



Kemetyl

Safety data sheet

According to Regulation (EU) No 2020/878

SECTION 1 IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

1.1. Product identifier

Product name : SHELL BRAKE AND CLUTCH FLUID DOT-4
Product code : CRX846

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

Application : SU21 Consumer product. PC17 Hydraulic fluids, including brake and transmission fluids.

1.3. Details of the supplier of the safety data sheet

Supplier : Kemetyl Nederland BV
Industrieweg 30
3762 EK Soest, The Netherlands
Telephone : +31-35 7604900
E-mail : msds@kemetyl.com
Website : www.kemetyl.com

1.4. Emergency telephone number

EMERGENCY TELEPHONE NUMBER, for DOCTORS/FIRE BRIGADE/POLICE only:

NL - Telephone : +31-35-6099310

(During office hours only)

SECTION 2 HAZARDS IDENTIFICATION

2.1. Classification of the substance or mixture

CLP classification : Reproductive toxicity, category 2.
(1272/2008/EC)

Human health hazards : Suspected of damaging the unborn child.

Physical/chemical hazards : Not classified as dangerous according to statutory EC-Directives.

Environmental hazards : Not classified as dangerous according to statutory EC-Directives.

2.2. Label elements

Label elements (1272/2008/EC):

Hazard pictograms :



Signal word : Warning

H- and P-phrases : H361d Suspected of damaging the unborn child.
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/attention.
P405 Store locked up.
P501 Dispose of contents/container to an official chemical waste depot.

Labelling of packagings where the contents do not exceed 125 ml and it is technically impossible to list all phrases:



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Hazard pictograms :



Signal word : Warning

H- and P-phrases :

H361d	Suspected of damaging the unborn child.
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/attention.
P405	Store locked up.
P501	Dispose of contents/container to an official chemical waste depot.

Additional labelling (for all packaging sizes)

: Contains: Tris[2-[2-(2-methoxyethoxy)ethoxy]ethyl] orthoborate .

Other information : According to Regulation (EC) No 1272/2008, the packaging of this product shall carry a tactile warning of danger.

2.3. Other hazards

Other information : Does not contain PBT or vPvB substances in concentrations higher than 0,1%.

SECTION 3 COMPOSITION / INFORMATION ON INGREDIENTS

3.2. Mixtures

Product description : Mixture.

Information on hazardous substances:

Substance name	Concentration (w/w) (%)	CAS nr.	EC number	Remark	REACH nr.
Tris[2-[2-(2-methoxyethoxy)ethoxy]ethyl] orthoborate	50 - < 60	30989-05-0	250-418-4		01-2119462824-33
Reaction mass of 2-(2-(2-butoxyethoxy)ethoxy)ethanol and 3,6,9,12-tetraoxahexadecan-1-ol	< 6	-----	907-996-4		01-2119531322-53
2-(2-Methoxyethoxy)ethanol	< 2	111-77-3	203-906-6		01-2119475100-52
1,1'-Iminodipropan-2-ol	< 2	110-97-4	203-820-9		01-2119475444-34

Substance name	Hazard Class	H-phrases	Pictograms	
Tris[2-[2-(2-methoxyethoxy)ethoxy]ethyl] orthoborate	Repr. 2	H361d	GHS08	
Reaction mass of 2-(2-(2-butoxyethoxy)ethoxy)ethanol and 3,6,9,12-tetraoxahexadecan-1-ol	Eye Dam. 1	H318	GHS05	H318 : C >= 30 % H319 : C >= 20 %
2-(2-Methoxyethoxy)ethanol	Repr. 1B	H360D	GHS08	H360D : C >= 3 %
1,1'-Iminodipropan-2-ol	Eye Irrit. 2	H319	GHS07	

Occupational exposure limit(s), if relevant, are listed in section 8.

Reference is made to chapter 16 for full text of each relevant H phrase.

SECTION 4 FIRST-AID MEASURES

Product name : Shell Brake and Clutch fluid DOT-4

Date of issue : 2022-10-20

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4.1. Description of first aid measures

First aid measures

- Inhalation : Move victim into fresh air. Consult a doctor if victim feels unwell.
- Skin contact : Take off contaminated clothing. Wash off skin with plenty of water and soap before product dries up.
- Eye contact : Wash out with (lukewarm) water. Remove contact lenses. Consult a doctor if irritation persists.
- Ingestion : Do not induce vomiting. Do rinse the mouth. Give one glass of water. Never give anything by mouth to an unconscious person. Consult a doctor if victim feels unwell.

