

**BRAKE FLUID DOT 4 SUPER - 5L**

Version 6.1      Revision Date: 18.06.2024      SDS Number: 5407199-00010      Date of last issue: 11.05.2023  
Date of first issue: 11.02.2020

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**SECTION 1: IDENTIFICATION**

Product name : BRAKE FLUID DOT 4 SUPER - 5L

Product code : 0892 009 800

**Manufacturer or supplier's details**

Company : Wurth Australia Pty. Ltd.

Address : Building 5, 43 - 63 Princes Highway  
Dandenong South, VIC 3175

Telephone : +61 3 8788 1111

Emergency telephone number : 1300 657 765. Advisory office in case of poisoning - National  
Poisons Centre: 131 126

E-mail address : product@wurth.com.au

**Recommended use of the chemical and restrictions on use**

Recommended use : Hydraulic fluid  
Brake fluid

Restrictions on use : Not applicable

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**SECTION 2. HAZARDS IDENTIFICATION****GHS Classification**

Reproductive toxicity : Category 2

**GHS label elements**

Hazard pictograms :



Signal word : Warning

Hazard statements : H361fd Suspected of damaging fertility. Suspected of damaging the unborn child.

Precautionary statements : **Prevention:**  
P201 Obtain special instructions before use.  
P202 Do not handle until all safety precautions have been read

**BRAKE FLUID DOT 4 SUPER - 5L**

Version	Revision Date:	SDS Number:	Date of last issue: 11.05.2023
6.1	18.06.2024	5407199-00010	Date of first issue: 11.02.2020

and understood.  
P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.

**Response:**

P308 + P313 IF exposed or concerned: Get medical advice/ attention.

**Storage:**

P405 Store locked up.

**Disposal:**

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

**Other hazards which do not result in classification**

None known.

**SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS**

Substance / Mixture : Mixture

**Components**

Chemical name	CAS-No.	Concentration (% w/w)
Tris[2-[2-(2-methoxyethoxy)ethoxy]ethyl] orthoborate	30989-05-0	>= 60 -<= 100
2-(2-(2-butoxyethoxy)ethoxy)ethanol	143-22-6	>= 3 -< 10
Poly(oxy-1,2-ethanediyl), $\alpha$ -butyl- $\omega$ -hydroxy-	9004-77-7	>= 3 -< 10
2-(2-Methoxyethoxy)ethanol	111-77-3	>= 0.3 -< 3
Methyl-1H-benzotriazole	29385-43-1	< 3

**SECTION 4. FIRST AID MEASURES**

General advice : In the case of accident or if you feel unwell, seek medical advice immediately.  
When symptoms persist or in all cases of doubt seek medical advice.

If inhaled : If inhaled, remove to fresh air.  
Get medical attention.

In case of skin contact : In case of contact, immediately flush skin with soap and plenty of water.  
Remove contaminated clothing and shoes.  
Get medical attention.  
Wash clothing before reuse.  
Thoroughly clean shoes before reuse.

In case of eye contact : Flush eyes with water as a precaution.  
Get medical attention if irritation develops and persists.

**BRAKE FLUID DOT 4 SUPER - 5L**

Version	Revision Date:	SDS Number:	Date of last issue: 11.05.2023
6.1	18.06.2024	5407199-00010	Date of first issue: 11.02.2020

---

- If swallowed : If swallowed, DO NOT induce vomiting.  
Get medical attention.  
Rinse mouth thoroughly with water.
- Most important symptoms and effects, both acute and delayed : Suspected of damaging fertility. Suspected of damaging the unborn child.
- Protection of first-aiders : First Aid responders should pay attention to self-protection, and use the recommended personal protective equipment when the potential for exposure exists (see section 8).
- Notes to physician : Treat symptomatically and supportively.
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**SECTION 5. FIREFIGHTING MEASURES**

- Suitable extinguishing media : Water spray  
Alcohol-resistant foam  
Carbon dioxide (CO<sub>2</sub>)  
Dry chemical
- Unsuitable extinguishing media : None known.
- Specific hazards during fire-fighting : Exposure to combustion products may be a hazard to health.
- Hazardous combustion products : Carbon oxides  
Metal oxides
- Specific extinguishing methods : Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.  
Use water spray to cool unopened containers.  
Remove undamaged containers from fire area if it is safe to do so.  
Evacuate area.
- Special protective equipment for firefighters : In the event of fire, wear self-contained breathing apparatus.  
Use personal protective equipment.
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**SECTION 6. ACCIDENTAL RELEASE MEASURES**

- Personal precautions, protective equipment and emergency procedures : Use personal protective equipment.  
Follow safe handling advice (see section 7) and personal protective equipment recommendations (see section 8).
- Environmental precautions : Avoid release to the environment.  
Prevent further leakage or spillage if safe to do so.  
Prevent spreading over a wide area (e.g. by containment or oil barriers).  
Retain and dispose of contaminated wash water.
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**BRAKE FLUID DOT 4 SUPER - 5L**

Version	Revision Date:	SDS Number:	Date of last issue: 11.05.2023
6.1	18.06.2024	5407199-00010	Date of first issue: 11.02.2020

---

Local authorities should be advised if significant spillages cannot be contained.

