



**SAFETY DATA SHEET**  
according to Regulation (EC) No. 1907/2006  
Valvoline™ BRAKE & CLUTCH FLUID DOT 4

Version: 5.0

Revision Date: 27.01.2023

Print Date: 27/01/2023

---

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

**1.1 Product identifier**

Trade name : Valvoline™ BRAKE & CLUTCH FLUID DOT 4

Product code : 883429

Unique Formula Identifier (UFI) : UJQD-7SR2-Y006-3693

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

Use of the substance/mixture : BRAKE FLUID

**1.3 Details of the supplier of the safety data sheet**

Company : Ellis Enterprises B.V., an affiliate of Valvoline  
Wieldrechtseweg 39  
3316 BG Dordrecht  
Netherlands

Telephone : +31 (0)78 654 3500 (in the Netherlands), or contact your local CSR contact person

E-mail address of person responsible for the SDS : SDS@valvoline.com

**1.4 Emergency telephone number**

00-800-825-8654 / 001-859-202-3865

, or contact your local emergency telephone number at +31 030 274 88 88

---

**SECTION 2: Hazards identification**

**2.1 Classification of the substance or mixture**

**Classification (REGULATION (EC) No 1272/2008)**

Reproductive toxicity, Category 2                      H361d: Suspected of damaging the unborn child.



**SAFETY DATA SHEET**  
according to Regulation (EC) No. 1907/2006  
Valvoline™ BRAKE & CLUTCH FLUID DOT 4

Version: 5.0

Revision Date: 27.01.2023

Print Date: 27/01/2023

## 2.2 Label elements

### Labelling (REGULATION (EC) No 1272/2008)

Hazard pictograms :



Signal word : Warning

Hazard statements : H361d Suspected of damaging the unborn child.

Precautionary statements : P101 If medical advice is needed, have product container or label at hand.  
P102 Keep out of reach of children.

#### Prevention:

P202 Do not handle until all safety precautions have been read and understood.

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

#### Storage:

P405 Store locked up.

#### Disposal:

P501 Dispose of contents/ container to an approved waste disposal plant.

### Hazardous components which must be listed on the label:

Triethylene glycol monomethyl ether, borate

## 2.3 Other hazards

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

Ecological information: The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

Toxicological information: The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

---

## SECTION 3: Composition/information on ingredients



**SAFETY DATA SHEET**  
 according to Regulation (EC) No. 1907/2006  
 Valvoline™ BRAKE & CLUTCH FLUID DOT 4

Version: 5.0

Revision Date: 27.01.2023

Print Date: 27/01/2023

**3.2 Mixtures**

**Components**

Chemical name	CAS-No. EC-No. Index-No. Registration number	Classification	Concentration (% w/w)
Triethylene glycol monomethyl ether, borate	30989-05-0 250-418-4 01-2119462824-33-xxxx	Repr. 2; H361d	>= 10 - < 15
Reaction mass of 2-(2-(2-butoxyethoxy)ethoxy)ethanol and 3,6,9,12-tetraoxahexadecan-1-ol	Not Assigned  01-2119531322-53-xxxx	Eye Dam. 1; H318  specific concentration limit Eye Dam. 1; H318 >= 30 % Eye Irrit. 2; H320 20 - < 30 %	>= 10 - < 15
(tris[2-(2-hydroxyethoxy)ethyl] borate )	71035-05-7  01-2120766655-42-xxxx	Acute Tox. 4; H302	>= 5 - < 10
DIETHYLENE GLYCOL MONOBUTYL ETHER	112-34-5 203-961-6 603-096-00-8 01-2119475104-44-xxxx	Eye Irrit. 2; H319	>= 2,5 - < 5
DIETHYLENE GLYCOL	111-46-6 203-872-2 603-140-00-6 01-2119457857-21-xxxx	Acute Tox. 4; H302 STOT RE 2; H373 (Kidney)  Acute toxicity estimate  Acute oral toxicity: 1.120 mg/kg	>= 1 - < 2,5
DIETHYLENE GLYCOL MONOMETHYL ETHER	111-77-3 203-906-6 603-107-00-6 01-2119475100-52-xxxx	Repr. 2; H361d  specific concentration limit Repr. 1B; H360D >= 3 %	>= 0,5 - < 1
BUTYLATED HYDROXY	128-37-0	Aquatic Acute 1;	>= 0,1 - < 0,25



**SAFETY DATA SHEET**  
 according to Regulation (EC) No. 1907/2006  
 Valvoline™ BRAKE & CLUTCH FLUID DOT 4

Version: 5.0

Revision Date: 27.01.2023

Print Date: 27/01/2023

TOLUENE	204-881-4 01-2119565113-46- xxxx	H400 Aquatic Chronic 1; H410	
		M-Factor (Acute aquatic toxicity): 1 M-Factor (Chronic aquatic toxicity): 1	

For explanation of abbreviations see section 16.