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

Effects and symptoms

- Inhalation : May cause headache, dizziness and a feeling of sickness.
- Skin contact : May cause dry skin.
- Eye contact : May cause stinging of eyes and redness.
- Ingestion : May cause a feeling of sickness, vomiting and diarrhoea.

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

- Note to physicians : None known.

SECTION 5 FIRE-FIGHTING MEASURES

5.1. Extinguishing media

Extinguishing media

- Suitable : Carbondioxide (CO₂). Foam. Dry chemical. Water fog.
- Not suitable : Use of heavy stream of water may spread fire.

5.2. Special hazards arising from the substance or mixture

- Special exposure hazards : None known.
- Hazardous thermal decomposition products : Carbon monoxide may be evolved if incomplete combustion occurs.

5.3. Advice for firefighters

- Special protective equipment for fire-fighters : Use adequate respiratory equipment in case of insufficient ventilation.

SECTION 6 ACCIDENTAL RELEASE MEASURES

6.1. Personal precautions, protective equipment and emergency procedures

- Personal precautions : Danger of slipping. Clean up spills immediately. Wear shoes with non-slip soles. Avoid contact with spilled or released material.

6.2. Environmental precautions

- Environmental precautions : Avoid release of product into sewers, surface water and/or ground water. In case of large spills: contain with dike.
- Other information : Notify authorities if any exposure to the general public or the environment occurs or is likely to occur.

6.3. Methods and material for containment and cleaning up



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Methods for cleaning up : Collect spilled material in containers. Absorb residues in sand or other inert material. Dispose at an authorised waste collection point. Wash away remainder with plenty of water and soap.

6.4. Reference to other sections

Reference to other sections : See also section 8.

SECTION 7 HANDLING AND STORAGE

7.1. Precautions for safe handling

Handling : Handle in accordance with good occupational hygiene and safety practices in well-ventilated areas. Do not breathe vapour. Avoid contact with skin and eyes. Avoid splashing. Wear protective clothing.

7.2. Conditions for safe storage, including any incompatibilities

Storage : Keep frost-free, in a cool, dry and well-ventilated place. Keep away from oxidizing agents. Keep away from food, drink and animal feedingstuffs.

Recommended packaging : Keep only in the original container.

Non recommended packaging : None known.

7.3. Specific end use(s)

Use : Use only as directed.

SECTION 8 EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1. Control parameters

Occupational exposure limits : Occupational exposure limits have not been established for this product. Derived no-effect levels (DNEL) have not been established for this product. Predicted no-effect concentrations (PNEC) have not been established for this product.

Workplace exposure limits (mg/m³):

Chemical name	Country	TWA 8 hour (mg/m ³)	STEL 15 min (mg/m ³)	Comments	Source
2-(2-Methoxyethoxy)ethanol	EC	50,1	-	skin	Directive 2006/15/EG
2-(2-Methoxyethoxy)ethanol	GB	50,1	-	Skin	

Derived no-effect level (DNEL) for workers:

Chemical name	Route of exposure	DNEL, short-term		DNEL, long-term	
		Local effect	Systemic effect	Local effect	Systemic effect
Tris[2-[2-(2-methoxyethoxy)ethoxy]ethyl] orthoborate	Dermal				8,3 mg/kg bw/day
	Inhalation				29,1 mg/m ³
Reaction mass of 2-(2-(2-butoxyethoxy)ethoxy)ethanol and 3,6,9,12-tetraoxahexadecan-1-ol	Inhalation				195 mg/m ³
	Dermal				208 mg/kg bw/day
2-(2-Methoxyethoxy)ethanol	Inhalation				50.1 mg/m ³
	Dermal				2.22 mg/kg bw/day
1,1'-Iminodipropan-2-ol	Dermal				5 mg/kg bw/day
	Inhalation				6,4 mg/m ³

Derived no-effect level (DNEL) for consumers:

Product name : Shell Brake and Clutch fluid DOT-4

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Chemical name	Route of exposure	DNEL, short-term		DNEL, long-term	
		Local effect	Systemic effect	Local effect	Systemic effect
Tris[2-[2-(2-methoxyethoxy)ethoxy]ethyl] orthoborate	Inhalation				7,2 mg/m3
	Dermal Oral				4,1 mg/kg bw/day 4,1 mg/kg bw/day
Reaction mass of 2-(2-(2-butoxyethoxy)ethoxy)ethanol and 3,6,9,12-tetraoxahexadecan-1-ol	Inhalation				117 mg/m3
	Dermal Oral				125 mg/kg bw/day 12,5 mg/kg bw/day
2-(2-Methoxyethoxy)ethanol	Inhalation				30.1 mg/m3
	Dermal Oral				1.33 mg/kg bw/day 7.5 mg/kg bw/day
1,1'-Iminodipropan-2-ol	Dermal Inhalation				6,3 mg/kg bw/day 3,9 mg/m3
	Oral				1,3 mg/kg bw/day

