

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

1.1. Product identifier

Product form : Mixture
Trade name : Shell Brake & Clutch Fluid Dot 4

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

1.2.1. Relevant identified uses

Intended for general public
Use of the substance/mixture : Brake fluid
Professional use

1.2.2. Uses advised against

No additional information available

1.3. Details of the supplier of the safety data sheet

Supplier

Kemetyl Kimya San.Tic.Ltd.Şti.
Küçükbakkalköy Mahallesi Dereboyu Caddesi No:3A Brandium AVYM R/5 Blok K:13 D:82
Ataşehir, İstanbul
T +90-216 455 1641 - 42
salesKTR@kemetyl.com - www.kemetyl.com.tr

1.4. Emergency telephone number

Country	Organisation/Company	Address	Emergency number	Comment
Turkey	Ulusal Zehir Merkezi (UZEM) Refik Saydam Hıfzıssıhha Merkezi Başkanlığı	Cemal Gürsel Cd. No: 18 Sıhhiye Çankaya 06590 Ankara	114	Information is provided to public and medical personnel on poisoning incidents via 114.

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

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

Reproductive toxicity, Category H361
2

Full text of H statements : see section 16

Adverse physicochemical, human health and environmental effects

Suspected of damaging fertility or the unborn child.

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2.2. Label elements

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

Hazard pictograms (CLP) :



GHS08

Signal word (CLP) :

Warning

Hazardous ingredients :

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

Hazard statements (CLP) :

H361 - Suspected of damaging fertility or the unborn child.

Precautionary statements (CLP) :

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

P102 - Keep out of reach of children.

P201 - Obtain special instructions before use.

P280 - Wear protective gloves/protective clothing/eye protection/face protection/hearing protection.

P405 - Store locked up.

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

Child-resistant fastening :

Not applicable

Tactile warning :

Applicable

2.3. Other hazards

No additional information available

SECTION 3: Composition/information on ingredients

3.1. Substances

Not applicable

3.2. Mixtures

Name	Product identifier	%	Classification according to Regulation (EC) No. 1272/2008 [CLP]
tris[2-[2-(2-methoxyethoxy)ethoxy]ethyl] orthoborate	(CAS-No.) 30989-05-0 (EC-No.) 250-418-4	30 – 70	Repr. 2, H361d
2-(2-(2-methoxyethoxy)ethoxy)ethanol	(CAS-No.) 112-35-6 (EC-No.) 203-962-1	22 – 39	Not classified
ethanol, 2-methoxy-, manufacture of, by products from	(CAS-No.) 161907-79-5 (EC-No.) 310-289-8	10 – 28	Not classified

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2-(2-methoxyethoxy)ethanol; diethylene glycol monomethyl ether	(CAS-No.) 111-77-3 (EC-No.) 203-906-6 (EC Index-No.) 603-107-00-6 (REACH-no) 01-2119475100-52	0.4 – 2	Repr. 2, H361d
benzotriazole	(CAS-No.) 95-14-7 (EC-No.) 202-394-1	≤ 0.1	Acute Tox. 4 (Oral), H302 Eye Irrit. 2, H319 Aquatic Chronic 2, H411

Full text of H-statements: see section 16

SECTION 4: First aid measures

4.1. Description of first aid measures

- First-aid measures general : IF exposed or concerned: Get medical advice/attention.
- First-aid measures after inhalation : Remove person to fresh air and keep comfortable for breathing.
- First-aid measures after skin contact : Wash skin with plenty of water.
- First-aid measures after eye contact : Rinse eyes with water as a precaution.
- First-aid measures after ingestion : Call a poison center or a doctor if you feel unwell. If swallowed: rinse mouth. Do NOT induce vomiting.

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

No additional information 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 : Water spray. Foam. Carbon dioxide. Dry powder. Dry powder.

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.

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".

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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. Notify authorities if product enters sewers or public waters.

Other information : Dispose of materials or solid residues at an authorized site.

6.4. Reference to other sections

For further information refer to section 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling : Ensure good ventilation of the work station. Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Wear personal protective equipment.

Hygiene measures : Do not eat, drink or smoke when using this product. Always wash hands after handling the product.

7.2. Conditions for safe storage, including any incompatibilities

Storage conditions : Store locked up. Store in a well-ventilated place. Keep cool.