Methods and materials for containment and cleaning up : Soak up with inert absorbent material.  
For large spills, provide dyking or other appropriate containment to keep material from spreading. If dyked material can be pumped, store recovered material in appropriate container. Clean up remaining materials from spill with suitable absorbent.  
Local or national regulations may apply to releases and disposal of this material, as well as those materials and items employed in the cleanup of releases. You will need to determine which regulations are applicable.  
Sections 13 and 15 of this SDS provide information regarding certain local or national requirements.

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**SECTION 7. HANDLING AND STORAGE**

Technical measures : See Engineering measures under EXPOSURE CONTROLS/PERSONAL PROTECTION section.

Local/Total ventilation : Use only with adequate ventilation.

Advice on safe handling : Avoid inhalation of vapour or mist.  
Do not swallow.  
Avoid contact with eyes.  
Avoid prolonged or repeated contact with skin.  
Handle in accordance with good industrial hygiene and safety practice, based on the results of the workplace exposure assessment  
Keep away from water.  
Protect from moisture.  
Take care to prevent spills, waste and minimize release to the environment.

Hygiene measures : If exposure to chemical is likely during typical use, provide eye flushing systems and safety showers close to the working place.  
When using do not eat, drink or smoke.  
Wash contaminated clothing before re-use.

Conditions for safe storage : Keep in properly labelled containers.  
Store locked up.  
Store in accordance with the particular national regulations.

Materials to avoid : Do not store with the following product types:  
Strong oxidizing agents

Recommended storage temperature : 15 - 30 °C

**BRAKE FLUID DOT 4 SUPER - 5L**

Version 6.1      Revision Date: 18.06.2024      SDS Number: 5407199-00010      Date of last issue: 11.05.2023  
 Date of first issue: 11.02.2020

**SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION**
**Components with workplace control parameters**

Contains no substances with occupational exposure limit values.

**Occupational exposure limits of decomposition products**

Components	CAS-No.	Value type (Form of exposure)	Control parameters / Permissible concentration	Basis
Boric acid	10043-35-3	TWA (Inhalable particulate matter)	2 mg/m <sup>3</sup> (Borate)	ACGIH
		STEL (Inhalable particulate matter)	6 mg/m <sup>3</sup> (Borate)	ACGIH

**Engineering measures** : Processing may form hazardous compounds (see section 10).  
 Ensure adequate ventilation, especially in confined areas.  
 Minimize workplace exposure concentrations.

**Personal protective equipment**

Respiratory protection : If adequate local exhaust ventilation is not available or exposure assessment demonstrates exposures outside the recommended guidelines, use respiratory protection.

Filter type : Combined particulates and organic vapour type

**Hand protection**

Material : butyl-rubber  
 Break through time : > 480 min  
 Glove thickness : 0.3 mm  
 Protective index : Class 6

Material : Nitrile rubber  
 Break through time : > 480 min  
 Glove thickness : 0.2 mm  
 Protective index : Class 6

Remarks : Choose gloves to protect hands against chemicals depending on the concentration and quantity of the hazardous substance and specific to place of work. For special applications, we recommend clarifying the resistance to chemicals of the aforementioned protective gloves with the glove manufacturer. Wash hands before breaks and at the end of workday.

Eye protection : Wear the following personal protective equipment:  
 Safety glasses  
 Always wear eye protection when the potential for inadvertent

**BRAKE FLUID DOT 4 SUPER - 5L**

Version	Revision Date:	SDS Number:	Date of last issue: 11.05.2023
6.1	18.06.2024	5407199-00010	Date of first issue: 11.02.2020

---

eye contact with the product cannot be excluded.  
Please follow all applicable local/national requirements when selecting protective measures for a specific workplace.

Skin and body protection : Select appropriate protective clothing based on chemical resistance data and an assessment of the local exposure potential.  
Skin contact must be avoided by using impervious protective clothing (gloves, aprons, boots, etc).