Predicted no-effect concentration (PNEC):

Chemical name	Route of exposure	Fresh water	Marine water	
Tris[2-[2-(2-methoxyethoxy)ethoxy]ethyl] orthoborate	Water	0,2112 mg/l	0,02112 mg/l	
	Sediment	0,76 mg/kg	0,076 mg/kg	
	Intermittent water STP			2,112 mg/l 100 mg/l
	Soil			0,0283 mg/kg
Reaction mass of 2-(2-(2-butoxyethoxy)ethoxy)ethanol and 3,6,9,12-tetraoxahexadecan-1-ol	Water	1,8 mg/l	0,18 mg/l	
	Sediment	6,6 mg/kg	0,66 mg/kg	
	STP			500 mg/l
	Soil			0,41 mg/kg
2-(2-Methoxyethoxy)ethanol	Water	12 mg/l	1.2 mg/l	
	Sediment	44.4 mg/kg	0.44 mg/kg	
	Intermittent water STP			12 mg/l 10000 mg/l
	Soil			2.1 mg/kg
1,1'-Iminodipropan-2-ol	Oral			0.09 mg/kg food
	Water	0,278 mg/l	0,028 mg/l	
	Sediment	2,33 mg/kg	0,233 mg/kg	
	Intermittent water STP			2,777 mg/l 15000 mg/l
	Soil			0,303 mg/kg

8.2. Exposure controls

Engineering measures : Use only in well-ventilated areas. Comply with standard precautionary measures for working with chemicals. See Directive 2004/37/EG on the protection of workers from the risks related to exposure to carcinogens or mutagens at work.

Hygienic measures : When using do not eat, drink or smoke.

Personal protective equipment:

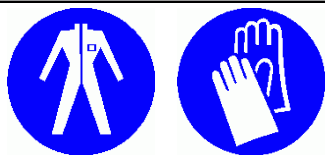
The efficiency of personal protective equipment depends among other things on temperature and degree of ventilation. Always get professional advice for the particular local situation.



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- Body protection : Wear appropriate protective clothing, overalls or suit, and similar boots in accordance with EN 365/367 resp. 345. Suitable material: butyl. Indication of permeation breakthrough time: 6 hours.
- Respiratory protection : Take care of sufficient ventilation. Wear suitable respiratory protection in case of large scale exposure. Suitable: gas filter type A (brown), class I or higher on e.g. a facemask in accordance with EN 140.
- Hand protection : Wear appropriate safety gloves in accordance with EN 374. Suitable material: butyl. $\pm 0,5$ mm. Indication of permeation breakthrough time: 6 hours.
- Eye protection : Wear appropriate safety glasses when there is danger of possible eye contact.

SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

9.1. Information on basic physical and chemical properties

Physical state	: Liquid.	
Colour	: Amber.	
Odour	: Characteristic.	
Odour threshold	: Not known.	
pH	: 7,75	
Solubility in water	: Soluble.	
Partition coefficient (n-octanol/water)	: Not known.	Not measured. Not relevant for mixtures.
Flash point	: 135,5 °C	Closed Cup (ISO 2719, EN 11, DIN 51758, ASTM D 93).
Flammability (solid, gas)	: Not applicable.	Liquid. See flashpoint.
Auto ignition temperature	: > 202 °C	
Boiling point/boiling range	: 265 °C	
Melting point/melting range	: Not known.	
Explosive properties	: Not an explosive.	
Explosion limits (% in air)	: Not known.	Lower explosion limit in air (%): 1,38 (2-(2-Methoxyethoxy)ethanol) Upper explosion limit in air (%): 22,7 (2-(2-Methoxyethoxy)ethanol)
Oxidising properties	: Not applicable.	Does not contain oxidizing substances.
Decomposition temperature	: Not applicable.	
Viscosity (20°C)	: Not known.	
Viscosity (40°C)	: 1740 mm ² /sec	
Vapour pressure (20°C)	: 100 Pa	
Relative vapour density	: > 1	(air = 1)
Relative density (20°C)	: 1,06 g/ml	
Particle characteristics	: Not applicable.	Liquid.

9.2. Other information

Other information : Not relevant.

SECTION 10 STABILITY AND REACTIVITY

10.1. Reactivity

Reactivity : See sub-sections below.

10.2. Chemical stability



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Stability : Stable under normal conditions.

10.3. Possibility of hazardous reactions

Reactivity : No other hazardous reactions known.

10.4. Conditions to avoid

Conditions to avoid : See section 7.

