to an unconscious person. In case of doubt or persistent symptoms, consult always a physician. Show this safety data sheet to the doctor in attendance.
Inhalation	: Remove casualty to fresh air and keep warm and at rest. In case of doubt or persistent symptoms, consult always a physician.
Skin contact	: Remove contaminated clothing and shoes. Gently wash with plenty of soap and water. In case of doubt or persistent symptoms, consult always a physician.

- Eyes contact : Rinse immediately carefully and thoroughly with eye-bath or water. Remove contact lenses, if present and easy to do. Continue rinsing. In case of doubt or persistent symptoms, consult always a physician.
- Ingestion : Rinse mouth thoroughly with water. Get medical advice/attention.

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

- Inhalation : Health injuries are not known or expected under normal use.
- Skin contact : May cause an allergic skin reaction. The following symptoms may occur: Redness.
- Eyes contact : The following symptoms may occur: Eye irritation, Redness.
- Ingestion : May cause gastrointestinal irritation, nausea, vomiting and diarrhoea.
- Chronic symptoms : Suspected of damaging fertility. Suspected of damaging the unborn child.

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 : carbon dioxide (CO₂), powder, alcohol-resistant foam, water spray.
- Unsuitable extinguishing media : Strong water jet.

5.2. Special hazards arising from the substance or mixture

- Specific hazards : Heating will cause a rise in pressure with a risk of bursting.
- Hazardous decomposition products in case of fire : Carbon oxides (CO, CO₂), BOx.

5.3. Advice for firefighters

- Firefighting instructions : Evacuate area. Use water spray or fog for cooling exposed containers. Contain the extinguishing fluids by bunding. Prevent fire fighting water from entering the environment.
- Protection during firefighting : Do not attempt to take action without suitable protective equipment. Self-contained breathing apparatus.
- Other information : Do not allow run-off from fire-fighting to enter drains or water courses. Dispose of waste in accordance with environmental legislation.

SECTION 6: Accidental release measures**6.1. Personal precautions, protective equipment and emergency procedures****6.1.1. For non-emergency personnel**

For non-emergency personnel : Evacuate unnecessary personnel. Keep upwind. Provide adequate ventilation. Do not breathe vapours. Avoid contact with skin, eyes and clothing. Wear recommended personal protective equipment. Concerning personal protective equipment to use, see section 8. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

6.1.2. For emergency responders

For emergency responders : Ensure procedures and training for emergency decontamination and disposal are in place. Concerning personal protective equipment to use, see section 8.

6.2. Environmental precautions

Do not allow to enter into surface water or drains. Notify authorities if product enters sewers or public waters.

6.3. Methods and material for containment and cleaning up

Methods for cleaning up : Stop leak if safe to do so. Dam up the liquid spill. Small quantities of liquid spill: take up in non-combustible absorbent material and shovel into container for disposal. Recover large spills by pumping (use an explosion proof or hand pump). Place in a suitable container for disposal in accordance with the waste regulations (see Section 13). This material and its container must be disposed of in a safe way, and as per local legislation.

6.4. Reference to other sections

Concerning personal protective equipment to use, see section 8. Concerning disposal elimination after cleaning, see section 13.

SECTION 7: Handling and storage**7.1. Precautions for safe handling**

Precautions for safe handling : Provide adequate ventilation. Do not breathe vapours. Avoid contact with skin, eyes and clothing. Use personal protective equipment as required. Concerning personal protective equipment to use, see section 8. Take any precaution to avoid mixing with Incompatible materials, Refer to Section 10 on Incompatible Materials. Ensure proper process control to avoid excess waste discharge (temperature, concentration, pH, time). Avoid release to the environment. Obtain special instructions before use. Do not handle until all safety precautions have been read and understood.

Hygiene measures : Keep good industrial hygiene. Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work. Do not eat, drink or smoke when using this product. Keep away from food, drink and animal feedingstuffs. Remove contaminated clothes. Separate working clothes from town clothes. Launder separately. Wash contaminated clothing before reuse.

7.2. Conditions for safe storage, including any incompatibilities

Technical measures : Keep out of reach of children.

Storage conditions : Keep container tightly closed. Store locked up. Store in a dry, cool and well-ventilated place. Do not store near or with any of the incompatible materials listed in section 10. Bund storage facilities to prevent soil and water pollution in the event of spillage.

Incompatible materials : Keep away from strong acids, strong bases and oxidizing agents.

Heat and ignition sources : Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

Special rules on packaging : Tactile warning (EN/ISO 11683). Containers which are opened should be properly resealed and kept upright to prevent leakage. Keep in properly labelled containers.

Packaging materials : Keep only in the original container.

Germany

German storage class (LGK) : LGK 12 - Non-combustible liquids

7.3. Specific end use(s)

brake fluids.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

8.1.1 National occupational exposure and biological limit values

2-(2-methoxyethoxy)ethanol; diethylene glycol monomethyl ether (111-77-3)	
EU - Indicative Occupational Exposure Limit (IOEL)	
Local name	2-(2-Methoxyethoxy)ethanol
IOEL TWA	50,1 mg/m ³
	10 ppm
Remark	Possibility of significant uptake through the skin
Regulatory reference	COMMISSION DIRECTIVE 2006/15/EC
Albania - Occupational Exposure Limits	
Local name	(Metoksi-2-etoksi)- 2- etanol

2-(2-methoxyethoxy)ethanol; diethylene glycol monomethyl ether (111-77-3)

OEL TWA	50,1 mg/m ³
	10 ppm
Remark	Lëkurë (tregon mundësinë e një marrjeje të rëndësishme nëpërmjet lëkurës)
Regulatory reference	VENDIM Nr. 522, datë 6.8.2014 PËR MIRATIMIN E RREGULLORES "PËR MBROJTJEN E SIGURISË DHE SHËNDETIT TË PUNËMARRËSVE NGA RISQET E LIDHURA ME AGJENTËT KIMIKË NË PUNË"

Austria - Occupational Exposure Limits

Local name	2-(2-Methoxyethoxy)-ethanol
MAK (OEL TWA)	50,1 mg/m ³
	10 ppm
Remark	H. Fortpflanzungsgefährdend: d
OEL chemical category	Skin notation
Regulatory reference	BGBl. II Nr. 156/2021

Belgium - Occupational Exposure Limits

Local name	2-(2-Méthoxyéthoxy)éthanol # 2-(2-Methoxyethoxy)ethanol
OEL TWA	50,1 mg/m ³
	10 ppm
Remark	D: la mention "D" signifie que la résorption de l'agent, via la peau, les muqueuses ou les yeux, constitue une partie importante de l'exposition totale. Cette résorption peut se faire tant par contact direct que par présence de l'agent dans l'air. # D: de vermelding "D" betekent dat de opname van het agens via de huid, de slijmvliezen of de ogen een belangrijk deel van de totale blootstelling vormt. Deze opname kan het gevolg zijn van zowel direct contact als zijn aanwezigheid in de lucht.
OEL chemical category	Skin, Skin notation
Regulatory reference	Koninklijk besluit/Arrêté royal 16/11/2023

Bulgaria - Occupational Exposure Limits

Local name	2-(2-Метоксиетокси) етанол
OEL TWA	50,1 mg/m ³
	10 ppm
Remark	Кожа (възможна е значителна резорбция чрез кожата); • (Химични агенти, за които са определени гранични стойности във въздуха на работната среда за Европейската общност)
Regulatory reference	Наредба № 13 от 30.12.2003 г. за защита на работещите от рискове, свързани с експозиция на химични агенти при работа (изм. и доп. ДВ. бр. 28 от 2024 г., в сила от 05.04.2024 г.)