7.3. Specific end use(s)

No additional information available

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

2-(2-methoxyethoxy)ethanol; diethylene glycol monomethyl ether (111-77-3)		
EU	Local name	2-(2-Methoxyethoxy)ethanol
EU	IOELV TWA (mg/m ³)	50.1 mg/m ³
EU	IOELV TWA (ppm)	10 ppm
EU	Notes	Skin
EU	Regulatory reference	COMMISSION DIRECTIVE 2006/15/EC
Netherlands	Grenswaarde TGG 8H (mg/m ³)	45 mg/m ³
Turkey	Local name	2-(2-Metoksietoksi)etanol
Turkey	OEL TWA (mg/m ³)	50.1 mg/m ³
Turkey	OEL TWA (ppm)	10 ppm
Turkey	Comments	Deri
Turkey	Regulatory reference	12 Ağustos 2013 Tarihli ve 28733 Sayılı Resmî Gazete

8.2. Exposure controls

Appropriate engineering controls:

Ensure good ventilation of the work station.

Personal protective equipment:

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Protective clothing. Safety glasses. Gloves.

Eye protection:

Safety glasses

Skin and body protection:

Wear suitable protective clothing

Respiratory protection:

[In case of inadequate ventilation] wear respiratory protection.

Personal protective equipment symbol(s):



Environmental exposure controls:

Avoid release to the environment.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	: Liquid
Colour	: amber.
Odour	: characteristic.
Odour threshold	: No data available
pH	: 7 – 11.5
Relative evaporation rate (butylacetate=1)	: No data available
Melting point	: Not applicable
Freezing point	: < -70 °C
Boiling point	: ≥ 230270 °C
Flash point	: 123
Auto-ignition temperature	: 322 °C
Decomposition temperature	: No data available
Flammability (solid, gas)	: 152 °C Not applicable
Vapour pressure	: No data available
Relative vapour density at 20 °C	: No data available
Relative density	: 1.02 – 1.09
Density	: 1.07 kg/l 20°C
Solubility	: soluble in water.
Partition coefficient n-octanol/water (Log Pow)	: No data available

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Viscosity, kinematic	: ≤ 1450 mm ² /s
Viscosity, dynamic	: No data available
Explosive properties	: No data available
Oxidising properties	: No oxidizing properties.
Explosive limits	: No data available

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.

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

Shell Brake & Clutch Fluid Dot 4	
LD50 oral rat	2630 mg/kg bodyweight ethanol, 2-butoxy-, manufacture of, by-products from
LD50 oral	2,2' -OXYBISETHANOL, DIETHYLENE GLYCOL (111-46-6)
LD50 dermal rat	3540 mg/kg bodyweight ethanol, 2-butoxy-, manufacture of, by-products from
LD50 dermal rabbit	11890 mg/kg 2,2' -OXYBISETHANOL, DIETHYLENE GLYCOL (111-46-6)
LD50 dermal	6200 – 7500 mg/kg 2,2' -oxybisethanol
LC50 inhalation rat (Dust/Mist - mg/l/4h)	> 2,2' -oxybisethanol

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

LD50 oral rat	> 2000 mg/kg bodyweight Animal: rat, Guideline: OECD Guideline 401 (Acute Oral Toxicity)
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tris[2-[2-(2-methoxyethoxy)ethoxy]ethyl] orthoborate (30989-05-0)

LD50 dermal rat	> 2000 mg/kg bodyweight Animal: rat, Guideline: OECD Guideline 402 (Acute Dermal Toxicity), Guideline: EU Method B.3 (Acute Toxicity (Dermal))
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2-(2-(2-methoxyethoxy)ethoxy)ethanol; diethylene glycol monomethyl ether (111-77-3)

LD50 oral 5500 mg/kg bodyweight

LD50 dermal 6540 mg/kg bodyweight

benzotriazole (95-14-7)

LD50 dermal rabbit > 2000 mg/kg bodyweight Animal: rabbit, Guideline: OECD Guideline 402 (Acute Dermal Toxicity)

2-(2-(2-methoxyethoxy)ethoxy)ethanol (112-35-6)

LD50 oral rat > 5000 mg/kg bodyweight Animal: rat, Guideline: EU Method B.1 bis (Acute Oral Toxicity - Fixed Dose Procedure)

LD50 dermal rat > 2000 mg/kg bodyweight Animal: rat, Guideline: EU Method B.3 (Acute Toxicity (Dermal))

ethanol, 2-methoxy-, manufacture of, by products from (161907-79-5)

LD50 oral rat > 5000 mg/kg bodyweight Animal: rat, Guideline: EU Method B.1 bis (Acute Oral Toxicity - Fixed Dose Procedure)

LD50 dermal rat > 2000 mg/kg bodyweight Animal: rat, Guideline: EU Method B.3 (Acute Toxicity (Dermal))

Skin corrosion/irritation	: Not classified. pH: 7 – 11.5
Serious eye damage/irritation	: Not classified pH: 7 – 11.5
Respiratory or skin sensitisation	: Not classified
Germ cell mutagenicity	: Not classified
Carcinogenicity	: Not classified
Reproductive toxicity	: Suspected of damaging fertility or the unborn child.