10.5. Incompatible materials

Materials to avoid : Keep away from oxidizing agents.

10.6. Hazardous decomposition products

Hazardous decomposition products : Not known.

SECTION 11 TOXICOLOGICAL INFORMATION *

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

No toxicological research has been carried out on this product.

Inhalation

- Acute toxicity : Calculated LC50: no data mg/l. Ingredients of unknown toxicity: 59 %. ATE: > 5 mg/l. Not classified - based on available data, the classification criteria are not met. May cause headache, dizziness and a feeling of sickness.
- Corrosion/irritation : Not classified - based on available data, the classification criteria are not met.
- Sensitisation : Does not contain substances classified as respiratory sensitiser. Not classified - based on available data, the classification criteria are not met.
- Carcinogenicity : Does not contain carcinogenic substances. Not classified - based on available data, the classification criteria are not met. Does not contain carcinogenic substances.
- Mutagenicity : Does not contain mutagenic substances. Not classified - based on available data, the classification criteria are not met.

Skin contact

- Acute toxicity : Calculated LD50: > 3601 mg/kg.bw. Ingredients of unknown toxicity: < 1 %. ATE: > 5000 mg/kg.bw. Low toxicity. Not classified - based on available data, the classification criteria are not met.
- Corrosion/irritation : Prolonged contact may dry out and defat the skin. Not classified - based on available data, the classification criteria are not met.
- Sensitisation : Does not contain skin sensitisers. Not classified - based on available data, the classification criteria are not met.
- Mutagenicity : Does not contain mutagenic substances. Not classified - based on available data, the classification criteria are not met.

Eye contact

- Corrosion/irritation : Slight irritation possible. Not classified - based on available data, the classification criteria are not met.

Ingestion

- Acute toxicity : Calculated LD50: > 3369 mg/kg.bw. Ingredients of unknown toxicity: < 1 %. ATE: > 2000 mg/kg.bw. Low toxicity. Not classified - based on available data, the classification criteria are not met.
- Aspiration : Not classified - based on available data, the classification criteria are not met. Does not contain substances with an aspiration hazard.
- Corrosion/irritation : May cause a feeling of sickness, vomiting and diarrhoea.
- Carcinogenicity : Does not contain carcinogenic substances. Not classified - based on available data, the classification criteria are not met.



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- Mutagenicity : Does not contain mutagenic substances. Not classified - based on available data, the classification criteria are not met.
- Reprotoxicity : Possible risk of harm to the unborn child. Fertility: not expected to be reprotoxic. Fertility: Not classified - based on available data, the classification criteria are not met.

Toxicological information:

Chemical name	Property		Method	Test animal
Tris[2-[2-(2-methoxyethoxy)ethyl]orthoborate	LD50 (oral)	> 2000 mg/kg bw	OECD 401	Rat
	LD50 (dermal)	> 2000 mg/kg bw	OECD 402	Rat
	Skin irritation	Non-irritant	OECD 404	Rabbit
	Eye irritation	Non-irritant	OECD 405	Rabbit
	Skin sensitisation	Not sensitizing	OECD 406	Guinea pig
	NOAEL (oral)	> 170 mg/kg bw/d	OECD 407	Rat
	Genotoxicity - in vitro	Not genotoxic	OECD 473	-----
	Mutagenicity	Negative	OECD 471	Salmonella typhimurium
	NOAEL (development, oral)	250 mg/kg bw/d	OECD 414	Rat

11.2. Information on other hazards

- Endocrine disrupting properties : Not applicable.
- Other information : Not applicable.

SECTION 12 ECOLOGICAL INFORMATION

12.1. Toxicity

No ecotoxicological research has been carried out on this product.

- Ecotoxicity : Calculated LC50 (fish): 399 mg/l. Calculated EC50 (waterflea): 376 mg/l. Contains 0 % of components with unknown hazards to the aquatic environment. Not classified - based on available data, the classification criteria are not met.

12.2. Persistence and degradability

Persistence – degradability : No specific information known.

12.3. Bioaccumulative potential

Bioaccumulative potential : No specific information known.

12.4. Mobility in soil

Mobility : If product enters soil, it will be highly mobile and may contaminate groundwater.

12.5. Results of PBT and vPvB assessment

PBT/vPvB assessment : Does not contain PBT or vPvB substances in concentrations higher than 0,1%.

12.6. Endocrine disrupting properties

Endocrine disrupting properties : Not applicable.

12.7. Other adverse effects

Other adverse effects : Not applicable.