2-(2-methoxyethoxy)ethanol; diethylene glycol monomethyl ether (111-77-3)
Croatia - Occupational Exposure Limits

Local name	2-(2-Metoksietoksi)etanol; dietilen-glikol monometil-eter
GVI (OEL TWA)	50,1 mg/m ³
	10 ppm
Remark	Direktiva: 2006/15/EZ. Napomena: Koža (razvrstana kao tvar koja nadražuje kožu (H315))
OEL chemical category	Skin notation
Regulatory reference	Pravilnik o zaštiti radnika od izloženosti opasnim kemikalijama na radu, graničnim vrijednostima izloženosti i biološkim graničnim vrijednostima (NN 148/2023)

Croatia - Biological limit values

Local name	2-(2-Metoksietoksi)etanol
BLV	15 mg/g creatinine Parameter: Methoxyacetic acid - Medium: urine - Sampling time: at the end of the work shift (calculated on the average Creatinine value of 1.2 g/L urine)
Regulatory reference	Pravilnik o zaštiti radnika od izloženosti opasnim kemikalijama na radu, graničnim vrijednostima izloženosti i biološkim graničnim vrijednostima (NN 91/2018)

Cyprus - Occupational Exposure Limits

Local name	2-(2-Μεθοξαιθοξυ)αιθανόλη
OEL TWA	50,1 mg/m ³
	10 ppm
OEL chemical category	Skin-potential for cutaneous absorption
Remark	δέρμα
Regulatory reference	Κανονισμοί του 2007 (Κ.Δ.Π. 295/2007)

Czech Republic - Occupational Exposure Limits

Local name	2-(2-Methoxyethoxy)ethanol (Diethylenglykol monomethylether)
PEL (OEL TWA)	50 mg/m ³
	10 ppm
NPK-P (OEL C)	100 mg/m ³
	20 ppm
Remark	D - při expozici se významně uplatňuje pronikání faktoru kůží.
OEL chemical category	Potential for cutaneous absorption
Regulatory reference	Nařízení vlády č. 361/2007 Sb. (Předpis 330/2023 Sb.)

2-(2-methoxyethoxy)ethanol; diethylene glycol monomethyl ether (111-77-3)
Denmark - Occupational Exposure Limits

Local name	Diethylenglycolmonomethylether
OEL TWA	50 mg/m ³
	10 ppm
OEL STEL	100 mg/m ³
	20 ppm
Remark	E (betyder, at stoffet har en EF-grænseværdi); H (betyder, at stoffet kan optages gennem huden)
OEL chemical category	Potential for cutaneous absorption
Regulatory reference	BEK nr 291 af 19/03/2024

Finland - Occupational Exposure Limits

Local name	2-(2-Metoksietoksi)etanoli
HTP (OEL TWA)	50 mg/m ³
	10 ppm
Remark	Iho
OEL chemical category	Potential for cutaneous absorption
Regulatory reference	HTP-ARVOT 2020 (Sosiaali- ja terveystministeriö)

France - Occupational Exposure Limits

Local name	2-(2-Méthoxyéthoxy)éthanol
VME (OEL TWA)	50,1 mg/m ³ (indicative limit)
	10 ppm (indicative limit)
Remark	Valeurs réglementaires indicatives. Risque de pénétration percutanée, Toxique pour la reproduction de catégorie 1B dans la 18ième ATP
OEL chemical category	Reproductive Toxin category 2, Risk of cutaneous absorption
Regulatory reference	Arrêté du 30 juin 2004 modifié (réf.: INRS ED 6443, 2022; Outil65; Arrêté du 26 octobre 2007)

Germany - Occupational Exposure Limits (TRGS 900)

Local name	2-(2-Methoxyethoxy)ethanol [Diethylenglykolmonomethylether (DEGME)]
Occupational exposure limit value (mg/m ³) (TRGS900)	50 mg/m ³ (the risk of damage to the embryo or fetus can be excluded when AGW and BGW values are observed)
Occupational exposure limit value (ppm) (TRGS900)	10 ppm (the risk of damage to the embryo or fetus can be excluded when AGW and BGW values are observed)
Peak exposure limitation factor	8(II)

2-(2-methoxyethoxy)ethanol; diethylene glycol monomethyl ether (111-77-3)

Remark	DFG - Senatskommission zur Prüfung gesundheitsschädlicher Arbeitsstoffe der DFG (MAK-Kommission); EU - Europäische Union (Von der EU wurde ein Luftgrenzwert festgelegt: Abweichungen bei Wert und Spitzenbegrenzung sind möglich); H - hautresorptiv; Z - Ein Risiko der Fruchtschädigung kann auch bei Einhaltung des AGW und des BGW nicht ausgeschlossen werden; 11 - Summe aus Dampf und Aerosolen
Chemical category	Skin notation
Regulatory reference	TRGS900

Germany - Biological limit values (TRGS 903)

Local name	Diethylenglykolmonomethylether
Biological limit value	15 mg/g creatinine Parameter: Methoxyessigsäure - Untersuchungsmaterial: U = Urin - Probenahmezeitpunkt: i) am Schichtende am Ende der Arbeitswoche nach mindestens 2-wöchiger Exposition - Festlegung/Begründung: 05/2024 DFG
Regulatory reference	TRGS 903

Gibraltar - Occupational Exposure Limits

Local name	2-(2-Methoxyethoxy)ethanol
OEL TWA	50,1 mg/m ³ 10 ppm
Remark	Skin
OEL chemical category	Skin notation
Regulatory reference	Factories (Control of Chemical Agents at Work) Regulations 2003 (LN. 2018/181)

Greece - Occupational Exposure Limits

Local name	2-(2-μεθοξυαιθοξυ)αιθανόλη
OEL TWA	50,1 mg/m ³ 10 ppm
OEL chemical category	skin - potential for cutaneous absorption
Remark	Η ένδειξη «δέρμα» στις οριακές τιμές επαγγελματικής έκθεσης επισημαίνει το ενδεχόμενο σημαντικής διείσδυσης μέσω του δέρματος.
Regulatory reference	Π.Δ. 162/2007 - Προστασία της υγείας των εργαζομένων που εκτίθενται σε ορισμένους χημικούς παράγοντες κατά τη διάρκεια της εργασίας τους

Hungary - Occupational Exposure Limits

Local name	2-(2-METOXIETOXI)-ETANOL
AK (OEL TWA)	50,1 mg/m ³

2-(2-methoxyethoxy)ethanol; diethylene glycol monomethyl ether (111-77-3)

