

## Safety Data Sheet

according to Regulation (EC) No 1907/2006

### VA-DOT 4+

Revision date: 10.02.2020

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

### 1.1. Product identifier

VA-DOT 4+

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

#### Use of the substance/mixture

brake fluids

#### Uses advised against

No data available

### 1.3. Details of the supplier of the safety data sheet

Company name:	Vierol AG	
Street:	Karlstrasse 19	
Place:	D-26123 Oldenburg	
Telephone:	+49 (0) 441 – 210 20 – 0	Telefax: +49 (0) 441 – 210 20 –111
e-mail:	info@vierol.de	
Internet:	www.vierol.de	
Responsible Department:	Giftinformationszentrum Nord (Göttingen)	
	+49 (0)551/19240	

## SECTION 2: Hazards identification

### 2.1. Classification of the substance or mixture

#### Regulation (EC) No. 1272/2008

Hazard categories:

Reproductive toxicity: Repr. 2

Hazard Statements:

Suspected of damaging the unborn child.

### 2.2. Label elements

#### Regulation (EC) No. 1272/2008

#### Hazard components for labelling

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

Signal word: Warning

Pictograms:



#### Hazard statements

H361d Suspected of damaging the unborn child.

#### Precautionary statements

P201 Obtain special instructions before use.  
P202 Do not handle until all safety precautions have been read and understood.  
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 authorized waste disposal facility.

### 2.3. Other hazards

No information available.

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. According to the present

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state of knowledge provided this product is handled correctly, there is no danger to humans or the environment

## SECTION 3: Composition/information on ingredients

### 3.2. Mixtures

#### Hazardous components

CAS No	Chemical name			Quantity
	EC No	Index No	REACH No	
	GHS Classification			
30989-05-0	Tris[2-[2-(2-methoxyethoxy)ethoxy]ethyl] orthoborate			>=50 - <70 %
	250-418-4		01-2119462824-33	
	Repr. 2; H361d			
111-46-6	2,2'-oxybisethanol; diethylene glycol			>= 1 - < 10 %
	203-872-2	603-140-00-6		
	Acute Tox. 4; H302			
110-97-4	1,1'-iminodipropan-2-ol; di-isopropanolamine			>= 1 - < 10 %
	203-820-9	603-083-00-7		
	Eye Irrit. 2; H319			
68442-68-2	Benzenamine, N-phenyl-, styrenated			>=0,1- <0,25 %
	270-485-3			
	Aquatic Acute 1, Aquatic Chronic 1; H400 H410			

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

## SECTION 4: First aid measures

### 4.1. Description of first aid measures

#### General information

Take off immediately all contaminated clothing. Get medical advice/attention if you feel unwell.

#### After inhalation

Provide fresh air.

#### After contact with skin

Immediately remove any contaminated clothing, shoes or stockings.

After contact with skin, wash immediately with plenty of water and soap.

#### After contact with eyes

After eye contact: Rinse immediately carefully and thoroughly with eye-bath or water.

#### After ingestion

Observe risk of aspiration if vomiting occurs. Rinse mouth immediately and drink plenty of water. Induce vomiting when the affected person is not unconscious.

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

May cause an allergic skin reaction. Conjunctival redness.

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

Treat symptomatically.

## SECTION 5: Firefighting measures

### 5.1. Extinguishing media

#### Suitable extinguishing media

Co-ordinate fire-fighting measures to the fire surroundings.

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Water spray jet, Extinguishing powder, Carbon dioxide (CO<sub>2</sub>), alcohol resistant foam

#### Unsuitable extinguishing media

High power water jet.

#### 5.2. Special hazards arising from the substance or mixture

Non-flammable.

Heating causes rise in pressure with risk of bursting.

In case of fire may be liberated: Carbon monoxide Nitrogen oxides (NO<sub>x</sub>),

#### 5.3. Advice for firefighters

In case of fire: Wear self-contained breathing apparatus. Protective clothing.

Evacuate area.

#### Additional information

Suppress gases/vapours/mists with water spray jet. Collect contaminated fire extinguishing water separately.

Do not allow entering drains or surface water.

### SECTION 6: Accidental release measures

#### 6.1. Personal precautions, protective equipment and emergency procedures

Provide adequate ventilation. Do not breathe gas/fumes/vapour/spray. Avoid contact with skin, eyes and clothes. Use personal protection equipment.

Remove persons to safety.