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**SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES**

Appearance	:	liquid
Colour	:	amber
Odour	:	mild
Odour Threshold	:	No data available
pH	:	7 - 10.5 Concentration: 100 %
Melting point/freezing point	:	< -50 °C
Initial boiling point and boiling range	:	> 260 °C
Flash point	:	> 120 °C
Evaporation rate	:	No data available
Flammability (solid, gas)	:	Not applicable
Flammability (liquids)	:	No data available
Upper explosion limit / Upper flammability limit	:	No data available
Lower explosion limit / Lower flammability limit	:	No data available
Vapour pressure	:	1.00 mbar
Relative vapour density	:	No data available

## BRAKE FLUID DOT 4 SUPER - 5L

Version	Revision Date:	SDS Number:	Date of last issue: 11.05.2023
6.1	18.06.2024	5407199-00010	Date of first issue: 11.02.2020

---

Density : 1.02 - 1.07 g/cm<sup>3</sup> (20 °C)

Solubility(ies)  
Water solubility : soluble

Partition coefficient: n-  
octanol/water : log Pow: 1.50

Auto-ignition temperature : > 280 °C

Decomposition temperature : 300 °C

Viscosity  
Viscosity, kinematic : ca. 5 - 10 cSt ( 20 °C)  
Method: ASTM D 445  
2.23 cSt ( 100 °C)  
1347 cSt ( -40 °C)  
Method: ASTM D 445

Explosive properties : Not explosive

Oxidizing properties : The substance or mixture is not classified as oxidizing.

Particle characteristics  
Particle size : Not applicable

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**SECTION 10. STABILITY AND REACTIVITY**

Reactivity : Not classified as a reactivity hazard.

Chemical stability : Stable under normal conditions.

Possibility of hazardous reac- : Can react with strong oxidizing agents.  
tions Hazardous decomposition products will be formed upon con-  
tact with water or humid air.

Conditions to avoid : Exposure to moisture

Incompatible materials : Oxidizing agents  
Water

**Hazardous decomposition products**

Contact with water or humid : Boric acid  
air

## BRAKE FLUID DOT 4 SUPER - 5L

Version 6.1      Revision Date: 18.06.2024      SDS Number: 5407199-00010      Date of last issue: 11.05.2023  
Date of first issue: 11.02.2020

---

---

**SECTION 11. TOXICOLOGICAL INFORMATION**

Exposure routes                   : Inhalation  
  : Skin contact  
  : Ingestion  
  : Eye contact

**Acute toxicity**

Not classified based on available information.

**Components:****Tris[2-[2-(2-methoxyethoxy)ethoxy]ethyl] orthoborate:**

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

**2-(2-(2-butoxyethoxy)ethoxy)ethanol:**

Acute oral toxicity               : LD50 (Rat): 5,170 mg/kg

Acute dermal toxicity           : LD50 (Rabbit): 3,540 mg/kg

**Poly(oxy-1,2-ethanediyl),  $\alpha$ -butyl- $\omega$ -hydroxy-:**

Acute oral toxicity               : LD50 (Rat): > 2,000 mg/kg  
  Method: OECD Test Guideline 401

Acute dermal toxicity           : LD50 (Rabbit, male): 3,540 mg/kg  
  Remarks: Based on data from similar materials

**2-(2-Methoxyethoxy)ethanol:**

Acute oral toxicity               : LD50 (Guinea pig): 4,160 mg/kg

Acute dermal toxicity           : LD50 (Rabbit, male): 9,404 mg/kg

**Methyl-1H-benzotriazole:**

Acute oral toxicity               : LD50 (Rat): 720 mg/kg

Acute dermal toxicity           : LD50 (Rabbit): > 2,000 mg/kg  
  Method: OECD Test Guideline 402  
  Remarks: Based on data from similar materials



## BRAKE FLUID DOT 4 SUPER - 5L

Version	Revision Date:	SDS Number:	Date of last issue: 11.05.2023
6.1	18.06.2024	5407199-00010	Date of first issue: 11.02.2020

---

**Skin corrosion/irritation**

Not classified based on available information.

**Components:****Tris[2-[2-(2-methoxyethoxy)ethoxy]ethyl] orthoborate:**

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

**2-(2-(2-butoxyethoxy)ethoxy)ethanol:**

Species	:	Rabbit
Result	:	No skin irritation

**Poly(oxy-1,2-ethanediyl),  $\alpha$ -butyl- $\omega$ -hydroxy-:**

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

**2-(2-Methoxyethoxy)ethanol:**

Species	:	Rabbit
Result	:	No skin irritation

**Methyl-1H-benzotriazole:**

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

**Serious eye damage/eye irritation**

Not classified based on available information.