Remark	EU2 (2006/15/EK irányelvben közölt érték); R+T (Azok az anyagok, amelyek RÖVID és TARTÓS expozíciója is egészségkárosodást okoz)
Regulatory reference	5/2020. (II. 6.) ITM rendelet - A kémiai kóroki tényezők hatásának kitett munkavállalók egészségének és biztonságának védelméről

Ireland - Occupational Exposure Limits

Local name	2-(2-Methoxyethoxy)ethanol
OEL TWA	50,1 mg/m ³
	10 ppm
OEL STEL	150,3 mg/m ³ (calculated)
	30 ppm (calculated)
Remark	IOELV (Indicative Occupational Exposure Limit Values), Skin (Substances which have the capacity to penetrate intact skin when they come in contact with it and be absorbed into the body. A substantial contribution to the total body burden via dermal exposure is possible)
OEL chemical category	Potential for cutaneous absorption
Regulatory reference	Chemical Agents Code of Practice 2024

Italy - Occupational Exposure Limits

Local name	2-(2-Metossietossi)etanolo
OEL TWA	50,1 mg/m ³
	10 ppm
Remark	Cute
OEL chemical category	skin - potential for cutaneous absorption
Regulatory reference	Allegato XXXVIII del Decreto Legislativo 4 settembre 2024, n. 135

Latvia - Occupational Exposure Limits

Local name	2-(2-Metoksietoksi) etanols
OEL TWA	50,1 mg/m ³
	10 ppm
Remark	Āda
OEL chemical category	skin - potential for cutaneous exposure
Regulatory reference	Ministru kabineta 2007. gada 15. maija noteikumiem Nr. 325 (Grozījumi Ministru kabineta 2024. gada 26. martā noteikumiem Nr. 191).

Lithuania - Occupational Exposure Limits

Local name	2-(2-metoksietoksi)etanolis
IPRV (OEL TWA)	50,1 mg/m ³

2-(2-methoxyethoxy)ethanol; diethylene glycol monomethyl ether (111-77-3)

	10 ppm
Remark	R (reprodukcijai toksiškas poveikis); O (medžiaga į organizmą gali prasiskverbti pro nepažeistą odą)
OEL chemical category	Reproductive toxin, Skin notation
Regulatory reference	LIETUVOS HIGIENOS NORMA HN 23:2011 (Nr. V-695/A1-272, 2018-06-12)

Luxembourg - Occupational Exposure Limits

Local name	2-(2-méthoxyéthoxy)éthanol
OEL TWA	50,1 mg/m ³ 10 ppm
OEL chemical category	Possibility of significant uptake through the skin
Remark	Peau
Regulatory reference	Mémorial A N° 226 de 2021 concernant la protection de la sécurité et de la santé des salariés contre les risques liés à des agents chimiques sur le lieu de travail

Malta - Occupational Exposure Limits

Local name	2-(2-Methoxyethoxy)ethanol
OEL TWA	50,1 mg/m ³ 10 ppm
Remark	Skin # Ġilda
OEL chemical category	Possibility of significant uptake through the skin
Regulatory reference	S.L. 424.24 - Chemical Agents at Work Regulations (L.N. 356 of 2021) # L.S. 424.24 - Regolamenti dwar Aġenti Kimiċi fuq il-Post tax-Xogħol (A.L. 356 tal-2021)

Netherlands - Occupational Exposure Limits

Local name	2-(Methoxyethoxy)ethanol
TGG-8u (OEL TWA)	45 mg/m ³ 9 ppm
Remark	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.
MAC chemical category	Skin notation
Regulatory reference	Arbeidsomstandighedenregeling 2024

2-(2-methoxyethoxy)ethanol; diethylene glycol monomethyl ether (111-77-3)**Poland - Occupational Exposure Limits**

Local name	2-(2-Metoksyetoksy)etanol
NDS (OEL TWA)	50 mg/m ³
Remark	Skóra (Oznakowanie substancji notacją „skóra” oznacza, że wchłanianie substancji przez skórę może być tak samo istotne jak przy narażeniu drogą oddechową).
Regulatory reference	Dz. U. 2024 poz. 1017 wraz z późn. zm.

Portugal - Indicative Occupational Exposure Limit (IOEL)

Local name	2-(2-Metoxietoxi)etanol
IOEL TWA	50,1 mg/m ³
	10 ppm
Remark	Cutânea.
Regulatory reference	Decreto-Lei n.º 1/2021 de 6 de janeiro

Portugal - Occupational Exposure Limits

OEL TWA	50,1 mg/m ³ (indicative limit value)
	10 ppm (indicative limit value)
OEL chemical category	skin - potential for cutaneous exposure indicative limit value

Romania - Occupational Exposure Limits

Local name	2-(2-metoxietoxi)-etanol
OEL TWA	50,1 mg/m ³
	10 ppm
OEL chemical category	Skin notation
Remark	P - posibilitatea unei penetrări cutanate importante; R2 - susceptibil de a dăuna fertilității
Regulatory reference	Hotărârea Guvernului nr. 1.218/2006 (Hotărârea nr. 179/2024)

Serbia - Occupational Exposure Limits

Local name	2-(2-метоксиетокси)етанол; диетиленгликоломонометилетар
OEL TWA	50 mg/m ³
	10 ppm
Remark	ЕУ** – напомена да се ради о хемијским материјама за које су утврђене индикативне граничне вредности изложености према Директиви 2006/15/ЕЗ (друга листа); К – напомена да хемијска материја може штетно деловати на кожу

2-(2-methoxyethoxy)ethanol; diethylene glycol monomethyl ether (111-77-3)

Regulatory reference	ПРАВИЛНИК о превентивним мерама за безбедан и здрав рад при излагању хемијским материјама („Службени гласник РС”, бр. 106/09, 117/17 и 107/21)
Slovakia - Occupational Exposure Limits	
Local name	2-(2-metoxyetoxy) etanol
NPHV (OEL TWA)	50,1 mg/m ³
	10 ppm
Remark	K – znamená, že faktor môže byť ľahko absorbovaný kožou
OEL chemical category	Potential for cutaneous absorption
Regulatory reference	Nariadenie vlády č. 355/2006 Z. z. (122/2024 Z. z.)
Slovenia - Occupational Exposure Limits	
Local name	2-(2-metoksietoksi)etanol
OEL TWA	50,1 mg/m ³
	10 ppm
Remark	K (Lastnost lažjega prehajanja snovi v organizem skozi kožo), Y (Snovi, pri katerih ni nevarnosti za zarodek ob upoštevanju mejnih vrednosti in bat vrednosti), EU
OEL chemical category	Category 2, Potential for cutaneous absorption
Regulatory reference	Uradni list RS, št. 29/2024 z dne 4. 4. 2024 - Pravilnik o varovanju delavcev pred tveganji zaradi izpostavljenosti kemičnim snovem pri delu
Spain - Occupational Exposure Limits	
Local name	2-(2-Metoxietoxi)etanol
VLA-ED (OEL TWA)	50,1 mg/m ³ (indicative limit value)
	10 ppm (indicative limit value)
Remark	Vía dérmica (Indica que, en las exposiciones a esta sustancia, la aportación por la vía cutánea puede resultar significativa para el contenido corporal total si no se adoptan medidas para prevenir la absorción. En estas situaciones, es aconsejable la utilización del control biológico para poder cuantificar la cantidad global absorbida del contaminante), VLI (Agente químico para el que la U.E. estableció en su día un valor límite indicativo), r (Esta sustancia tiene establecidas restricciones a la fabricación, la comercialización o el uso en los términos especificados en el “Reglamento (CE) nº 1907/2006 sobre Registro, Evaluación, Autorización y Restricción de sustancias y preparados químicos” (REACH) de 18 de diciembre de 2006 (DOUE L 369 de 30 de diciembre de 2006). Las restricciones de una sustancia pueden aplicarse a todos los usos o sólo a usos concretos. El anexo XVII del Reglamento REACH contiene la lista de todas las sustancias restringidas y especifica los usos que se han restringido).