#### 6.2. Environmental precautions

Do not allow to enter into surface water or drains. Contain contaminated water/firefighting water

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

Absorb with liquid-binding material (e.g. sand, diatomaceous earth, acid- or universal binding agents). Treat the recovered material as prescribed in the section on waste disposal.

#### 6.4. Reference to other sections

Safe handling: see section 7

Personal protection equipment: see section 8

Disposal: see section 13

### SECTION 7: Handling and storage

#### 7.1. Precautions for safe handling

##### Advice on safe handling

If handled uncovered, arrangements with local exhaust ventilation have to be used. Do not breathe gas/fumes/vapour/spray.

##### Advice on protection against fire and explosion

Keep away from combustible material.

##### Further information on handling

Take precautionary measures against static discharges.

Wash hands before breaks and after work.

When using do not eat, drink or smoke.

Take off immediately all contaminated clothing and wash it before reuse.

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

##### Requirements for storage rooms and vessels

Keep container tightly closed. Keep locked up. Store in a place accessible by authorized persons only. Provide adequate ventilation as well as local exhaust at critical locations. Keep container tightly closed in a cool, well-ventilated place.

##### Hints on joint storage

Keep away from food, drink and animal feedingstuffs.

Keep away from: Oxidizing agent, Base, Strong acid

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

#### Further information on storage conditions

No special measures are necessary.

#### 7.3. Specific end use(s)

brake fluids

### SECTION 8: Exposure controls/personal protection

#### 8.1. Control parameters

##### Exposure limits (EH40)

CAS No	Substance	ppm	mg/m <sup>3</sup>	fibres/ml	Category	Origin
111-46-6	2,2'-Oxydiethanol	23	101		TWA (8 h)	WEL

##### DNEL/DMEL values

CAS No	Substance	Exposure route	Effect	Value
30989-05-0	Tris[2-[2-(2-methoxyethoxy)ethoxy]ethyl] orthoborate			
	Worker DNEL, long-term	inhalation		29,1 mg/m <sup>3</sup>
	Consumer DNEL, long-term	inhalation		7,2 mg/m <sup>3</sup>
	Worker DNEL, long-term	dermal		8,3 mg/kg bw/day
	Consumer DNEL, long-term	oral		4,1 mg/kg bw/day
110-97-4	1,1'-iminodipropan-2-ol; di-isopropanolamine			
	Worker DNEL, long-term	dermal	systemic	12,5 mg/kg bw/day
	Worker DNEL, long-term	inhalation	systemic	16 mg/m <sup>3</sup>
	Consumer DNEL, long-term	dermal	systemic	6,3 mg/kg bw/day
	Consumer DNEL, acute	inhalation	systemic	3,9 mg/m <sup>3</sup>
	Consumer DNEL, long-term	oral	systemic	1,3 mg/kg bw/day

##### PNEC values

CAS No	Substance	Value
110-97-4	1,1'-iminodipropan-2-ol; di-isopropanolamine	
	Freshwater	0,2777 mg/l
	Freshwater sediment	2,33 mg/kg
	Marine sediment	0,233 mg/kg
	Soil	0,303 mg/kg

#### 8.2. Exposure controls



##### Appropriate engineering controls

If handled uncovered, arrangements with local exhaust ventilation have to be used. Do not breathe gas/fumes/vapour/spray.

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#### Protective and hygiene measures

Remove contaminated, saturated clothing immediately. Draw up and observe skin protection programme.  
Wash hands and face before breaks and after work and take a shower if necessary. When using do not eat or drink.

#### Eye/face protection

Wear eye protection/face protection.

#### Hand protection

When handling with chemical substances, protective gloves must be worn with the CE-label including the four control digits. The quality of the protective gloves resistant to chemicals must be chosen as a function of the specific working place concentration and quantity of hazardous substances. For special purposes, it is recommended to check the resistance to chemicals of the protective gloves mentioned above together with the supplier of these gloves. DIN EN 374

#### Skin protection

Wear suitable protective clothing.

#### Respiratory protection

In case of inadequate ventilation wear respiratory protection. Full-/half-/quarter-face masks (DIN EN 136/140) Particle filter device (DIN EN 143), The filter class must be suitable for the maximum contaminant concentration (gas/vapour/aerosol/particulates) that may arise when handling the product. If the concentration is exceeded, self-contained breathing apparatus must be used.

#### Environmental exposure controls

Avoid release to the environment.