**SECTION 4: First aid measures**

**4.1 Description of first aid measures**

- General advice : Move out of dangerous area.  
Consult a physician.  
Show this safety data sheet to the doctor in attendance.  
Do not leave the victim unattended.
- If inhaled : If unconscious, place in recovery position and seek medical advice.  
If symptoms persist, call a physician.
- In case of eye contact : Small amounts splashed into eyes can cause irreversible tissue damage and blindness.  
In the case of contact with eyes, rinse immediately with plenty of water and seek medical advice.  
Continue rinsing eyes during transport to hospital.  
Remove contact lenses.  
Protect unharmed eye.  
Keep eye wide open while rinsing.  
If eye irritation persists, consult a specialist.
- If swallowed : Clean mouth with water and drink afterwards plenty of water.  
Keep respiratory tract clear.  
Do NOT induce vomiting.  
Do not give milk or alcoholic beverages.  
Never give anything by mouth to an unconscious person.  
If symptoms persist, call a physician.  
Take victim immediately to hospital.

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

- Symptoms : No symptoms known or expected.
- Risks : Diglycol ethers may cause acidosis.



**SAFETY DATA SHEET**  
according to Regulation (EC) No. 1907/2006  
Valvoline™ BRAKE & CLUTCH FLUID DOT 4

Version: 5.0

Revision Date: 27.01.2023

Print Date: 27/01/2023

---

Suspected of damaging the unborn child.

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

Treatment : No hazards which require special first aid measures.  
Treat symptomatically.

---

**SECTION 5: Firefighting measures**

**5.1 Extinguishing media**

Unsuitable extinguishing media : High volume water jet

**5.2 Special hazards arising from the substance or mixture**

Specific hazards during firefighting : Do not allow run-off from fire fighting to enter drains or water courses.  
Hazardous combustion products : carbon dioxide and carbon monoxide

**5.3 Advice for firefighters**

Special protective equipment for firefighters : Wear self-contained breathing apparatus for firefighting if necessary.  
Further information : Collect contaminated fire extinguishing water separately. This must not be discharged into drains. Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.

---

**SECTION 6: Accidental release measures**

**6.1 Personal precautions, protective equipment and emergency procedures**

Personal precautions : Use personal protective equipment.

**6.2 Environmental precautions**

Environmental precautions : Prevent product from entering drains. Prevent further leakage or spillage if safe to do so.



**SAFETY DATA SHEET**  
according to Regulation (EC) No. 1907/2006  
Valvoline™ BRAKE & CLUTCH FLUID DOT 4

Version: 5.0

Revision Date: 27.01.2023

Print Date: 27/01/2023

If the product contaminates rivers and lakes or drains inform respective authorities.

### 6.3 Methods and material for containment and cleaning up

Methods for cleaning up : Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust).  
Keep in suitable, closed containers for disposal.

### 6.4 Reference to other sections

See sections: 7, 8, 11, 12 and 13.

---

## SECTION 7: Handling and storage

### 7.1 Precautions for safe handling

Advice on safe handling : Do not breathe vapours/dust.  
Avoid contact with skin and eyes.  
For personal protection see section 8.  
Smoking, eating and drinking should be prohibited in the application area.  
To avoid spills during handling keep bottle on a metal tray.  
Dispose of rinse water in accordance with local and national regulations.

Advice on protection against fire and explosion : Normal measures for preventive fire protection.

Hygiene measures : When using do not eat or drink. When using do not smoke.  
Wash hands before breaks and at the end of workday.

### 7.2 Conditions for safe storage, including any incompatibilities

Requirements for storage areas and containers : Keep container tightly closed in a dry and well-ventilated place. Observe label precautions. Electrical installations / working materials must comply with the technological safety standards.

Further information on storage stability : No decomposition if stored and applied as directed.

### 7.3 Specific end use(s)

Specific use(s) : No data available



**SAFETY DATA SHEET**  
 according to Regulation (EC) No. 1907/2006  
 Valvoline™ BRAKE & CLUTCH FLUID DOT 4

Version: 5.0

Revision Date: 27.01.2023

Print Date: 27/01/2023

**SECTION 8: Exposure controls/personal protection**

**8.1 Control parameters**

**Occupational Exposure Limits**

Components	CAS-No.	Value type (Form of exposure)	Control parameters	Basis	
DIETHYLENE GLYCOL MONOBUTYL ETHER	112-34-5	STEL	15 ppm 101,2 mg/m <sup>3</sup>	2006/15/EC	
		Further information: Indicative			
		TWA	10 ppm 67,5 mg/m <sup>3</sup>	2006/15/EC	
		Further information: Indicative			
		TLV-8hr	50 mg/m <sup>3</sup>	NL WG	
		Further information: Skin notation			
DIETHYLENE GLYCOL MONOMETHYL ETHER	111-77-3	TWA	10 ppm 50,1 mg/m <sup>3</sup>	2006/15/EC	
		Further information: Indicative, Identifies the possibility of significant uptake through the skin			
		TLV-8hr	45 mg/m <sup>3</sup>	NL WG	
		Further information: Skin notation			

**Predicted No Effect Concentration (PNEC) according to Regulation (EC) No. 1907/2006:**

Substance name	Environmental Compartment	Value
TRIETHYLENE GLYCOL	Sewage treatment plant	10 mg/l
	Fresh water sediment	46 mg/kg
	Soil	3,32 mg/kg

**8.2 Exposure controls**

**Personal protective equipment**

Eye protection : Eye wash bottle with pure water  
 Tightly fitting safety goggles  
 Wear face-shield and protective suit for abnormal processing problems.