2-(2-methoxyethoxy)ethanol; diethylene glycol monomethyl ether (111-77-3)

OEL chemical category	TR1B, skin - potential for cutaneous absorption
Regulatory reference	Límites de Exposición Profesional para Agentes Químicos en España 2024. INSHT

Sweden - Occupational Exposure Limits

Local name	Dietylenglykolmonometyleter
NGV (OEL TWA)	50 mg/m ³
	10 ppm
Remark	H (Ämnet kan lätt upptas genom huden. Det föreskrivna gränsvärdet bedöms ge tillräckligt skydd endast under förutsättning att huden är skyddad mot exponering för ämnet ifråga); R (Ämnet är reproduktionsstörande. Med reproduktionsstörande ämnen avses ämnen som kan medföra skadliga effekter på fortplantningsförmågan eller avkommans utveckling)
OEL chemical category	Skin notation
Regulatory reference	Hygieniska gränsvärden (AFS 2018:1)

United Kingdom - Occupational Exposure Limits

Local name	2-(2-Methoxyethoxy) ethanol
WEL TWA (OEL TWA)	50,1 mg/m ³
	10 ppm
WEL STEL (OEL STEL)	150,3 mg/m ³ (calculated)
	30 ppm (calculated)
Remark	Sk (Can be absorbed through the skin. The assigned substances are those for which there are concerns that dermal absorption will lead to systemic toxicity)
WEL chemical category	Potential for cutaneous absorption
Regulatory reference	EH40/2005 (Fourth edition, 2020). HSE

Iceland - Occupational Exposure Limits

Local name	2-(2-metoxýetoxý)etanol
OEL TWA	50,1 mg/m ³
	10 ppm
Remark	H (efnið getur auðveldlega borist inn í líkamann gegnum húð)
Regulatory reference	Reglugerð um mengunarmörk og aðgerðir til að draga úr mengun á vinnustöðum (Nr. 390/2009)

Norway - Occupational Exposure Limits

Local name	2-(2-metoksyetoksy)etanol
------------	---------------------------

2-(2-methoxyethoxy)ethanol; diethylene glycol monomethyl ether (111-77-3)

Grenseverdi (OEL TWA)	50 mg/m ³
	10 ppm
Kortidsverdi (OEL STEL)	75 mg/m ³ (value calculated)
	20 ppm (value calculated)
Remark	H: Kjemikalier som kan tas opp gjennom huden; R: Kjemikalier som skal betraktes som reproduksjonstoksiske; E: EU har en veiledende grenseverdi og/eller anmerkning for stoffet.
OEL chemical category	Skin notation, Potential reproductive hazard
Regulatory reference	FOR-2024-04-05-581

North Macedonia - Occupational Exposure Limits

Local name	2-(2-метоксиетокси)етанол
OEL TWA	50,1 mg/m ³
	10 ppm
Remark	(K) својство на полесно пренесување на супстанците во организмот преку кожата; (EU) European Union – гранична вредност, определена на ниво на Европската унија
Regulatory reference	Правилник за минималните барања за безбедност и здравје при работа на вработени од ризици поврзани со изложување на хемиски супстанции („Службен весник на Република Македонија” бр.46/10)

8.1.2. Recommended monitoring procedures

Monitoring methods	
Monitoring methods	Personal air monitoring. Room air monitoring.

8.1.3. Air contaminants formed

No additional information available

8.1.4. DNEL and PNEC

2-(2-methoxyethoxy)ethanol; diethylene glycol monomethyl ether (111-77-3)	
DNEL/DMEL (workers)	
Long-term - systemic effects, dermal	0,53 mg/kg bodyweight/day
Long-term - systemic effects, inhalation	50,1 mg/m ³
DNEL/DMEL (general population)	
Long-term - systemic effects, oral	1,5 mg/kg bodyweight/day
Long-term - systemic effects, inhalation	25 mg/m ³
Long-term - systemic effects, dermal	0,27 mg/kg bodyweight/day

2-(2-methoxyethoxy)ethanol; diethylene glycol monomethyl ether (111-77-3)
PNEC (water)

PNEC aqua (freshwater)	12 mg/l
PNEC aqua (marine water)	1,2 mg/l
PNEC aqua (intermittent, freshwater)	12 mg/l

PNEC (sediment)

PNEC sediment (freshwater)	44,4 mg/kg dwt
PNEC sediment (marine water)	4,44 mg/kg dwt

PNEC (soil)

PNEC soil	2,44 mg/kg dwt
-----------	----------------

PNEC (STP)

PNEC sewage treatment plant	10000 mg/l
-----------------------------	------------

2-[2-(2-butoxyethoxy)ethoxy]ethanol; TEGBE; triethylene glycol monobutylether; butoxytriethylene glycol (143-22-6)
DNEL/DMEL (workers)

Long-term - systemic effects, dermal	208 mg/kg bodyweight/day
Long-term - systemic effects, inhalation	195 mg/m ³

DNEL/DMEL (general population)

Long-term - systemic effects, oral	12,5 mg/kg bodyweight/day
Long-term - systemic effects, inhalation	117 mg/m ³
Long-term - systemic effects, dermal	125 mg/kg bodyweight/day

PNEC (water)

PNEC aqua (freshwater)	1,5 mg/l
PNEC aqua (marine water)	0,58 mg/l
PNEC aqua (intermittent, freshwater)	5 mg/l

PNEC (sediment)

PNEC sediment (freshwater)	5,77 mg/kg dwt
PNEC sediment (marine water)	0,13 mg/kg dwt

PNEC (soil)

PNEC soil	0,35 mg/kg dwt
-----------	----------------

PNEC (STP)

PNEC sewage treatment plant	200 mg/l
-----------------------------	----------

Additional information : Personal air monitoring :. Room air monitoring. Recommended monitoring procedures