**Product:**

Result	:	Mild eye irritation
Method	:	OECD Test Guideline 405

**Components:****Tris[2-[2-(2-methoxyethoxy)ethoxy]ethyl] orthoborate:**

Species	:	Rabbit
Result	:	No eye irritation
Method	:	OECD Test Guideline 405

**2-(2-(2-butoxyethoxy)ethoxy)ethanol:**

Species	:	Rabbit
Result	:	Irreversible effects on the eye
Method	:	OECD Test Guideline 405
Remarks	:	Based on data from similar materials

## BRAKE FLUID DOT 4 SUPER - 5L

Version	Revision Date:	SDS Number:	Date of last issue: 11.05.2023
6.1	18.06.2024	5407199-00010	Date of first issue: 11.02.2020

---

**Poly(oxy-1,2-ethanediyl),  $\alpha$ -butyl- $\omega$ -hydroxy-:**

Species	:	Rabbit
Result	:	Irreversible effects on the eye

**2-(2-Methoxyethoxy)ethanol:**

Species	:	Rabbit
Result	:	No eye irritation

**Methyl-1H-benzotriazole:**

Species	:	Rabbit
Result	:	No eye irritation
Method	:	OECD Test Guideline 405

**Respiratory or skin sensitisation****Skin sensitisation**

Not classified based on available information.

**Respiratory sensitisation**

Not classified based on available information.

**Components:****Tris[2-[2-(2-methoxyethoxy)ethoxy]ethyl] orthoborate:**

Test Type	:	Maximisation Test
Exposure routes	:	Skin contact
Species	:	Guinea pig
Method	:	OECD Test Guideline 406
Result	:	negative
Remarks	:	Based on data from similar materials

**2-(2-(2-butoxyethoxy)ethoxy)ethanol:**

Test Type	:	Maximisation Test
Exposure routes	:	Skin contact
Species	:	Guinea pig
Result	:	negative
Remarks	:	Based on data from similar materials

**Poly(oxy-1,2-ethanediyl),  $\alpha$ -butyl- $\omega$ -hydroxy-:**

Test Type	:	Maximisation Test
Exposure routes	:	Skin contact
Species	:	Guinea pig
Result	:	negative
Remarks	:	Based on data from similar materials

**2-(2-Methoxyethoxy)ethanol:**

Test Type	:	Maximisation Test
Exposure routes	:	Skin contact

## BRAKE FLUID DOT 4 SUPER - 5L

Version 6.1      Revision Date: 18.06.2024      SDS Number: 5407199-00010      Date of last issue: 11.05.2023  
Date of first issue: 11.02.2020

---

Species : Guinea pig  
Method : OECD Test Guideline 406  
Result : negative

**Methyl-1H-benzotriazole:**

Test Type : Maximisation Test  
Exposure routes : Skin contact  
Species : Guinea pig  
Method : OECD Test Guideline 406  
Result : negative

**Chronic toxicity****Germ cell mutagenicity**

Not classified based on available information.

**Components:****Tris[2-[2-(2-methoxyethoxy)ethoxy]ethyl] orthoborate:**

Genotoxicity in vitro : Test Type: Bacterial reverse mutation assay (AMES)  
Method: OECD Test Guideline 471  
Result: negative

Test Type: In vitro mammalian cell gene mutation test  
Method: OECD Test Guideline 476  
Result: negative

Test Type: Chromosome aberration test in vitro  
Method: OECD Test Guideline 473  
Result: negative

**2-(2-(2-butoxyethoxy)ethoxy)ethanol:**

Genotoxicity in vitro : Test Type: Bacterial reverse mutation assay (AMES)  
Method: OECD Test Guideline 471  
Result: negative

**Poly(oxy-1,2-ethanediyl),  $\alpha$ -butyl- $\omega$ -hydroxy-:**

Genotoxicity in vitro : Test Type: Bacterial reverse mutation assay (AMES)  
Method: OECD Test Guideline 471  
Result: negative  
Remarks: Based on data from similar materials

**2-(2-Methoxyethoxy)ethanol:**

Genotoxicity in vitro : Test Type: Bacterial reverse mutation assay (AMES)  
Method: OECD Test Guideline 471  
Result: negative

Test Type: In vitro mammalian cell gene mutation test  
Result: negative

## BRAKE FLUID DOT 4 SUPER - 5L

Version	Revision Date:	SDS Number:	Date of last issue: 11.05.2023
6.1	18.06.2024	5407199-00010	Date of first issue: 11.02.2020