Hand protection  
 Material : neoprene, nitrile rubber



**SAFETY DATA SHEET**  
according to Regulation (EC) No. 1907/2006  
Valvoline™ BRAKE & CLUTCH FLUID DOT 4

Version: 5.0

Revision Date: 27.01.2023

Print Date: 27/01/2023

Break through time :  $\geq 240$  min  
Glove thickness :  $\geq 0,35$  mm  
Directive : Equipment should conform to EN 374

Remarks : The selected protective gloves have to satisfy the specifications of Regulation (EU) 2016/425 and the standard EN 374 derived from it. Gloves should be discarded and replaced if there is any indication of degradation or chemical breakthrough. Please observe the instructions regarding permeability and breakthrough time which are provided by the supplier of the gloves. Also take into consideration the specific local conditions under which the product is used, such as the danger of cuts, abrasion, and the contact time. The data about break through time/strength of material are standard values! The exact break through time/strength of material has to be obtained from the producer of the protective glove.  
The suitability for a specific workplace should be discussed with the producers of the protective gloves.

Skin and body protection : Impervious clothing  
Choose body protection according to the amount and concentration of the dangerous substance at the work place.

Respiratory protection : No personal respiratory protective equipment normally required.

---

## 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  
Melting point/freezing point : No data available  
Initial boiling point and boiling range : 245 °C



**SAFETY DATA SHEET**  
according to Regulation (EC) No. 1907/2006  
Valvoline™ BRAKE & CLUTCH FLUID DOT 4

Version: 5.0

Revision Date: 27.01.2023

Print Date: 27/01/2023

---

Flammability	:	No data available
Upper explosion limit / Upper flammability limit	:	No data available
Lower explosion limit / Lower flammability limit	:	No data available
Flash point	:	ca. 125 °C
Decomposition temperature	:	No data available
pH	:	7 - 11
Viscosity		
Viscosity, dynamic	:	No data available
Viscosity, kinematic	:	14,6 mm <sup>2</sup> /s (20 °C)
Solubility(ies)		
Water solubility	:	soluble
Solubility in other solvents	:	No data available
Partition coefficient: n-octanol/water	:	No data available
Vapour pressure	:	No data available
Relative density	:	No data available
Density	:	ca. 1,05 g/cm <sup>3</sup>
Relative vapour density	:	No data available

**9.2 Other information**

Oxidizing properties	:	No data available
Self-ignition	:	350 °C
Evaporation rate	:	No data available

---

**SECTION 10: Stability and reactivity**



**SAFETY DATA SHEET**  
according to Regulation (EC) No. 1907/2006  
Valvoline™ BRAKE & CLUTCH FLUID DOT 4

Version: 5.0

Revision Date: 27.01.2023

Print Date: 27/01/2023

**10.1 Reactivity**

No decomposition if stored and applied as directed.

**10.2 Chemical stability**

No decomposition if stored and applied as directed.

**10.3 Possibility of hazardous reactions**

Hazardous reactions : No decomposition if stored and applied as directed.

**10.4 Conditions to avoid**

Conditions to avoid : excessive heat  
Do not allow evaporation to dryness.

**10.5 Incompatible materials**

Materials to avoid : Acids  
Alkaline earth metals  
Bases  
Strong oxidizing agents

**10.6 Hazardous decomposition products**

No hazardous decomposition products are known.

---

**SECTION 11: Toxicological information**

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

**Acute toxicity**

Not classified based on available information.

**Product:**

Acute oral toxicity : Acute toxicity estimate: > 2.000 mg/kg  
Method: Calculation method

**Components:**

**Triethylene glycol monomethyl ether, borate:**

Acute oral toxicity : LD50 (Rat): > 2.000 mg/kg  
Method: OECD Test Guideline 401  
Assessment: The substance or mixture has no acute oral toxicity

Acute dermal toxicity : LD50 (Rat): > 2.000 mg/kg



# SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006  
Valvoline™ BRAKE & CLUTCH FLUID DOT 4

Version: 5.0

Revision Date: 27.01.2023

Print Date: 27/01/2023

Method: **OECD Test Guideline 402**  
Assessment: **The substance or mixture has no acute dermal toxicity**

### Reaction mass of 2-(2-(2-butoxyethoxy)ethoxy)ethanol and 3,6,9,12-tetraoxahexadecan-1-ol:

Acute oral toxicity : **LD50: 2.630 mg/kg**  
Assessment: **The substance or mixture has no acute oral toxicity**

Acute dermal toxicity : **LD50 (Rabbit, male): 3.540 mg/kg**  
Assessment: **The substance or mixture has no acute dermal toxicity**

### (tris[2-(2-hydroxyethoxy)ethyl] borate ):

Acute oral toxicity : Assessment: **The component/mixture is moderately toxic after single ingestion.**

### DIETHYLENE GLYCOL MONOBUTYL ETHER:

Acute oral toxicity : **LD50 (Rat): 3.305 mg/kg**

Acute dermal toxicity : **LD50 (Rabbit): 2.734 mg/kg**

Acute toxicity (other routes of administration) : **LD50 (Rat): 500 mg/kg**  
Application Route: **Intraperitoneal**