8.1.5. Control banding

No additional information available

8.2. Exposure controls

Engineering measure(s)	: Provide adequate ventilation. Emergency eye wash fountains and safety showers should be available in the immediate vicinity of any potential exposure. Organisational measures to prevent/limit releases, dispersion and exposure. See Section 7 for information on safe handling .
Personal protective equipment	: The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.
Hand protection	: In case of repeated or prolonged exposure : Wear chemically resistant gloves (tested to EN374) . Suitable material: Nitrile rubber. Thickness of the glove material: > 0,3 mm. Breakthrough time : > 8h. The quality of the protective gloves resistant to chemicals must be chosen as a function of the specific working place concentration and quantity of hazardous substances.
Eye protection	: If there is a risk of liquid being splashed : Use suitable eye protection (EN166): tightly fitting safety goggles
Body protection	: Wear suitable protective clothing
Respiratory protection	: In case of insufficient ventilation, wear suitable respiratory equipment. Half-face mask (DIN EN 140). full face mask (DIN EN 136). Filter type: A (EN 14387). The filter class must be suitable for the maximum contaminant concentration (gas/vapour/aerosol/particulates) that may arise when handling the product. If the concentration is exceeded, self-contained breathing apparatus must be used. (EN 137)
Thermal hazard protection	: Not required for normal conditions of use. Use dedicated equipment.
Environmental exposure controls	: Avoid release to the environment. Comply with applicable Community environmental protection legislation.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	: Liquid
Colour	: No additional information available.
Appearance	: Liquid.
Odour	: No additional information available.
Odour threshold	: No data available
Melting / freezing point	: < -50 °C
Freezing point	: Not available

Initial boiling point and boiling range	: > 260 °C
Flammability	: No data available
Explosive properties	: Not applicable. The study does not need to be conducted because there are no chemical groups associated with explosive properties present in the molecule.
Oxidising properties	: Not applicable. The classification procedure needs not to be applied because there are no chemical groups present in the molecule which are associated with oxidising properties.
Lower explosion limit	: Not available
Upper explosion limit	: Not available
Flash point	: No data available
Auto-ignition temperature	: No data available
Decomposition temperature	: No data available
pH	: 7 – 10,5
Kinematic viscosity	: 15 mm ² /s (20 °C)
Solubility	: Water: Miscible
Partition coefficient n-octanol/water (Log Kow)	: Not available
Partition coefficient n-octanol/water	: No data available
Vapour pressure	: No data available
Vapour pressure at 50°C	: Not available
Density	: 1020 – 1090 kg/m ³ (20°C)
Relative density	: 1,02 – 1,09 (20°C)
Vapour density	: No data 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. Reference to other sections 10.4 & 10.5.

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

Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. See Section 7 for information on safe handling.

10.5. Incompatible materials

Strong oxidizing agents. Strong acids. Strong bases. See Section 7 for information on safe handling.

10.6. Hazardous decomposition products

Carbon oxides (CO, CO₂), BO_x. Reference to other sections 5.2.

SECTION 11: Toxicological information**11.1. Information on hazard classes as defined in Regulation (EC) No 1272/2008**

Acute toxicity (oral)	: Not classified (Based on available data, the classification criteria are not met)
Acute toxicity (dermal)	: Not classified (Based on available data, the classification criteria are not met)
Acute toxicity (inhalation)	: Not classified (Based on available data, the classification criteria are not met)

2-(2-methoxyethoxy)ethanol; diethylene glycol monomethyl ether (111-77-3)	
LD50/oral/rat	4 ml/kg (Source: NLM_CIP)
LD50 oral	4 ml/kg
LD50/dermal/rabbit	9404 mg/kg (Source: ECHA_API)
LD50 dermal	9404 mg/kg
LC50/inhalation/4h/rat (ppm)	LC0 (6 hours) = 1,2 mg/l (OECD 403)

2-[2-(2-butoxyethoxy)ethoxy]ethanol; TEGBE; triethylene glycol monobutylether; butoxytriethylene glycol (143-22-6)	
LD50/oral/rat	5300 mg/kg (Source: NLM_CIP)
LD50/dermal/rabbit	3540 mg/kg (Source: ECHA_API)

tris[2-[2-(2-methoxyethoxy)ethoxy]ethyl] orthoborate (30989-05-0)	
LD50/oral/rat	> 2000 mg/kg (Source: NICNAS)
LD50 oral	> 2000 mg/kg
LD50/dermal/rat	> 2000 mg/kg (Source: NICNAS)
LD50 dermal	> 2000 mg/kg

Dihydro-3-(tetrapropenyl)furan-2,5-dione (26544-38-7)	
LD50/oral/rat	2550 mg/kg (Source: NLM_CIP)
LD50/dermal/rat	> 2000 mg/kg

Dihydro-3-(tetrapropenyl)furan-2,5-dione (26544-38-7)

LD50/dermal/rabbit	6200 – 7500 mg/kg
LC50/inhalation/4h/rat	5,3 mg/l

Skin corrosion/irritation	: Not classified pH: 7 – 10,5
Additional information	: (Based on available data, the classification criteria are not met)
Serious eye damage/irritation	: Not classified pH: 7 – 10,5
Additional information	: (Based on available data, the classification criteria are not met)
Respiratory or skin sensitisation	: Not classified
Additional information	: (Based on available data, the classification criteria are not met)
Germ cell mutagenicity	: Not classified
Additional information	: (Based on available data, the classification criteria are not met)
Carcinogenicity	: Not classified
Additional information	: (Based on available data, the classification criteria are not met)
Reproductive toxicity	: Suspected of damaging fertility. Suspected of damaging the unborn child.
STOT-single exposure	: Not classified
Additional information	: (Based on available data, the classification criteria are not met)
STOT-repeated exposure	: Not classified
Additional information	: (Based on available data, the classification criteria are not met)
Aspiration hazard	: Not classified
Additional information	: (Based on available data, the classification criteria are not met)

DOT4 Low Viscosity Brake Fluid

Kinematic viscosity	15 mm ² /s (20 °C)
---------------------	-------------------------------

Dihydro-3-(tetrapropenyl)furan-2,5-dione (26544-38-7)

Kinematic viscosity	429 mm ² /s (20°C)
---------------------	-------------------------------

11.2. Information on other hazards
11.2.1. Endocrine disrupting properties

Adverse health effects caused by endocrine disrupting properties	: 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 %
--	--

11.2.2. Other information

Other information	: Symptoms related to the physical, chemical and toxicological characteristics, For further information see section 4
-------------------	---

SECTION 12: Ecological information
12.1. Toxicity

Environmental properties	: According to the criteria of the European classification and labelling system, the substance/the product has not to be labelled as "dangerous for 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; diethylene glycol monomethyl ether (111-77-3)

LC50 - Fish [1]	7500 mg/l (Exposure time: 96 h - Species: Lepomis macrochirus [static] Source: EPA)
LC50 - Fish [2]	7500 mg/l (Exposure time: 96 h - Species: Lepomis macrochirus Source: IUCLID)
EC50 - Crustacea [1]	> 500 mg/l (Exposure time: 48 h - Species: Daphnia magna)
EC50 72h - Algae [1]	> 500 mg/l (Species: Desmodesmus subspicatus)

2-[2-(2-butoxyethoxy)ethoxy]ethanol; TEGBE; triethylene glycol monobutylether; butoxytriethylene glycol (143-22-6)