---

Remarks: Based on data from similar materials

Test Type: Chromosome aberration test in vitro  
Method: OECD Test Guideline 473

Result: negative

Remarks: Based on data from similar materials

Genotoxicity in vivo : Test Type: Mammalian erythrocyte micronucleus test (in vivo cytogenetic assay)  
Species: Mouse  
Application Route: Ingestion  
Result: negative  
Remarks: Based on data from similar materials

**Methyl-1H-benzotriazole:**

Genotoxicity in vitro : Test Type: Bacterial reverse mutation assay (AMES)  
Result: negative

Test Type: In vitro mammalian cell gene mutation test  
Method: OECD Test Guideline 476

Result: negative

Remarks: Based on data from similar materials

Genotoxicity in vivo : Test Type: Mammalian erythrocyte micronucleus test (in vivo cytogenetic assay)  
Species: Mouse  
Application Route: Ingestion  
Method: OECD Test Guideline 474  
Result: negative

**Carcinogenicity**

Not classified based on available information.

**Reproductive toxicity**

Suspected of damaging fertility. Suspected of damaging the unborn child.

**Components:****Tris[2-[2-(2-methoxyethoxy)ethoxy]ethyl] orthoborate:**

Effects on fertility : Test Type: One-generation reproduction toxicity study  
Species: Rat  
Application Route: Ingestion  
Method: OECD Test Guideline 443  
Result: positive

Effects on foetal development : Test Type: Embryo-foetal development  
Species: Rabbit  
Method: OECD Test Guideline 414  
Result: positive

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

**BRAKE FLUID DOT 4 SUPER - 5L**

Version 6.1      Revision Date: 18.06.2024      SDS Number: 5407199-00010      Date of last issue: 11.05.2023  
Date of first issue: 11.02.2020

---

sexual function and fertility, based on animal experiments.

**2-(2-(2-butoxyethoxy)ethoxy)ethanol:**

Effects on fertility : Test Type: Two-generation reproduction toxicity study  
Species: Mouse  
Application Route: Ingestion  
Result: negative  
Remarks: Based on data from similar materials

Effects on foetal development : Test Type: Embryo-foetal development  
Species: Rat  
Application Route: Ingestion  
Result: negative  
Remarks: Based on data from similar materials

**Poly(oxy-1,2-ethanediyl),  $\alpha$ -butyl- $\omega$ -hydroxy-:**

Effects on fertility : Test Type: Two-generation reproduction toxicity study  
Species: Mouse  
Application Route: Ingestion  
Result: negative  
Remarks: Based on data from similar materials

Effects on foetal development : Test Type: Embryo-foetal development  
Species: Rat  
Application Route: Ingestion  
Result: negative  
Remarks: Based on data from similar materials

**2-(2-Methoxyethoxy)ethanol:**

Effects on foetal development : Test Type: Embryo-foetal development  
Species: Rat  
Application Route: Ingestion  
Result: positive

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

**Methyl-1H-benzotriazole:**

Effects on foetal development : Test Type: Embryo-foetal development  
Species: Rat  
Application Route: Ingestion  
Method: OECD Test Guideline 414  
Result: positive

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

**STOT - single exposure**

Not classified based on available information.

## BRAKE FLUID DOT 4 SUPER - 5L

Version	Revision Date:	SDS Number:	Date of last issue: 11.05.2023
6.1	18.06.2024	5407199-00010	Date of first issue: 11.02.2020

---

**STOT - repeated exposure**

Not classified based on available information.

**Components:****2-(2-Methoxyethoxy)ethanol:**

Assessment : No significant health effects observed in animals at concentrations of 200 mg/kg bw or less.

**Repeated dose toxicity****Components:****Tris[2-[2-(2-methoxyethoxy)ethoxy]ethyl] orthoborate:**

Species : Rat  
NOAEL :  $\geq 1,000$  mg/kg  
Application Route : Ingestion  
Exposure time : 90 Days  
Method : OECD Test Guideline 408

**2-(2-(2-butoxyethoxy)ethoxy)ethanol:**

Species : Rat  
NOAEL : 250 mg/kg  
Application Route : Ingestion  
Exposure time : 90 Days  
Method : OECD Test Guideline 408  
Remarks : Based on data from similar materials

**Poly(oxy-1,2-ethanediyl),  $\alpha$ -butyl- $\omega$ -hydroxy-:**

Species : Rat  
NOAEL :  $> 100$  mg/kg  
Application Route : Ingestion  
Exposure time : 90 Days  
Method : OECD Test Guideline 408  
Remarks : Based on data from similar materials