### DIETHYLENE GLYCOL:

Acute oral toxicity : **LD50 (Human): Expected 1.120 mg/kg**  
Target Organs: **Kidney**

**Acute toxicity estimate: 1.120 mg/kg**  
Method: **Calculation method**

Acute inhalation toxicity : **LC50 (Rat): > 4,6 mg/l**  
Exposure time: **4 h**  
Test atmosphere: **dust/mist**  
Assessment: **The substance or mixture has no acute inhalation toxicity**

Acute dermal toxicity : **LD50 (Rabbit): 13.300 mg/kg**

### DIETHYLENE GLYCOL MONOMETHYL ETHER:

Acute oral toxicity : **LD50 (Mouse): > 5.288 mg/kg**  
Method: **OECD Test Guideline 401**  
GLP: **no**



**SAFETY DATA SHEET**  
according to Regulation (EC) No. 1907/2006  
Valvoline™ BRAKE & CLUTCH FLUID DOT 4

Version: 5.0

Revision Date: 27.01.2023

Print Date: 27/01/2023

Acute inhalation toxicity : LC0 (Rat): > 1,2 mg/l  
Exposure time: 6 h  
Test atmosphere: vapour  
Method: OECD Test Guideline 403

Acute dermal toxicity : LD50 (Rabbit): 9.404 mg/kg  
Method: OECD Test Guideline 402

**BUTYLATED HYDROXY TOLUENE:**

Acute oral toxicity : LD50 (Rat): > 6.000 mg/kg  
Method: OECD Test Guideline 401  
GLP: yes

Acute dermal toxicity : LD50 (Rat): > 2.000 mg/kg  
Assessment: The substance or mixture has no acute dermal toxicity  
Remarks: No mortality observed at this dose.

**Skin corrosion/irritation**

Not classified based on available information.

**Product:**

Remarks : Extremely corrosive and destructive to tissue.

**Components:**

**Triethylene glycol monomethyl ether, borate:**

Result : No skin irritation

**Reaction mass of 2-(2-(2-butoxyethoxy)ethoxy)ethanol and 3,6,9,12-tetraoxahexadecan-1-ol:**

Result : No skin irritation

**DIETHYLENE GLYCOL MONOBUTYL ETHER:**

Result : Slight, transient irritation

**DIETHYLENE GLYCOL:**

Species : Human  
Result : Slight, transient irritation

**DIETHYLENE GLYCOL MONOMETHYL ETHER:**

Species : Rabbit  
Method : OECD Test Guideline 404



**SAFETY DATA SHEET**  
according to Regulation (EC) No. 1907/2006  
Valvoline™ BRAKE & CLUTCH FLUID DOT 4

Version: 5.0

Revision Date: 27.01.2023

Print Date: 27/01/2023

Result : No skin irritation

**BUTYLATED HYDROXY TOLUENE:**

Species : Rabbit  
Method : OECD Test Guideline 404  
Result : No skin irritation

**Serious eye damage/eye irritation**

Not classified based on available information.

**Product:**

Remarks : May cause irreversible eye damage.

**Components:**

**Triethylene glycol monomethyl ether, borate:**

Result : Slight, transient irritation

**Reaction mass of 2-(2-(2-butoxyethoxy)ethoxy)ethanol and 3,6,9,12-tetraoxahexadecan-1-ol:**

Result : Corrosive

**DIETHYLENE GLYCOL MONOBUTYL ETHER:**

Result : Severely irritating to eyes

**DIETHYLENE GLYCOL:**

Species : Rabbit  
Result : Slight, transient irritation

**DIETHYLENE GLYCOL MONOMETHYL ETHER:**

Species : Rabbit  
Method : OECD Test Guideline 405  
Result : Slight, transient irritation

**BUTYLATED HYDROXY TOLUENE:**

Species : Rabbit  
Method : OECD Test Guideline 405  
Result : Slight, transient irritation



**SAFETY DATA SHEET**  
according to Regulation (EC) No. 1907/2006  
Valvoline™ BRAKE & CLUTCH FLUID DOT 4

Version: 5.0

Revision Date: 27.01.2023

Print Date: 27/01/2023

**Respiratory or skin sensitisation**

**Skin sensitisation**

Not classified based on available information.

**Respiratory sensitisation**

Not classified based on available information.

**Components:**

**Triethylene glycol monomethyl ether, borate:**

Test Type	:	Maximisation Test
Species	:	Guinea pig
Assessment	:	Does not cause skin sensitisation.
Method	:	OECD Test Guideline 406

**DIETHYLENE GLYCOL MONOBUTYL ETHER:**

Test Type	:	Maximisation Test
Species	:	Guinea pig
Result	:	Did not cause sensitisation on laboratory animals.

**DIETHYLENE GLYCOL:**

Test Type	:	Maximisation Test
Species	:	Guinea pig
Method	:	Directive 67/548/EEC, Annex V, B.6.
Result	:	Did not cause sensitisation on laboratory animals.

**DIETHYLENE GLYCOL MONOMETHYL ETHER:**

Test Type	:	Maximisation Test
Species	:	Guinea pig
Assessment	:	Does not cause skin sensitisation.
Method	:	OECD Test Guideline 406

**BUTYLATED HYDROXY TOLUENE:**

Assessment	:	Does not cause skin sensitisation.
------------	---	------------------------------------

**Germ cell mutagenicity**

Not classified based on available information.