STOT-single exposure : Not classified

STOT-repeated exposure : Not classified

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

NOAEL (oral, rat, 90 days) ≥ 1000 mg/kg bodyweight Animal: rat, Guideline: OECD Guideline 408 (Repeated Dose 90-Day Oral Toxicity in Rodents), Guideline: EU Method B.26 (Sub-Chronic Oral Toxicity Test: Repeated Dose 90-Day Oral Toxicity Study in Rodents), Guideline: EPA OPPTS 870.3100 (90-Day Oral Toxicity in Rodents)

2-(2-(2-methoxyethoxy)ethoxy)ethanol (112-35-6)

LOAEL (oral, rat, 90 days) 1200 mg/kg bodyweight Animal: rat, Guideline: OECD Guideline 408 (Repeated Dose 90-Day Oral Toxicity in Rodents)

NOAEL (oral, rat, 90 days) 400 mg/kg bodyweight Animal: rat, Guideline: OECD Guideline 408 (Repeated Dose 90-Day Oral Toxicity in Rodents)

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2-(2-(2-methoxyethoxy)ethoxy)ethanol (112-35-6)

NOAEL (dermal, rat/rabbit, 90 days)	≥ 4000 mg/kg bodyweight Animal: rat, Guideline: other:Study was designed to meet or exceed U.S. EPA Toxic Substances Control Act (TSCA) Testing Guidelines, 40 CFR 798 (U.S. EPA, 1985, 1987) as modified in the Section 4 Testing Consent Order for TGME (U.S. EPA, 1989)
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ethanol, 2-methoxy-, manufacture of, by products from (161907-79-5)

LOAEL (oral, rat, 90 days)	1200 mg/kg bodyweight Animal: rat, Guideline: OECD Guideline 408 (Repeated Dose 90-Day Oral Toxicity in Rodents)
NOAEL (oral, rat, 90 days)	400 mg/kg bodyweight Animal: rat, Guideline: OECD Guideline 408 (Repeated Dose 90-Day Oral Toxicity in Rodents)

Aspiration hazard : Not classified

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Viscosity, kinematic	≤ 1450 mm ² /s
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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 other aquatic organisms 1	75200 mg/l
EC50 72h algae (1)	2-(2-(2-methoxyethoxy)ethoxy)ethanol Param
NOEC chronic fish	133 g/l 2-(2-(2-methoxyethoxy)ethoxy)ethanol Param

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

LC50 fish 1	> 222.2 mg/l Test organisms (species): Oncorhynchus mykiss (previous name: Salmo gairdneri)
LC50 fish 2	> 1010 mg/l Test organisms (species): Oncorhynchus mykiss (previous name: Salmo gairdneri)
EC50 Daphnia 1	> 211.2 mg/l Test organisms (species): Daphnia magna
EC50 Daphnia 2	> 960 mg/l Test organisms (species): Daphnia magna
EC50 72h algae (1)	> 224.4 mg/l Test organisms (species): other:Raphidocelis subcapitata (new name: Pseudokirchneriella subcapitata)
EC50 72h algae (2)	> 1020 mg/l Test organisms (species): other:Raphidocelis subcapitata (new name: Pseudokirchneriella subcapitata)