**2-(2-Methoxyethoxy)ethanol:**

Species : Rat, male  
NOAEL : 900 mg/kg  
Application Route : Ingestion  
Exposure time : 6 Weeks

Species : Rat  
NOAEL :  $> 1.06$  mg/l  
Application Route : inhalation (vapour)  
Exposure time : 13 Weeks

Species : Guinea pig  
NOAEL : 40 mg/kg  
LOAEL : 200 mg/kg

## BRAKE FLUID DOT 4 SUPER - 5L

Version	Revision Date:	SDS Number:	Date of last issue: 11.05.2023
6.1	18.06.2024	5407199-00010	Date of first issue: 11.02.2020

---

Application Route : Skin contact  
Exposure time : 13 Weeks

**Methyl-1H-benzotriazole:**

Species : Rat  
NOAEL : 150 mg/kg  
LOAEL : 450 mg/kg  
Application Route : Ingestion  
Exposure time : 28 Days  
Method : OECD Test Guideline 407

**Aspiration toxicity**

Not classified based on available information.

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**SECTION 12. ECOLOGICAL INFORMATION****Ecotoxicity****Components:****Tris[2-[2-(2-methoxyethoxy)ethoxy]ethyl] orthoborate:**

Toxicity to fish : LC50 (Oncorhynchus mykiss (rainbow trout)): > 100 mg/l  
Exposure time: 96 h  
Method: OECD Test Guideline 203  
Remarks: Based on data from similar materials

Toxicity to daphnia and other : EC50 (Daphnia magna (Water flea)): > 500 mg/l  
aquatic invertebrates : Exposure time: 48 h  
Method: Directive 67/548/EEC, Annex V, C.2.

Toxicity to algae/aquatic : ErC50 (Pseudokirchneriella subcapitata (green algae)): > 100  
plants : mg/l  
Exposure time: 72 h  
Method: OECD Test Guideline 201  
Remarks: Based on data from similar materials

NOEC (Pseudokirchneriella subcapitata (green algae)): > 1  
mg/l  
Exposure time: 72 h  
Method: OECD Test Guideline 201  
Remarks: Based on data from similar materials

Toxicity to microorganisms : EC50: > 1,000 mg/l  
Exposure time: 30 min  
Method: OECD Test Guideline 209

**2-(2-(2-butoxyethoxy)ethoxy)ethanol:**

Toxicity to fish : LC50 (Leuciscus idus (Golden orfe)): 2,200 - 4,600 mg/l  
Exposure time: 96 h  
Method: DIN 38412

## BRAKE FLUID DOT 4 SUPER - 5L

Version	Revision Date:	SDS Number:	Date of last issue: 11.05.2023
6.1	18.06.2024	5407199-00010	Date of first issue: 11.02.2020

---

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): 2,210 mg/l  
Exposure time: 48 h

Toxicity to algae/aquatic plants : ErC50 (Desmodesmus subspicatus (green algae)): > 612.6 mg/l  
Exposure time: 72 h

EC10 (Desmodesmus subspicatus (green algae)): 612.6 mg/l  
Exposure time: 72 h

Toxicity to microorganisms : EC10: > 1,995 mg/l  
Exposure time: 30 min

**Poly(oxy-1,2-ethanediyl),  $\alpha$ -butyl- $\omega$ -hydroxy-:**

Toxicity to fish : LC50 (Scophthalmus maximus (turbot)): > 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)): > 100 mg/l  
Exposure time: 48 h  
Method: OECD Test Guideline 202  
Remarks: Based on data from similar materials

Toxicity to algae/aquatic plants : ErC50 (Skeletonema costatum (marine diatom)): 391 mg/l  
Exposure time: 72 h  
Method: ISO 10253

EC10 (Skeletonema costatum (marine diatom)): 188 mg/l  
Exposure time: 72 h  
Method: ISO 10253

Toxicity to microorganisms : EC50 (activated sludge): > 100 mg/l  
Exposure time: 16 h  
Remarks: Based on data from similar materials

**2-(2-Methoxyethoxy)ethanol:**

Toxicity to fish : LC50 (Pimephales promelas (fathead minnow)): 5,741 mg/l  
Exposure time: 96 h

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): 1,192 mg/l  
Exposure time: 48 h

Toxicity to algae/aquatic plants : EC50 (Raphidocelis subcapitata (freshwater green alga)): > 1,000 mg/l  
Exposure time: 96 h

Toxicity to microorganisms : EC10 (Pseudomonas putida): > 1,000 mg/l  
Exposure time: 17 h  
Method: DIN 38 412 Part 8