LC50 - Fish [1]	2400 mg/l (Exposure time: 96 h - Species: Pimephales promelas [static] Source: IUCLID)
LC50 - Fish [2]	2400 mg/l (Exposure time: 96 h - Species: Pimephales promelas Source: IUCLID)
EC50 - Crustacea [1]	> 500 mg/l (Exposure time: 48 h - Species: Daphnia magna)
EC50 72h - Algae [1]	> 500 mg/l (Species: Desmodesmus subspicatus)

tris[2-[2-(2-methoxyethoxy)ethoxy]ethyl] orthoborate (30989-05-0)

LC50 - Fish [1]	> 222,2 mg/l Oncorhynchus mykiss (Rainbow trout)
LC50 - Other aquatic organisms [1]	> 224,4 mg/l Pseudokirchneriella subcapitata
EC50 - Crustacea [1]	> 211,2 mg/l
EC50 96h - Algae [1]	430 mg/l (Species: Pseudokirchneriella subcapitata)

Dihydro-3-(tetrapropenyl)furan-2,5-dione (26544-38-7)

LC50 - Fish [1]	> 100 mg/l (Exposure time: 96 h - Species: Oncorhynchus mykiss [static-renewal] Source: ECHA)
EC50 - Crustacea [1]	> 100 mg/l
EC50 - Other aquatic organisms [1]	800 mg/l (3h)

Dihydro-3-(tetrapropenyl)furan-2,5-dione (26544-38-7)

EC50 72h - Algae [1]	110 mg/l (Selenastrum capricornutum)
----------------------	--------------------------------------

12.2. Persistence and degradability
DOT4 Low Viscosity Brake Fluid

Persistence and degradability	No additional information available.
-------------------------------	--------------------------------------

2-(2-methoxyethoxy)ethanol; diethylene glycol monomethyl ether (111-77-3)

Persistence and degradability	Readily biodegradable.
-------------------------------	------------------------

tris[2-[2-(2-methoxyethoxy)ethoxy]ethyl] orthoborate (30989-05-0)

Persistence and degradability	Readily biodegradable.
-------------------------------	------------------------

Dihydro-3-(tetrapropenyl)furan-2,5-dione (26544-38-7)

Persistence and degradability	Not readily biodegradable.
Biodegradation	9,9 % (28d) (OECD301D)

12.3. Bioaccumulative potential
DOT4 Low Viscosity Brake Fluid

Partition coefficient n-octanol/water	No data available
Bioaccumulative potential	No additional information available.

2-(2-methoxyethoxy)ethanol; diethylene glycol monomethyl ether (111-77-3)

Partition coefficient n-octanol/water	-0,47 (at 20 °C (at pH 6.7)
Bioaccumulative potential	Bioaccumulation unlikely.

2-[2-(2-butoxyethoxy)ethoxy]ethanol; TEGBE; triethylene glycol monobutylether; butoxytriethylene glycol (143-22-6)

BCF - Fish [1]	(no significant bioaccumulation)
Partition coefficient n-octanol/water	0,51 (at 25 °C (at pH 7)

tris[2-[2-(2-methoxyethoxy)ethoxy]ethyl] orthoborate (30989-05-0)

BCF - Fish [1]	(no bioaccumulation expected)
Partition coefficient n-octanol/water	-1,47 (Diethylenglycol; at pH 7)
Bioaccumulative potential	Log Pow -4,37 (QSAR). No bioaccumulation.

Dihydro-3-(tetrapropenyl)furan-2,5-dione (26544-38-7)

Partition coefficient n-octanol/water	≥ 4,39 (at 22 °C (at pH 7)
Partition coefficient n-octanol/water (Log Kow)	≥ 4,39
Bioaccumulative potential	Low potential.

12.4. Mobility in soil
DOT4 Low Viscosity Brake Fluid

Mobility in soil	No data available
------------------	-------------------

Dihydro-3-(tetrapropenyl)furan-2,5-dione (26544-38-7)

Organic Carbon Normalized Adsorption Coefficient (Log Koc)	2,92
--	------

12.5. Results of PBT and vPvB assessment
DOT4 Low Viscosity Brake Fluid

Results of PBT assessment	Contains no PBT and/or vPvB substances ≥ 0.1% assessed in accordance with REACH Annex XIII
---------------------------	--

12.6. Endocrine disrupting properties

Adverse effects on the environment caused by endocrine disrupting properties

: 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 %.

12.7. Other adverse effects

Other adverse effects : No data available.

SECTION 13: Disposal considerations
13.1. Waste treatment methods

Product/Packaging disposal recommendations

: Avoid release to the environment. Dispose of empty containers and wastes safely. See Section 7 for information on safe handling. Refer to manufacturer/supplier for information on recovery/recycling. Recycling is preferred to disposal or incineration. If recycling is not possible, eliminate in accordance with local valid waste disposal regulations. Handle contaminated packages in the same way as the substance itself. Dispose of contaminated materials in accordance with current regulations.

European waste catalogue (2001/573/EC, 75/442/EEC, 91/689/EEC)

: This material and its container must be disposed of as hazardous waste
Waste codes should be assigned by the user, preferably in discussion with the waste disposal authorities

The following Waste Codes are only suggestions:

160113 - brake fluids

150110* - packaging containing residues of or contaminated by dangerous substances

SECTION 14: Transport information

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

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

14.6. Special precautions for user

Special precautions for user : No data available

- Overland transport

Not applicable

- Transport by sea

Not applicable

- Air transport

Not applicable

- Inland waterway transport

Not applicable

- Rail transport

Not applicable

14.7. Maritime transport in bulk according to IMO instruments

Code: IBC : No data available.

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)	DOT4 Low Viscosity Brake Fluid ; 2-(2-methoxyethoxy)ethanol; diethylene glycol monomethyl ether ; 2-[2-(2-butoxyethoxy)ethoxy] ethanol; TEGBE; triethylene glycol monobutylether; butoxytriethylene glycol ; tris[2-[2-(2-methoxyethoxy)ethoxy]ethyl] orthoborate ; 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 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; diethylene glycol monomethyl ether	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 (EU 1005/2009)

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

Council Regulation (EC) for the control of dual-use items

Contains no substance subject to the COUNCIL REGULATION (EC) for the control of dual-use items

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**France**

Occupational diseases			
Code	Description		
RG 84	Conditions caused by liquid organic solvents for professional use: saturated or unsaturated aliphatic or cyclic liquid hydrocarbons and mixtures thereof; liquid halogenated hydrocarbons; nitrated derivatives of aliphatic hydrocarbons; alcohols; glycols, glycol ethers; ketones; aldehydes; aliphatic and cyclic ethers, including tetrahydrofuran; esters; dimethylformamide and dimethylacetamine; acetonitrile and propionitrile; pyridine; dimethylsulfone and dimethylsulfoxide		
Installations classées			
No ICPE	Désignation de la rubrique	Code Régime	Rayon
na	Not Applicable	na	na

No ICPE

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 to the Hazardous Incident Ordinance (12. BImSchV)

Netherlands

Waterbezwaarlijkheid : B (4) - Weinig schadelijk voor in het water levende organismen
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 – : 2-(2-methoxyethoxy)ethanol; diethylene glycol monomethyl ether is listed
Ontwikkeling