**Components:**

**Triethylene glycol monomethyl ether, borate:**

Genotoxicity in vitro	:	Test Type: Ames test Test system: Salmonella typhimurium Metabolic activation: with and without metabolic activation
-----------------------	---	--



**SAFETY DATA SHEET**  
according to Regulation (EC) No. 1907/2006  
Valvoline™ BRAKE & CLUTCH FLUID DOT 4

Version: 5.0

Revision Date: 27.01.2023

Print Date: 27/01/2023

Result: **negative**

**DIETHYLENE GLYCOL MONOBUTYL ETHER:**

Genotoxicity in vitro : Remarks: **In vitro tests did not show mutagenic effects**

Genotoxicity in vivo : Result: **In vivo tests did not show mutagenic effects**

**DIETHYLENE GLYCOL:**

Genotoxicity in vitro : Test Type: **Ames test**  
Metabolic activation: **with and without metabolic activation**  
Method: **OECD Test Guideline 471**  
Result: **negative**  
GLP: **yes**

Test system: **Chinese hamster ovary cells**  
Metabolic activation: **with and without metabolic activation**  
Method: **OECD Test Guideline 479**  
Result: **negative**  
GLP: **yes**

Genotoxicity in vivo : Test Type: **In vivo micronucleus test**  
Species: **Mouse**  
Method: **OECD Test Guideline 474**  
Result: **negative**  
GLP: **yes**

**DIETHYLENE GLYCOL MONOMETHYL ETHER:**

Genotoxicity in vitro : Test Type: **Ames test**  
Test system: **Salmonella typhimurium**  
Metabolic activation: **with and without metabolic activation**  
Method: **OECD Test Guideline 471**  
Result: **negative**

**BUTYLATED HYDROXY TOLUENE:**

Genotoxicity in vitro : Test Type: **Ames test**  
Test system: **Salmonella typhimurium**  
Metabolic activation: **with and without metabolic activation**  
Result: **negative**

**Carcinogenicity**

Not classified based on available information.

**Reproductive toxicity**

Suspected of damaging the unborn child.



**SAFETY DATA SHEET**  
according to Regulation (EC) No. 1907/2006  
Valvoline™ BRAKE & CLUTCH FLUID DOT 4

Version: 5.0

Revision Date: 27.01.2023

Print Date: 27/01/2023

**Components:**

**Triethylene glycol monomethyl ether, borate:**

Reproductive toxicity - Assessment : Some evidence of adverse effects on development, based on animal experiments.

**DIETHYLENE GLYCOL MONOBUTYL ETHER:**

Effects on fertility : Symptoms: No effects on fertility

**DIETHYLENE GLYCOL MONOMETHYL ETHER:**

Reproductive toxicity - Assessment : Some evidence of adverse effects on development, based on animal experiments.

**STOT - single exposure**

Not classified based on available information.

**STOT - repeated exposure**

Not classified based on available information.

**Components:**

**DIETHYLENE GLYCOL:**

Exposure routes : Ingestion  
Target Organs : Kidney  
Assessment : May cause damage to organs through prolonged or repeated exposure.

**Repeated dose toxicity**

**Components:**

**DIETHYLENE GLYCOL MONOBUTYL ETHER:**

NOAEL : 250 mg/kg  
LOAEL : 1.000 mg/kg  
Application Route : Oral  
Target Organs : Blood

**Aspiration toxicity**

Not classified based on available information.

**11.2 Information on other hazards**

**Endocrine disrupting properties**

**Product:**



**SAFETY DATA SHEET**  
according to Regulation (EC) No. 1907/2006  
Valvoline™ BRAKE & CLUTCH FLUID DOT 4

Version: 5.0

Revision Date: 27.01.2023

Print Date: 27/01/2023

Assessment : The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

**Experience with human exposure**

**Components:**

**DIETHYLENE GLYCOL:**

General Information : Liver  
Kidney

**Further information**

**Product:**

Remarks : No data available

**SECTION 12: Ecological information**

**12.1 Toxicity**

**Product:**

**Ecotoxicology Assessment**

Acute aquatic toxicity : Not classified based on available information.

Chronic aquatic toxicity : Not classified based on available information.

**Components:**

**Triethylene glycol monomethyl ether, borate:**

Toxicity to fish : LC50 (*Oncorhynchus mykiss* (rainbow trout)): > 100 mg/l  
Exposure time: 96 h  
Test Type: semi-static test  
Method: OECD Test Guideline 203

Toxicity to daphnia and other aquatic invertebrates : EC50 (*Daphnia magna* (Water flea)): > 211,2 mg/l  
Exposure time: 48 h  
Test Type: static test  
Method: OECD Test Guideline 202

Toxicity to algae/aquatic : EC50 (*Pseudokirchneriella subcapitata* (algae)): > 100 mg/l



**SAFETY DATA SHEET**  
according to Regulation (EC) No. 1907/2006  
Valvoline™ BRAKE & CLUTCH FLUID DOT 4

Version: 5.0

Revision Date: 27.01.2023

Print Date: 27/01/2023

plants  
Exposure time: 72 h  
Method: OECD Test Guideline 201

**Ecotoxicology Assessment**

Acute aquatic toxicity : Not classified based on available information.  
Chronic aquatic toxicity : Not classified based on available information.