**BRAKE FLUID DOT 4 SUPER - 5L**

Version 6.1      Revision Date: 18.06.2024      SDS Number: 5407199-00010      Date of last issue: 11.05.2023  
Date of first issue: 11.02.2020

---

**Methyl-1H-benzotriazole:**

Toxicity to fish : LC50 (Cyprinodon variegatus (sheepshead minnow)): 55 mg/l  
Exposure time: 96 h

Toxicity to daphnia and other aquatic invertebrates : EC50 (Acartia tonsa (Calanoid copepod)): 55 mg/l  
Exposure time: 48 h

Toxicity to algae/aquatic plants : NOEC (Skeletonema costatum (marine diatom)): 30 mg/l  
Exposure time: 72 h

ErC50 (Skeletonema costatum (marine diatom)): 53 mg/l  
Exposure time: 72 h

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : EC10 (Daphnia galeata (water flea)): > 0.1 - 1 mg/l  
Exposure time: 21 d  
Method: OECD Test Guideline 211  
Remarks: Based on data from similar materials

**Persistence and degradability****Components:****Tris[2-[2-(2-methoxyethoxy)ethoxy]ethyl] orthoborate:**

Biodegradability : Result: Readily biodegradable.  
Biodegradation: > 70 %  
Exposure time: 22 d  
Method: OECD Test Guideline 301A

**2-(2-(2-butoxyethoxy)ethoxy)ethanol:**

Biodegradability : Result: Not readily biodegradable.  
Biodegradation: 85 %  
Exposure time: 28 d  
Method: OECD Test Guideline 301D

**Poly(oxy-1,2-ethanediyl),  $\alpha$ -butyl- $\omega$ -hydroxy-:**

Biodegradability : Result: Readily biodegradable.  
Biodegradation: 69 %  
Exposure time: 28 d  
Method: OECD Test Guideline 301D

**2-(2-Methoxyethoxy)ethanol:**

Biodegradability : Result: Readily biodegradable.  
Biodegradation: 100 %  
Exposure time: 28 d  
Method: OECD Test Guideline 301B

**Methyl-1H-benzotriazole:**

Biodegradability : Result: Not readily biodegradable.  
Biodegradation: 4 %

**BRAKE FLUID DOT 4 SUPER - 5L**

Version	Revision Date:	SDS Number:	Date of last issue: 11.05.2023
6.1	18.06.2024	5407199-00010	Date of first issue: 11.02.2020

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Exposure time: 28 d  
Method: Directive 67/548/EEC Annex V, C.4.D.

**Bioaccumulative potential****Components:****2-(2-(2-butoxyethoxy)ethoxy)ethanol:**

Partition coefficient: n-  
octanol/water : log Pow: 0.51

**Poly(oxy-1,2-ethanediyl),  $\alpha$ -butyl- $\omega$ -hydroxy-:**

Partition coefficient: n-  
octanol/water : log Pow: 0.436

**2-(2-Methoxyethoxy)ethanol:**

Partition coefficient: n-  
octanol/water : log Pow: -0.47

**Methyl-1H-benzotriazole:**

Partition coefficient: n-  
octanol/water : log Pow: 1.081  
Method: OECD Test Guideline 117

**Mobility in soil**

No data available

**Other adverse effects**

No data available

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**SECTION 13. DISPOSAL CONSIDERATIONS****Disposal methods**

Waste from residues : Do not dispose of waste into sewer.

Dispose of in accordance with local regulations.

Contaminated packaging : Empty containers should be taken to an approved waste handling site for recycling or disposal.  
If not otherwise specified: Dispose of as unused product.

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**SECTION 14. TRANSPORT INFORMATION****International Regulations****UNRTDG**

UN number : Not applicable  
Proper shipping name : Not applicable

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**BRAKE FLUID DOT 4 SUPER - 5L**

Version	Revision Date:	SDS Number:	Date of last issue: 11.05.2023
6.1	18.06.2024	5407199-00010	Date of first issue: 11.02.2020

---

Class : Not applicable  
 Subsidiary risk : Not applicable  
 Packing group : Not applicable  
 Labels : Not applicable  
 Environmentally hazardous : no

**IATA-DGR**

UN/ID No. : Not applicable  
 Proper shipping name : Not applicable  
 Class : Not applicable  
 Subsidiary risk : Not applicable  
 Packing group : Not applicable  
 Labels : Not applicable  
 Packing instruction (cargo aircraft) : Not applicable  
 Packing instruction (passenger aircraft) : Not applicable

**IMDG-Code**

UN number : Not applicable  
 Proper shipping name : Not applicable  
 Class : Not applicable  
 Subsidiary risk : Not applicable  
 Packing group : Not applicable  
 Labels : Not applicable  
 EmS Code : Not applicable  
 Marine pollutant : Not applicable

**Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code**

Not applicable for product as supplied.