## SECTION 9: Physical and chemical properties

### 9.1. Information on basic physical and chemical properties

Physical state:	Liquid
Colour:	amber
Odour:	characteristic

pH-Value (at 20 °C):

7

#### Test method

#### Changes in the physical state

Melting point:	<-70 °C	DIN 51583
Initial boiling point and boiling range:	>260 °C	
Pour point:	not determined	
Flash point:	134 °C	

#### Flammability

Solid:	not applicable
Gas:	not applicable

#### Explosive properties

not explosive according to EU A.14

Lower explosion limits:	1,5 vol. %
Upper explosion limits:	not determined

#### Auto-ignition temperature

Solid:	not applicable
Gas:	not applicable

Decomposition temperature:	360 °C
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#### Oxidizing properties

Not oxidising.

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Vapour pressure: (at 20 °C)	< 1 hPa
Density (at 20 °C):	1,065-1,085 g/cm <sup>3</sup> DIN 51757
Bulk density:	not applicable
Water solubility: (at 20 °C)	easily soluble
<b>Solubility in other solvents</b>	
not determined	
Partition coefficient:	not determined
Viscosity / kinematic: (at 20 °C)	15-17 mm <sup>2</sup> /s
Vapour density:	not determined
Evaporation rate:	not determined

#### 9.2. Other information

Solid content:	not determined
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### SECTION 10: Stability and reactivity

#### 10.1. Reactivity

No hazardous reaction when handled and stored according to provisions.

#### 10.2. Chemical stability

The product is stable under storage at normal ambient temperatures.

#### 10.3. Possibility of hazardous reactions

No known hazardous reactions.

#### 10.4. Conditions to avoid

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

#### 10.5. Incompatible materials

No known hazardous reactions.

#### 10.6. Hazardous decomposition products

No known hazardous decomposition products.

### SECTION 11: Toxicological information

#### 11.1. Information on toxicological effects

##### Acute toxicity

Based on available data, the classification criteria are not met.

CAS No	Chemical name				
	Exposure route	Dose	Species	Source	Method
111-46-6	2,2'-oxybisethanol; diethylene glycol				
	oral	ATE 500 mg/kg			
	dermal	LD50 11890 mg/kg	Rabbit		
110-97-4	1,1'-iminodipropan-2-ol; di-isopropanolamine				
	oral	LD50 >2000 mg/kg	Rat	OECD 401	
	dermal	LD50 8000 mg/kg	Rabbit		

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#### Irritation and corrosivity

Based on available data, the classification criteria are not met.

#### Sensitising effects

Based on available data, the classification criteria are not met.

#### Carcinogenic/mutagenic/toxic effects for reproduction

Suspected of damaging the unborn child. (Tris[2-[2-(2-methoxyethoxy)ethoxy]ethyl] orthoborate)

Germ cell mutagenicity: Based on available data, the classification criteria are not met.

Carcinogenicity: Based on available data, the classification criteria are not met.

#### STOT-single exposure

Based on available data, the classification criteria are not met.

#### STOT-repeated exposure

Based on available data, the classification criteria are not met.

#### Aspiration hazard

Based on available data, the classification criteria are not met.

#### Additional information on tests

The mixture is classified as hazardous according to regulation (EC) No 1272/2008 [CLP]. Special hazards arising from the substance or mixture!

## SECTION 12: Ecological information

### 12.1. Toxicity

CAS No	Chemical name					
	Aquatic toxicity	Dose	[h]   [d]	Species	Source	Method
30989-05-0	Tris[2-[2-(2-methoxyethoxy)ethoxy]ethyl] orthoborate					
	Acute fish toxicity	LC50 mg/l	222,2	96 h		
	Acute crustacea toxicity	EC50 mg/l	211,2	48 h		
	Algae toxicity	NOEC mg/l	224,4	3 d		
111-46-6	2,2'-oxybisethanol; diethylene glycol					
	Acute fish toxicity	LC50 mg/l	> 32000	96 h	Gambusia affinis	
110-97-4	1,1'-iminodipropan-2-ol; di-isopropanolamine					
	Acute fish toxicity	LC50 mg/l	1466	96 h	Brachydanio rerio (zebra-fish)	OECD 203
	Acute crustacea toxicity	EC50 mg/l	277,7	48 h	Daphnia magna (Big water flea)	

### 12.2. Persistence and degradability

The product has not been tested.

### 12.3. Bioaccumulative potential

The product has not been tested.

### Partition coefficient n-octanol/water

CAS No	Chemical name	Log Pow
111-46-6	2,2'-oxybisethanol; diethylene glycol	-1,98 (25°C)
110-97-4	1,1'-iminodipropan-2-ol; di-isopropanolamine	-0,82

### 12.4. Mobility in soil

The product has not been tested.