**Reaction mass of 2-(2-(2-butoxyethoxy)ethoxy)ethanol and 3,6,9,12-tetraoxahexadecan-1-ol:**

Toxicity to fish : LC50 : > 1.800 mg/l  
Exposure time: 96 h  
Method: OECD Test Guideline 203  
Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): > 3.200 mg/l  
Exposure time: 48 h  
Method: OECD Test Guideline 202  
Toxicity to algae/aquatic plants : EC50 : 391 mg/l  
Exposure time: 72 h

**Ecotoxicology Assessment**

Acute aquatic toxicity : Not classified based on available information.  
Chronic aquatic toxicity : Not classified based on available information.

**(tris[2-(2-hydroxyethoxy)ethyl] borate ):**

**Ecotoxicology Assessment**

Acute aquatic toxicity : Not classified based on available information.  
Chronic aquatic toxicity : Not classified based on available information.

**DIETHYLENE GLYCOL MONOBUTYL ETHER:**

Toxicity to fish : LC50 (Bluegill (Lepomis macrochirus)): 1.300 mg/l  
Exposure time: 96 h  
Test Type: static test  
Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): > 100 mg/l  
Exposure time: 48 h  
Test Type: static test  
Toxicity to algae/aquatic plants : EC50 (Desmodesmus subspicatus (green algae)): > 100 mg/l  
Exposure time: 96 h  
Test Type: static test



**SAFETY DATA SHEET**  
according to Regulation (EC) No. 1907/2006  
Valvoline™ BRAKE & CLUTCH FLUID DOT 4

Version: 5.0

Revision Date: 27.01.2023

Print Date: 27/01/2023

Toxicity to microorganisms : **EC50 (Bacteria): > 100 mg/l**  
Exposure time: **96 h**  
Test Type: **Static**

**Ecotoxicology Assessment**

Acute aquatic toxicity : **Not classified based on available information.**

Chronic aquatic toxicity : **Not classified based on available information.**

**DIETHYLENE GLYCOL:**

Toxicity to daphnia and other aquatic invertebrates : **LC50 (Daphnia magna (Water flea)): > 10.000 mg/l**  
Exposure time: **24 h**  
Test Type: **static test**  
Method: **DIN 38412**

**Ecotoxicology Assessment**

Acute aquatic toxicity : **Not classified based on available information.**

Chronic aquatic toxicity : **Not classified based on available information.**

**DIETHYLENE GLYCOL MONOMETHYL ETHER:**

Toxicity to fish : **LC50 (Pimephales promelas (fathead minnow)): 5.741 mg/l**  
Exposure time: **96 h**  
Test Type: **static test**

Toxicity to daphnia and other aquatic invertebrates : **EC50 (Daphnia magna (Water flea)): 1.192 mg/l**  
Exposure time: **48 h**  
Test Type: **static test**

Toxicity to algae/aquatic plants : **EC50 (Pseudokirchneriella subcapitata (green algae)): > 1.000 mg/l**  
End point: **Biomass**  
Exposure time: **96 h**  
Test Type: **static test**  
Method: **OECD Test Guideline 201**

**Ecotoxicology Assessment**

Acute aquatic toxicity : **Not classified based on available information.**

Chronic aquatic toxicity : **Not classified based on available information.**

**BUTYLATED HYDROXY TOLUENE:**



**SAFETY DATA SHEET**  
according to Regulation (EC) No. 1907/2006  
Valvoline™ BRAKE & CLUTCH FLUID DOT 4

Version: 5.0

Revision Date: 27.01.2023

Print Date: 27/01/2023

Toxicity to fish	:	LC50 (Fish): estimated 0,199 mg/l Exposure time: 96 h Remarks: QSAR
Toxicity to daphnia and other aquatic invertebrates	:	EC50 (Daphnia magna (Water flea)): 0,48 mg/l Exposure time: 48 h Test Type: static test Method: OECD Test Guideline 202
M-Factor (Acute aquatic toxicity)	:	1
Toxicity to fish (Chronic toxicity)	:	NOEC: 0,053 mg/l Exposure time: 42 d Species: Oryzias latipes (Orange-red killifish) Test Type: flow-through test
M-Factor (Chronic aquatic toxicity)	:	1

**Ecotoxicology Assessment**

Acute aquatic toxicity	:	Acute aquatic toxicity Category 1; Very toxic to aquatic life.
Chronic aquatic toxicity	:	Chronic aquatic toxicity Category 1; Very toxic to aquatic life with long lasting effects.