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

LC50 fish 1	7500 mg/l
EC50 Daphnia 1	> 500 mg/l

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2-(2-methoxyethoxy)ethanol; diethylene glycol monomethyl ether (111-77-3)	
EC50 other aquatic organisms 1	1192 mg/l EC50 waterflea (48 h)
EC50 other aquatic organisms 2	> 500 mg/l IC50 algae (72 h) mg/l
benzotriazole (95-14-7)	
LC50 fish 1	55 mg/l Test organisms (species): Cyprinodon variegatus
LC50 fish 2	180 mg/l Test organisms (species): Danio rerio (previous name: Brachydanio rerio)
EC50 Daphnia 1	137 mg/l Test organisms (species): Daphnia magna
EC50 72h algae (1)	75 mg/l Test organisms (species): Pseudokirchneriella subcapitata (previous names: Raphidocelis subcapitata, Selenastrum capricornutum)
EC50 72h algae (2)	29 mg/l Test organisms (species): Pseudokirchneriella subcapitata (previous names: Raphidocelis subcapitata, Selenastrum capricornutum)
2-(2-(2-methoxyethoxy)ethoxy)ethanol (112-35-6)	
EC50 Daphnia 1	> 500 mg/l Test organisms (species): Daphnia magna
EC50 72h algae (1)	> 500 mg/l Test organisms (species): Desmodesmus subspicatus (previous name: Scenedesmus subspicatus)
ethanol, 2-methoxy-, manufacture of, by products from (161907-79-5)	
LC50 fish 1	> 10000 mg/l Test organisms (species): Leuciscus idus
EC50 Daphnia 1	22900 mg/l Test organisms (species): Daphnia magna
EC50 72h algae (1)	> 500 mg/l Test organisms (species): Desmodesmus subspicatus (previous name: Scenedesmus subspicatus)
NOEC (chronic)	3152 mg/l Test organisms (species):
NOEC chronic fish	11482 mg/l Test organisms (species): no data Duration: '30 d'

12.2. Persistence and degradability

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Biodegradation	76 %

12.3. Bioaccumulative potential

No additional information available

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.

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SECTION 14: Transport information

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

ADR	IMDG	IATA	ADN	RID
14.1. UN 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
14.3. Transport hazard class(es)				
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

- Overland transport

Not applicable

- Transport by sea

Not applicable

- Air transport

Not applicable

- Inland waterway transport

Not applicable

- Rail transport

Not applicable

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

15.1.2. National regulations

Regulation on Health and Safety Precautions When Working with Chemical Substances published in the Official Journal numbered 28733 on August 12, 2013

Germany

Regulatory reference : WGK 1, Slightly hazardous to water (Classification according to AwSV, Annex 1)

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

Netherlands

SZW-lijst van kankerverwekkende stoffen : ethanol, 2-methoxy-, manufacture of, by products from is listed

SZW-lijst van mutagene stoffen : ethanol, 2-methoxy-, manufacture of, by products from is listed

NIET-limitatieve lijst van voor de voortplanting giftige stoffen –

Borstvoeding

NIET-limitatieve lijst van voor de voortplanting giftige stoffen –

Vruchtbaarheid

NIET-limitatieve lijst van voor de voortplanting giftige stoffen –
Ontwikkeling : 2-(2-methoxyethoxy)ethanol; diethylene glycol monomethyl ether is listed

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

No chemical safety assessment has been carried out

SECTION 16: Other information

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
DMEL	Derived Minimal Effect level
DNEL	Derived-No Effect Level
DPD	Dangerous Preparations Directive 1999/45/EC
DSD	Dangerous Substances Directive 67/548/EEC
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

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NOAEL	No-Observed Adverse Effect Level
NOAEC	No-Observed Adverse Effect Concentration
NOEC	No-Observed Effect Concentration
OECD	Organisation for Economic Co-operation and Development
PBT	Persistent Bioaccumulative Toxic
PNEC	Predicted No-Effect Concentration
REACH	Registration, Evaluation, Authorisation and Restriction of Chemicals Regulation (EC) No 1907/2006
RID	Regulations concerning the International Carriage of Dangerous Goods by Rail
STP	Sewage treatment plant
TLM	Median Tolerance Limit
SDS	Safety Data Sheet
vPvB	Very Persistent and Very Bioaccumulative

Data sources : REGULATION (EC) No 1272/2008 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 16 December 2008 on classification, labelling and packaging of substances and mixtures, amending and repealing Directives 67/548/EEC and 1999/45/EC, and amending Regulation (EC) No 1907/2006.

Full text of H- and EUH-statements:

Acute Tox. 4 (Oral)	Acute toxicity (oral), Category 4
Aquatic Chronic 2	Hazardous to the aquatic environment — Chronic Hazard, Category 2
Eye Irrit. 2	Serious eye damage/eye irritation, Category 2
Repr. 2	Reproductive toxicity, Category 2
Repr. 2	Reproductive toxicity, Category 2
H302	Harmful if swallowed.
H319	Causes serious eye irritation.
H361	Suspected of damaging fertility or the unborn child.
H361d	Suspected of damaging the unborn child.
H411	Toxic to aquatic life with long lasting effects.

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