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SECTION 13 DISPOSAL CONSIDERATIONS

13.1. Waste treatment methods

- Product residues : Do not dispose empty pack with waste produced by households. Containers may be recycled. Treat product residues and non-empty pack as hazardous waste.
- Additional warning : None.
- Waste water discharge : Do not dispose of into the environment, drains, sewers or water courses.
- European waste catalogue : Dispose hazardous waste in accordance with Directive 91/689/EEC under acknowledgement of a waste code according to Commission Decision 2000/532/EC to an official chemical waste depot.
- Local legislation : Disposal should be in accordance with applicable regional, national, and local laws and regulations. Local regulations may be more stringent than regional or national requirements and must be complied with.

SECTION 14 TRANSPORT INFORMATION

14.1. UN number or ID number

UN nr. : None.

14.2. UN proper shipping name

Transport name : Not regulated.

14.3/14.4/14.5. Transport hazard class(es)/Packing group/Environmental hazards

ADR/RID/ADN (road/railway/inland waterways)

Class : This product is not classified according to ADR/RID/ADN.

IMDG (sea)

Class : This product is not classified according to IMDG.

Marine pollutant : No

IATA (air)

Class : This product is not classified according to IATA.

14.6. Special precautions for user

Other information : Country specific variations may apply.

14.7. Maritime transport in bulk according to IMO instruments

Marpol : Not intended to be carried in bulk according to International Maritime Organisation (IMO) instruments. Packaged liquids are not considered bulk.

SECTION 15 REGULATORY INFORMATION

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

Community regulations : Regulation (EU) No 2020/878 (REACH), Regulation (EC) No 1272/2008 (CLP) and other regulations. Directive 2008/98/EC (waste).

15.2. Chemical safety assessment

Chemical safety assessment : Not applicable.



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SECTION 16 OTHER INFORMATION

16.1. Other information

The information in this safety data sheet is compiled in compliance with Regulation (EU) No 2020/878 dated 18 June 2020 and accurate to the best of our knowledge and experience at the date of issue specified. It is the user's obligation to use this product safely and to comply with all applicable laws and regulations concerning the use of the product. This safety data sheet complements the technical information sheets but does not replace them and offers no warranty with regard to product properties.

Users are also forewarned for any hazards involved when the product is used for other purposes than those for which it is designed.

Changed or new information with regard to the previous release is indicated with an asterisk (*).

List of abbreviations and acronyms that could be (but not necessarily are) used in this safety data sheet:

ADR	: European Agreement concerning the International Carriage of Dangerous Goods by Road
ATE	: Acute Toxicity Estimate
CLP	: Classification, Labeling & Packaging
CMR	: Carcinogenic, Mutagenic or toxic for Reproduction
EEC	: European Economic Community
GHS	: Globally Harmonized System of Classification and Labelling of Chemicals
IATA	: International Air Transport Association
IBC code	: International Bulk Chemical Code
IMDG	: International Maritime Dangerous Goods Code
LD50/LC50	: Lethal Dose/Concentration for 50% of a population
MAC	: Maximum Allowable Concentration
MARPOL	: International Convention for the Prevention of Pollution From Ships
NO(A)EL	: No Observed (Adverse) Effect Level
OECD	: Organisation for Economic Co-operation and Development
PBT	: Persistent, Bioaccumulative and Toxic
PC	: Chemical product category
PT	: Product type
REACH	: Registration, Evaluation, Authorisation and Restriction of Chemicals
RID	: Regulations concerning the International Carriage of Dangerous Goods by Rail
STP	: Sewage Treatment Plant
SU	: Sector of Use
TWA/STEL	: Time-Weighted Average/Short Term Exposure Limit
UN	: United Nations
UFI	: Unique formula identifier
VOC	: Volatile Organic Compounds
vPvB	: Very Persistent and Very Bioaccumulative

Key data used to compile the Safety Data Sheet are from, but not limited to, one or more sources of information e.g. toxicological data from material suppliers, CONCAWE, IFRA, CESIO, Regulation EG 1272/2008, etc.

Procedure used to derive the classification according to Regulation (EC) No. 1272/2008:

Repr. 2 : Calculation method.

Full text of hazard classes mentioned in section 3:

Eye Dam. 1 : Serious eye damage, category 1.
Eye Irrit. 2 : Eye irritation, category 2.
Repr. 1B : Reproductive toxicity, hazard category 1B.
Repr. 2 : Reproductive toxicity, category 2.

Full text of H-phrases mentioned in section 3:

H318 Causes serious eye damage.
H319 Causes serious eye irritation.
H361d Suspected of damaging the unborn child.



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H360D

May damage the unborn child.

Advice on any training appropriate for workers: none.

Number format : "," used as decimal separator.

End of safety data sheet.

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