**12.2 Persistence and degradability**

**Components:**

**Triethylene glycol monomethyl ether, borate:**

Biodegradability	:	Result: Readily biodegradable. Biodegradation: > 70 % Exposure time: 28 d Method: OECD Test Guideline 301A
------------------	---	---

**Reaction mass of 2-(2-(2-butoxyethoxy)ethoxy)ethanol and 3,6,9,12-tetraoxahexadecan-1-ol:**

Biodegradability	:	Result: Readily biodegradable.
------------------	---	--------------------------------

**DIETHYLENE GLYCOL MONOBUTYL ETHER:**

Biodegradability	:	Biodegradation: 89 % Exposure time: 28 d Method: OECD Test Guideline 301C Remarks: Readily biodegradable
------------------	---	---



**SAFETY DATA SHEET**  
according to Regulation (EC) No. 1907/2006  
Valvoline™ BRAKE & CLUTCH FLUID DOT 4

Version: 5.0

Revision Date: 27.01.2023

Print Date: 27/01/2023

**DIETHYLENE GLYCOL:**

Biodegradability : Result: **Readily biodegradable.**  
Biodegradation: **70 - 80 %**  
Exposure time: **28 d**  
Method: **OECD Test Guideline 301B**

**DIETHYLENE GLYCOL MONOMETHYL ETHER:**

Biodegradability : Test Type: **aerobic**  
Inoculum: **activated sludge**  
Result: **Readily biodegradable.**  
Biodegradation: **100 %**  
Exposure time: **28 d**

**BUTYLATED HYDROXY TOLUENE:**

Biodegradability : Result: **Not readily biodegradable.**  
Biodegradation: **4,5 %**  
Exposure time: **28 d**  
Method: **OECD Test Guideline 301C**

Physico-chemical removability : Remarks: **The product can be degraded by abiotic (e.g. chemical or photolytic) processes.**

**12.3 Bioaccumulative potential**

**Components:**

**Triethylene glycol monomethyl ether, borate:**

Partition coefficient: n-octanol/water : log Pow: **1,6 (25 °C)**

**Reaction mass of 2-(2-(2-butoxyethoxy)ethoxy)ethanol and 3,6,9,12-tetraoxahexadecan-1-ol:**

Partition coefficient: n-octanol/water : log Pow: **0,5 (25 °C)**

**DIETHYLENE GLYCOL MONOBUTYL ETHER:**

Bioaccumulation : Remarks: **Bioaccumulation is unlikely.**

Partition coefficient: n-octanol/water : log Pow: **1**

**DIETHYLENE GLYCOL:**

Bioaccumulation : Species: **Leuciscus idus (Golden orfe)**  
Bioconcentration factor (BCF): **100**



**SAFETY DATA SHEET**  
according to Regulation (EC) No. 1907/2006  
Valvoline™ BRAKE & CLUTCH FLUID DOT 4

Version: 5.0

Revision Date: 27.01.2023

Print Date: 27/01/2023

Partition coefficient: n-octanol/water : log Pow: **-1,47**

**BUTYLATED HYDROXY TOLUENE:**

Partition coefficient: n-octanol/water : log Pow: **4,17 (21 °C)**

**12.4 Mobility in soil**

No data available

**12.5 Results of PBT and vPvB assessment**

**Product:**

Assessment : This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

**12.6 Endocrine disrupting properties**

**Product:**

Assessment : The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

**12.7 Other adverse effects**

**Product:**

Additional ecological information : No data available

---

**SECTION 13: Disposal considerations**

**13.1 Waste treatment methods**

Product : Do not dispose of waste into sewer.  
Do not contaminate ponds, waterways or ditches with chemical or used container.  
Send to a licensed waste management company.



**SAFETY DATA SHEET**  
according to Regulation (EC) No. 1907/2006  
Valvoline™ BRAKE & CLUTCH FLUID DOT 4

Version: 5.0

Revision Date: 27.01.2023

Print Date: 27/01/2023

Contaminated packaging : Empty remaining contents.  
Dispose of as unused product.  
Do not re-use empty containers.

---

**SECTION 14: Transport information**

**14.1 UN number or ID number**

ADN : Not regulated as a dangerous good  
ADR : Not regulated as a dangerous good  
RID : Not regulated as a dangerous good  
IMDG : Not regulated as a dangerous good  
IATA\_P : Not regulated as a dangerous good

**14.2 UN proper shipping name**

ADN : Not regulated as a dangerous good  
ADR : Not regulated as a dangerous good  
RID : Not regulated as a dangerous good  
IMDG : Not regulated as a dangerous good  
IATA\_P : Not regulated as a dangerous good

**14.3 Transport hazard class(es)**

ADN : Not regulated as a dangerous good  
ADR : Not regulated as a dangerous good  
RID : Not regulated as a dangerous good  
IMDG : Not regulated as a dangerous good  
IATA\_P : Not regulated as a dangerous good

**14.4 Packing group**

ADN : Not regulated as a dangerous good  
ADR : Not regulated as a dangerous good  
RID : Not regulated as a dangerous good  
IMDG : Not regulated as a dangerous good  
IATA (Cargo) : Not regulated as a dangerous good  
IATA\_P (Passenger) : Not regulated as a dangerous good



**SAFETY DATA SHEET**  
according to Regulation (EC) No. 1907/2006  
Valvoline™ BRAKE & CLUTCH FLUID DOT 4

Version: 5.0

Revision Date: 27.01.2023

Print Date: 27/01/2023

**14.5 Environmental hazards**

Not regulated as a dangerous good

**14.6 Special precautions for user**

Not applicable

**14.7 Maritime transport in bulk according to IMO instruments**

Not applicable for product as supplied.

Dangerous goods descriptions (if indicated above) may not reflect quantity, end-use or region-specific exceptions that can be applied. Consult shipping documents for descriptions that are specific to the shipment.