### 12.5. Results of PBT and vPvB assessment

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No information available.

#### **12.6. Other adverse effects**

No information available.

#### **Further information**

Avoid release to the environment.

### SECTION 13: Disposal considerations

#### **13.1. Waste treatment methods**

##### **Advice on disposal**

Do not allow to enter into surface water or drains. Dispose of waste according to applicable legislation.

##### **Contaminated packaging**

This material and its container must be disposed of as hazardous waste. Handle contaminated packages in the same way as the substance itself.

### SECTION 14: Transport information

#### **Land transport (ADR/RID)**

##### **14.1. UN number:**

No dangerous good in sense of this transport regulation.

##### **14.2. UN proper shipping name:**

No dangerous good in sense of this transport regulation.

##### **14.3. Transport hazard class(es):**

No dangerous good in sense of this transport regulation.

##### **14.4. Packing group:**

No dangerous good in sense of this transport regulation.

#### **Inland waterways transport (ADN)**

##### **14.1. UN number:**

No dangerous good in sense of this transport regulation.

##### **14.2. UN proper shipping name:**

No dangerous good in sense of this transport regulation.

##### **14.3. Transport hazard class(es):**

No dangerous good in sense of this transport regulation.

##### **14.4. Packing group:**

No dangerous good in sense of this transport regulation.

#### **Marine transport (IMDG)**

##### **14.1. UN number:**

No dangerous good in sense of this transport regulation.

##### **14.2. UN proper shipping name:**

No dangerous good in sense of this transport regulation.

##### **14.3. Transport hazard class(es):**

No dangerous good in sense of this transport regulation.

##### **14.4. Packing group:**

No dangerous good in sense of this transport regulation.

#### **Air transport (ICAO-TI/IATA-DGR)**

##### **14.1. UN number:**

No dangerous good in sense of this transport regulation.

##### **14.2. UN proper shipping name:**

No dangerous good in sense of this transport regulation.

##### **14.3. Transport hazard class(es):**

No dangerous good in sense of this transport regulation.

##### **14.4. Packing group:**

No dangerous good in sense of this transport regulation.

#### **14.5. Environmental hazards**

ENVIRONMENTALLY HAZARDOUS: no

#### **14.6. Special precautions for user**

No dangerous good in sense of this transport regulation.

#### **14.7. Transport in bulk according to Annex II of Marpol and the IBC Code**

No data available

### SECTION 15: Regulatory information

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

##### **EU regulatory information**



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2010/75/EU (VOC): 69,99 % (745,394 g/l)  
 2004/42/EC (VOC): 19,98 % (212,787 g/l)  
 Information according to 2012/18/EU (SEVESO III): Not subject to 2012/18/EU (SEVESO III)

#### National regulatory information

Employment restrictions: Observe restrictions to employment for juvenils according to the 'juvenile work protection guideline' (94/33/EC). Observe employment restrictions under the Maternity Protection Directive (92/85/EEC) for expectant or nursing mothers.

Water contaminating class (D): 1 - slightly water contaminating

#### 15.2. Chemical safety assessment

Chemical safety assessments for substances in this mixture were not carried out.

### SECTION 16: Other information

#### Changes

This data sheet contains changes from the previous version in section(s):  
 1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16.

#### Abbreviations and acronyms

ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)  
 IMDG: International Maritime Code for Dangerous Goods  
 IATA: International Air Transport Association  
 GHS: Globally Harmonized System of Classification and Labelling of Chemicals  
 EINECS: European Inventory of Existing Commercial Chemical Substances  
 ELINCS: European List of Notified Chemical Substances  
 CAS: Chemical Abstracts Service  
 LC50: Lethal concentration, 50%  
 LD50: Lethal dose, 50%

#### Classification for mixtures and used evaluation method according to Regulation (EC) No. 1272/2008 [CLP]

Classification	Classification procedure
Repr. 2; H361d	Calculation method

#### Relevant H and EUH statements (number and full text)

H302 Harmful if swallowed.  
 H319 Causes serious eye irritation.  
 H361d Suspected of damaging the unborn child.  
 H400 Very toxic to aquatic life.  
 H410 Very toxic to aquatic life with long lasting effects.

#### Further Information

The information is based on present level of our knowledge. It does not, however, give assurances of product properties and establishes no contract legal rights. The receiver of our product is singularly responsible for adhering to existing laws and regulations.

*(The data for the hazardous ingredients were taken respectively from the last version of the sub-contractor's safety data sheet.)*