Denmark

Danish National Regulations : Young people below the age of 18 years are not allowed to use the product
Pregnant/breastfeeding women working with the product must not be in
direct contact with the product

15.2. Chemical safety assessment

Not applicable

SECTION 16: Other information

Indication of changes:

1.3	Details of the supplier of the safety data sheet	Modified	
-----	--	----------	--

Abbreviations and acronyms:

	ABM = Algemene beoordelingsmethodiek
	ADN = Accord Européen relatif au Transport International des Marchandises Dangereuses par voie de Navigation du Rhin
	ADR = Accord européen relatif au transport international des marchandises Dangereuses par Route
	CLP = Classification, Labelling and Packaging Regulation according to 1272/2008/EC
	IATA = International Air Transport Association
	IMDG = International Maritime Dangerous Goods Code
	LEL = Lower Explosive Limit/Lower Explosion Limit
	UEL = Upper Explosion Limit/Upper Explosive Limit
	REACH = Registration, Evaluation, Authorisation and Restriction of Chemicals
	BTT = Breakthrough time (maximum wearing time)
	DMEL = Derived Minimal Effect level
	DNEL = Derived No Effect Level
	EC50 = Median Effective Concentration
	EL50 = Median effective level
	ErC50 = EC50 in terms of reduction of growth rate
	ErL50 = EL50 in terms of reduction of growth rate
	EWG = European waste catalogue
	LC50 = Median lethal concentration
	LD50 = Median lethal dose
	LL50 = Median lethal level
	NA = Not applicable
	NOEC = No observed effect concentration
	NOEL: no-observed-effect level
	NOELR = No observed effect loading rate
	NOAEC = No observed adverse effect concentration
	NOAEL = No observed adverse effect level
	N.O.S. = Not Otherwise Specified
	OEL = Occupational Exposure Limits - Short Term Exposure Limits (STELs)
	PNEC = Predicted No Effect Concentration
	Quantitative structure-activity relationship (QSAR)
	STOT = Specific Target Organ Toxicity

	TWA = time weighted average
	VOC = Volatile organic compounds
	WGK = Wassergefährdungsklasse (Water Hazard Class under German Federal Water Management Act)

Sources of key data used to compile the datasheet : ECHA (European Chemicals Agency), supplier sds, Loli.

Training advice : Training staff on good practice. Manipulations are to be done only by qualified and authorised persons.

Other information : Classification - Assessment method: CLP Calculation method (Article 9).
Physicochemical hazard assessment: Information given is based on tests on the mixture itself.

Full text of H- and EUH-statements:

Aquatic Chronic 4	Hazardous to the aquatic environment – Chronic Hazard, Category 4
EUH208	Contains . 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
H317	May cause an allergic skin reaction.
H318	Causes serious eye damage.
H319	Causes serious eye irritation.
H360D	May damage the unborn child.
H361fd	Suspected of damaging fertility. 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

according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2020/878
Classification according to Regulation (EC) No. 1272/2008 [CLP]
Labelling according to Regulation (EC) No. 1272/2008 [CLP]

DISCLAIMER OF LIABILITY 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 SDS was prepared and is to be used only for this product. If the product is used as a component in another product, this SDS information may not be applicable.

Annex to the safety data sheet

Annex : Identified uses

Title	Sector of use	Product category	Process category	Article category	Environmental release	SPERC
Use in functional fluids			PROC2		ERC7	
Use in functional fluids Professional			PROC20		ERC9b	
Consumer use; Hydraulic Fluids, Vehicles, Machine, ATIEL, ATC		PC17			ERC9a, ERC9b	

1. Exposure scenario

Use in functional fluids

ES Type: Worker

Use descriptors	PROC2 ERC7
Processes, tasks activities covered	Use in functional fluids Use at industrial sites (IS)

2. Operational conditions and risk management measures

2.2 Contributing scenario controlling environmental exposure (ERC7)

ERC7	Use of functional fluid at industrial site
------	--

Product characteristics

Physical form	Liquid
Viscosity, kinematic	13 mm ² /s

Operational conditions

Amount used	Annual site tonnage (tons/year):	Not available
	Daily amount per site	Not available
Environmental factors not influenced by risk management	Local freshwater dilution factor:	10
	Local marine water dilution factor:	100
	River flow rate:	18000 m ³ /d
Other given operational conditions affecting environmental exposure	Release fraction to air from process	5 %
	Release fraction to wastewater from process	5 %
	Release fraction to soil from process	5 %
	Fraction tonnage to region	100 %

Risk management measures

Conditions and measures related to sewage treatment plant	Discharge rate of the Municipal STP	2000 m ³ /d
---	-------------------------------------	------------------------

2.1 Contributing scenario controlling worker exposure
Product characteristics

Physical form	Liquid
Concentration of the Substance in Mixture/Article	65 %
Dustiness	low
Viscosity, kinematic	13 mm ² /s

Operational conditions

Frequency and duration of use	Duration of the activity	> 4 h
	Frequency of use:	5 days/week
Human factors not influenced by risk management	Exposed skin area	480 cm ²
Other given operational conditions affecting workers exposure	Location	indoor
	Ventilation	Good ventilation of the workplace required (30 %)
	Industrial use	

Risk management measures

Technical conditions and measures at process level to prevent release	with local exhaust ventilation	inhalation exposure 90%
Conditions and measures related to personal protection, hygiene and health evaluation	Use suitable eye protection	
	Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training	
	Respiratory protection is not necessary if room is well ventilated.	

3. Exposure estimation and reference to its source
3.1. Health

Information for contributing exposure scenario	
2.1	The quantitative risk characterisation for this worker exposure has been calculated by EasyTRA

3.2. Environment

Information for contributing exposure scenario	
2.2	The quantitative risk characterisation for this environmental exposure has been calculated using EasyTRA. The environmental exposure calculation per compartment is based on the algorithms of the EU TGD 2003 Risk Assessment Spreadsheet Model 1.24a

4. Guidance to Downstream User to evaluate whether he works inside the boundaries set by the ES
4.1. Health

Guidance - Health	When the recommended risk management measures (RMMs) and operational conditions (OCs) are observed, exposures are not expected to exceed the predicted DNELs and the resulting risk characterisation ratios are expected to be less than 1, Where other Risk Management Measures/Operational Conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.
-------------------	---

4.2. Environment

Guidance - Environment	When the recommended risk management measures (RMMs) and operational conditions (OCs) are
------------------------	---

	observed, exposures are not expected to exceed the predicted PNECs and the resulting risk characterisation ratios are expected to be less than 1, Where other Risk Management Measures/Operational Conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.
--	---

1. Exposure scenario

Use in functional fluids Professional

ES Type: Worker

Use descriptors	PROC20 ERC9b
Processes, tasks activities covered	Use in functional fluids Widespread use by professional workers (PW)