**National Regulations**
**ADG**

UN number : Not applicable  
 Proper shipping name : Not applicable  
 Class : Not applicable  
 Subsidiary risk : Not applicable  
 Packing group : Not applicable  
 Labels : Not applicable  
 Hazchem Code : Not applicable

**Special precautions for user**

Not applicable

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**SECTION 15. REGULATORY INFORMATION**
**Safety, health and environmental regulations/legislation specific for the substance or mixture**

Therapeutic Goods (Poisons Standard) Instrument : Schedule 6 (Please use the original publication to check for specific uses, specific conditions or threshold limits that might apply for this chemical)

Prohibition/Licensing Requirements : There is no applicable prohibition,

**BRAKE FLUID DOT 4 SUPER - 5L**

Version	Revision Date:	SDS Number:	Date of last issue: 11.05.2023
6.1	18.06.2024	5407199-00010	Date of first issue: 11.02.2020

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authorisation and restricted use requirements, including for carcinogens referred to in Schedule 10 of the model WHS Act and Regulations.

Volatile organic compounds : Directive 2010/75/EU of 24 November 2010 on industrial emissions (integrated pollution prevention and control)  
Volatile organic compounds (VOC) content: < 5.33 g/l

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

AIIC : All ingredients listed or exempt.

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**SECTION 16: ANY OTHER RELEVANT INFORMATION****Further information**

Revision Date : 18.06.2024

Sources of key data used to compile the Safety Data Sheet : Internal technical data, data from raw material SDSs, OECD eChem Portal search results and European Chemicals Agency, <http://echa.europa.eu/>

Date format : dd.mm.yyyy

**Full text of other abbreviations**

ACGIH : USA. ACGIH Threshold Limit Values (TLV)

ACGIH / TWA : 8-hour, time-weighted average

ACGIH / STEL : Short-term exposure limit

AIIC - Australian Inventory of Industrial Chemicals; ANTT - National Agency for Transport by Land of Brazil; ASTM - American Society for the Testing of Materials; bw - Body weight; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DSL - Domestic Substances List (Canada); 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; ERG - Emergency Response Guide; GHS - Globally Harmonized System; GLP - Good Laboratory Practice; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk; IC50 - Half maximal inhibitory concentration; ICAO - International Civil Aviation Organization; IECSC - Inventory of Existing Chemical Substances in China; IMDG - International Maritime Dangerous Goods; IMO - International Maritime Organization; ISHL - Industrial Safety and Health Law (Japan); ISO - International Organisation for Standardization; KECI - Korea Existing Chemicals Inventory; LC50 - Lethal Concentration to 50 % of a test population; LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose); MARPOL - International Convention for the Prevention of Pollution from Ships; n.o.s. - Not Otherwise Specified; Nch - Chilean Norm; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NOM - Official Mexican Norm; NTP - National Toxicology Program; NZIoC - New

## BRAKE FLUID DOT 4 SUPER - 5L

Version	Revision Date:	SDS Number:	Date of last issue: 11.05.2023
6.1	18.06.2024	5407199-00010	Date of first issue: 11.02.2020

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Zealand Inventory of Chemicals; OECD - Organization for Economic Co-operation and Development; OPPTS - Office of Chemical Safety and Pollution Prevention; PBT - Persistent, Bioaccumulative and Toxic substance; PICCS - Philippines Inventory of Chemicals and Chemical Substances; (Q)SAR - (Quantitative) Structure Activity Relationship; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; SADT - Self-Accelerating Decomposition Temperature; SDS - Safety Data Sheet; TCSI - Taiwan Chemical Substance Inventory; TDG - Transportation of Dangerous Goods; TECL - Thailand Existing Chemicals Inventory; TSCA - Toxic Substances Control Act (United States); UN - United Nations; UNRTDG - United Nations Recommendations on the Transport of Dangerous Goods; vPvB - Very Persistent and Very Bioaccumulative; WHMIS - Workplace Hazardous Materials Information System

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and shall not be considered a warranty or quality specification of any type. The information provided relates only to the specific material identified at the top of this SDS and may not be valid when the SDS material is used in combination with any other materials or in any process, unless specified in the text. Material users should review the information and recommendations in the specific context of their intended manner of handling, use, processing and storage, including an assessment of the appropriateness of the SDS material in the user's end product, if applicable.

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