**SECTION 15: Regulatory information**

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

REACH - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles (Annex XVII) : Conditions of restriction for the following entries should be considered:  
Number on list 75, 3  
DIETHYLENE GLYCOL  
MONOBUTYL ETHER (Number on list 55)  
DIETHYLENE GLYCOL  
DIISOPROPANOLAMINE  
DIETHYLENE GLYCOL  
MONOMETHYL ETHER (Number on list 54)  
  
DIETHYLENE GLYCOL  
MONOMETHYL ETHER (Number on list 54)

REACH - Candidate List of Substances of Very High Concern for Authorisation (Article 59). : Not applicable

Regulation (EC) No 1005/2009 on substances that deplete the ozone layer : Not applicable

Regulation (EU) 2019/1021 on persistent organic pollutants (recast) : Not applicable

Netherlands. Substances of very high concern (ZZS-list) : DIETHYLENE GLYCOL  
MONOMETHYL ETHER

REACH - List of substances subject to authorisation : Not applicable



**SAFETY DATA SHEET**  
according to Regulation (EC) No. 1907/2006  
Valvoline™ BRAKE & CLUTCH FLUID DOT 4

Version: 5.0

Revision Date: 27.01.2023

Print Date: 27/01/2023

(Annex XIV)

Seveso III: Directive 2012/18/EU of the European Parliament and of the Council on the control of major-accident hazards involving dangerous substances.

Not applicable

General Assessment Methodology (GAM)

Aquatic harmfulness : B4 Low hazard for aquatic organisms.

Abatement effort : B

**Other regulations:**

Take note of Directive 92/85/EEC regarding maternity protection or stricter national regulations, where applicable.

Contains a substance which is subject to the SZW-list of reproductive toxic substances (Ministry of Social Affairs and Employment). 2-(2-methoxyethoxy)ethanol

**The components of this product are reported in the following inventories:**

- TCSI : Not in compliance with the inventory
- TSCA : Product contains substance(s) not listed on TSCA inventory.
- AIIC : Not in compliance with the inventory
- DSL : This product contains the following components that are not on the Canadian DSL nor NDSL.  
  
Proprietary of BRAKEFLUID DOT 4 (000000273236)  
(tris[2-(2-hydroxyethoxy)ethyl] borate )  
Reaction mass of 2-(2-(2-butoxyethoxy)ethoxy)ethanol and  
3,6,9,12-tetraoxahexadecan-1-ol
- ENCS : Not in compliance with the inventory
- KECI : Not in compliance with the inventory
- PICCS : Not in compliance with the inventory
- IECSC : Not in compliance with the inventory
- NZIoC : Not in compliance with the inventory



**SAFETY DATA SHEET**  
according to Regulation (EC) No. 1907/2006  
Valvoline™ BRAKE & CLUTCH FLUID DOT 4

Version: 5.0

Revision Date: 27.01.2023

Print Date: 27/01/2023

**15.2 Chemical safety assessment**

No data available

**Inventories**

AIIC (Australia), DSL (Canada), IECSC (China), REACH (European Union), ENCS (Japan), ISHL (Japan), KECI (Korea), NZIoC (New Zealand), PICCS (Philippines), TCSI (Taiwan), TECI (Thailand), TSCA (USA)

**SECTION 16: Other information**

**Full text of H-Statements**

H302 : Harmful if swallowed.  
H318 : Causes serious eye damage.  
H319 : Causes serious eye irritation.  
H361d : Suspected of damaging the unborn child.  
H373 : May cause damage to organs through prolonged or repeated exposure if swallowed.  
H400 : Very toxic to aquatic life.  
H410 : Very toxic to aquatic life with long lasting effects.

**Full text of other abbreviations**

Acute Tox. : Acute toxicity  
Aquatic Acute : Short-term (acute) aquatic hazard  
Aquatic Chronic : Long-term (chronic) aquatic hazard  
Eye Dam. : Serious eye damage  
Eye Irrit. : Eye irritation  
Repr. : Reproductive toxicity  
STOT RE : Specific target organ toxicity - repeated exposure  
2006/15/EC : Europe. Indicative occupational exposure limit values  
NL WG : Netherlands. Law on Labour conditions - Occupational Exposure Limits  
2006/15/EC / TWA : Limit Value - eight hours  
2006/15/EC / STEL : Short term exposure limit  
NL WG / TLV-8hr : Time Weighted Average  
NL WG / TLV-15 min : Short Term Exposure Limit

ADN - European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways; ADR - Agreement concerning the International Carriage of Dangerous Goods by Road; AIIC - Australian Inventory of Industrial Chemicals; ASTM - American Society for the Testing of Materials; bw - Body weight; CLP - Classification Labelling Packaging Regulation; Regulation (EC) No 1272/2008; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DSL - Domestic Substances List (Canada); ECHA - European Chemicals Agency; EC-Number - European Community number; ECx - Concentration associated with x% response; ELx - Loading rate associated with x% response; EmS - Emergency Schedule; ENCS - Existing and New Chemical Substances (Japan); ErCx - Concentration associated with x% growth rate response; GHS - Globally Harmonized System; GLP - Good Laboratory Practice; IARC -