2. Operational conditions and risk management measures

2.2 Contributing scenario controlling environmental exposure (ERC9b)

ERC9b	Widespread use of functional fluid (outdoor)
-------	--

Product characteristics

Physical form	Liquid
Viscosity, kinematic	13 mm ² /s

Operational conditions

Amount used	Annual site tonnage (tons/year):	Not available
	Daily amount per site	Not available
	Local freshwater dilution factor:	10
	Local marine water dilution factor:	100
Environmental factors not influenced by risk management	River flow rate:	18000 m ³ /d
	Release fraction to air from process	5 %
	Release fraction to wastewater from process	5 %
	Release fraction to soil from process	5 %
Other given operational conditions affecting environmental exposure	Fraction tonnage to region	100 %

Risk management measures

Conditions and measures related to sewage treatment plant	Discharge rate of the Municipal STP	2000 m ³ /d
---	-------------------------------------	------------------------

2.1 Contributing scenario controlling worker exposure (PROC20)

PROC20	Use of functional fluids in small devices
--------	---

Product characteristics

Physical form	Liquid
Concentration of the Substance in Mixture/Article	65 %
Dustiness	low
Viscosity, kinematic	13 mm ² /s

Operational conditions

Frequency and duration of use	Duration of the activity	> 4 h
	Frequency of use:	5 days/week
Human factors not influenced by risk management	Exposed skin area	480 cm ²
Other given operational conditions affecting workers exposure	Location	indoor
	Ventilation	Good ventilation of the workplace required (30 %)
	Professional uses	

Risk management measures

Technical conditions and measures at process level to prevent release	with local exhaust ventilation	inhalation exposure 80%
Conditions and measures related to personal protection, hygiene and health evaluation	Use suitable eye protection	
	Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training	
	Respiratory protection is not necessary if room is well ventilated.	

3. Exposure estimation and reference to its source
3.1. Health

Information for contributing exposure scenario	
2.1	The quantitative risk characterisation for this worker exposure has been calculated by EasyTRA

3.2. Environment

Information for contributing exposure scenario	
2.2	The quantitative risk characterisation for this environmental exposure has been calculated using EasyTRA. The environmental exposure calculation per compartment is based on the algorithms of the EU TGD 2003 Risk Assessment Spreadsheet Model 1.24a

4. Guidance to Downstream User to evaluate whether he works inside the boundaries set by the ES
4.1. Health

Guidance - Health	When the recommended risk management measures (RMMs) and operational conditions (OCs) are observed, exposures are not expected to exceed the predicted DNELs and the resulting risk characterisation ratios are expected to be less than 1, Where other Risk Management Measures/Operational Conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.
-------------------	---

4.2. Environment

Guidance - Environment	When the recommended risk management measures (RMMs) and operational conditions (OCs) are observed, exposures are not expected to exceed the predicted PNECs and the resulting risk characterisation ratios are expected to be less than 1, Where other Risk Management Measures/Operational Conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.
------------------------	---

1. Exposure scenario

Consumer use; Hydraulic Fluids, Vehicles, Machine, ATIEL, ATC

ES Type: Consumer

Use descriptors	PC17 ERC9a, ERC9b
Processes, tasks activities covered	Consumer use (C)

2. Operational conditions and risk management measures

2.2.1 Contributing scenario controlling environmental exposure (ERC9a)

ERC9a	Widespread use of functional fluid (indoor)
Assessment method	ATIEL-ATC SPERC 9.Bc.v1

Product characteristics

Physical form	Liquid
Viscosity, kinematic	13 mm²/s

Operational conditions

No additional information

Risk management measures

Conditions and measures related to sewage treatment plant	Municipal Sewage Treatment Plant	
	Effectiveness (of a measure)	87,34 %
Conditions and measures related to external treatment of waste for disposal	Dispose of contaminated materials in accordance with current regulations	

2.2.2 Contributing scenario controlling environmental exposure (ERC9b)

ERC9b	Widespread use of functional fluid (outdoor)
Assessment method	ATIEL-ATC SPERC 9.Bp.v1

Product characteristics

Physical form	Liquid
Viscosity, kinematic	13 mm²/s

Operational conditions

No additional information

Risk management measures

Conditions and measures related to sewage treatment plant	Municipal Sewage Treatment Plant	
	Effectiveness (of a measure)	87,34 %
Conditions and measures related to external treatment of waste for disposal	Dispose of contaminated materials in accordance with current regulations	

2.1.1 Contributing scenario consumer end-use

Product characteristics

Physical form	Liquid
Concentration of the Substance in Mixture/Article	≤ 67 %

Operational conditions

Amount used	Amounts used	5 g
-------------	--------------	-----

Frequency and duration of use	Release duration	15 minutes
	Frequency of use:	1 events per day
Human factors not influenced by risk management	Assumes that potential dermal contact is limited to hands.	
	Covers use by adults (unless otherwise stated).	

Specific operational conditions:

Brake fluids		
Filling of articles/equipment		
Closed systems		

Risk management measures

Conditions and measures related to information and behavioural advice to consumers	no spraying	
	Avoid using without gloves	

2.1.2 Contributing scenario consumer end-use (PC17)

PC17	Hydraulic Fluids
------	------------------

Product characteristics

Physical form	Liquid
Viscosity, kinematic	13 mm ² /s

Operational conditions

Amount used	Covers use up to	1 g/event
Frequency and duration of use	Exposure duration	0,25 h
	Frequency of use:	1 days/year
Other given operational conditions affecting consumers exposure	Indoor use.	
	Covers use in room size of	34 m ³
	Ventilation rate per hour	: 1,5

Specific operational conditions:

Indoor use		
------------	--	--

Risk management measures

No additional information

2.1.3 Contributing scenario consumer end-use (PC17)

PC17	Hydraulic Fluids
------	------------------

Product characteristics

Physical form	Liquid
Viscosity, kinematic	13 mm ² /s

Operational conditions

Amount used	Covers use up to	800 g/event
Frequency and duration of use	Exposure duration	1 h
	Frequency of use:	2 days/year
Other given operational conditions affecting consumers exposure	Outdoor use.	

Specific operational conditions:

Outdoor use.		
--------------	--	--

Risk management measures

No additional information

3. Exposure estimation and reference to its source**3.1. Health**

Information for contributing exposure scenario	
2.1.2	The ECETOC TRA tool has been used to estimate consumer exposures unless otherwise indicated.
2.1.3	The ECETOC TRA tool has been used to estimate consumer exposures unless otherwise indicated.

3.2. Environment

Information for contributing exposure scenario	
2.2.1	The EUSES tool has been used to estimate environmental exposures unless otherwise indicated
2.2.2	The EUSES tool has been used to estimate environmental exposures unless otherwise indicated

4. Guidance to Downstream User to evaluate whether he works inside the boundaries set by the ES**4.1. Health**

Guidance - Health	When the recommended risk management measures (RMMs) and operational conditions (OCs) are observed, exposures are not expected to exceed the predicted DNELs and the resulting risk characterisation ratios are expected to be less than 1, Where other Risk Management Measures/Operational Conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.
-------------------	---

4.2. Environment

Guidance - Environment	When the recommended risk management measures (RMMs) and operational conditions (OCs) are observed, exposures are not expected to exceed the predicted PNECs and the resulting risk characterisation ratios are expected to be less than 1, Where other Risk Management Measures/Operational Conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.
------------------------	---