

Revision: 13.02.2023

Page 1/13

Safety data sheet according to 1907/2006/EC, Article 31

Printing date 13.02.2023

Version number 12 (replaces version 11)

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

- · 1.1 Product identifier
- · Trade name: TRW DOT 4 Brake Fluid
- · Article number:

4204401, 4204405, 4204450, PFB104, PFB104i, PFB104i2, PFB401, PFB401AP, PFB401CE, PFB401IR, PFB401RE, PFB401SE, PFB405AP, PFB405CE, PFB405IR, PFB405RE, PFB405SE, PFB420, PFB420AE, PFB420DR, PFB420DRAE, PFB425, PFB425AP, PFB425ENG, PFB425FRA, PFB425GER, PFB425MXC, PFB425POL, PFB425POR, PFB425ROM, PFB425RUL, PFB425RUS, PFB450AP, PFB450CE, PFB450IR, PFB450MXC, PFB450RE, PFB450SE, PFB455.SQ, PFB480AP, PFB490MXC

- 1.2 Relevant identified uses of the substance or mixture and uses advised against
 No further relevant information available.
- · Application of the substance / the mixture Brake fluid
- · 1.3 Details of the supplier of the safety data sheet
- · Manufacturer/Supplier:

ZF Aftermarket UK Ltd.

Abbeyfield Road

Lenton

Nottingham, NG7 2SX

Tel +44 333 240 1123

Fax +44 115 986 92 61

https://www.zf.com

• Informing department:

Phone: +49 7541 77 0

E-Mail adress of the competent person for the safety data sheet:

reach@dekra.com

· 1.4 Emergency telephone number:

Poison Information Center Munich

Phone: +49 (0) 89 - 19 240

Information in German and English

SECTION 2: Hazards identification

- · 2.1 Classification of the substance or mixture
- Classification according to Regulation (EC) No 1272/2008



health hazard

Repr. 2 H361 Suspected of damaging fertility or the unborn child.



Eye Irrit. 2 H319 Causes serious eye irritation.

- · 2.2 Label elements
- · Labelling according to Regulation (EC) No 1272/2008

The product is classified and labelled according to the GB CLP regulation.

(Contd. on page 2)



Page 2/13

Safety data sheet according to 1907/2006/EC, Article 31

Printing date 13.02.2023 Version number 12 (replaces version 11) Revision: 13.02.2023

Trade name: TRW DOT 4 Brake Fluid

(Contd. from page 1)

· Hazard pictograms





GHS07 GHS08

- · Signal word Warning
- · Hazard-determining components of labelling:

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

Butylpolyglykol

Hazard statements

H319 Causes serious eye irritation.

H361 Suspected of damaging fertility or the unborn child.

· Precautionary statements

P102 Keep out of reach of children.

P280 Wear protective gloves / eye protection / face protection.

P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if

present and easy to do. Continue rinsing.

P308+P313 IF exposed or concerned: Get medical advice/attention. P337+P313 If eye irritation persists: Get medical advice/attention.

P405 Store locked up.

P501 Dispose of contents/container in accordance with local/regional/national/international

regulations.

· Information pertaining to particular dangers for man and environment

There are analysis results available for this product or a product with a comparable composition which show an eye irritation but not an eye corrosion. This product is classified and labelled according to the analysis results.

- · 2.3 Other hazards
- · Results of PBT and vPvB assessment
- · **PBT:** Not applicable.
- · vPvB: Not applicable.

SECTION 3: Composition/information on ingredients

- · 3.2 Mixtures
- · Description:

Mixture of the substances listed below including additives not requiring identification. Added are corrosion and oxidation inhibitors.

· Dangerous components:			
CAS: 143-22-6 EINECS: 205-592-6 Reg.nr.: 01-2119475107-38-X	2-[2-(2-butoxyethoxy)ethoxy]ethanol	≥ 25 - < 30%	
CAS: 30989-05-0 EINECS: 250-418-4 Reg.nr.: 01-2119462824-33-X	Tris[2-[2-(2-methoxyethoxy)ethoxy]ethyl] orthoborate Repr. 2, H361	25 - 50%	
		Contd. on page 3	

— GB —



Page 3/13

Safety data sheet according to 1907/2006/EC, Article 31

Printing date 13.02.2023 Version number 12 (replaces version 11) Revision: 13.02.2023

Trade name: TRW DOT 4 Brake Fluid

		(Contd. from page 2)
CAS: 111-46-6 EINECS: 203-872-2 Reg.nr.: 01-2119457857-21-X	2,2'-oxybisethanol Acute Tox. 4, H302	2.5 - 10%
CAS: 9004-77-7 NLP: 500-012-0 Reg.nr.: 01-2119475115-41-X	Butylpolyglykol	≥ 3 - ≤ 10%
CAS: 111-77-3 EINECS: 203-906-6 Reg.nr.: 01-2119475100-52-X	Dowanol DM ♣ Repr. 1B, H360D Specific concentration limit: Repr. 1B; H360D: C ≥ 3 %	< 2.5%
CAS: 112-34-5 EINECS: 203-961-6 Reg.nr.: 01-2119475104-44-X	2-(2-butoxyethoxy)ethanol	< 2.5%

[·] Additional information For the wording of the listed hazard phrases refer to section 16.

SECTION 4: First aid measures

- · 4.1 Description of first aid measures
- · General information

Personal protection for the First Aider.

Instantly remove any clothing contaminated by the product.

- · After inhalation Supply fresh air; consult doctor in case of symptoms.
- · After skin contact

Wash with water and soap.

If skin irritation continues, consult a doctor.

· After eye contact

Keep eye lids open and rinse them with ample amounts of clean running water for at least 15 minutes. In case of permanent aches and pains please go and see the doctor.

After swallowing

Rinse out mouth and then drink plenty of water.

Call a doctor immediately.

Make victim drink ethanol (e.g. 1 drinking glass of a 40% alcoholic beverage).

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

No further relevant information available.

- · Danger Danger of kidney damage.
- 4.3 Indication of any immediate medical attention and special treatment needed

No further relevant information available.

SECTION 5: Firefighting measures

- · 5.1 Extinguishing media
- · Suitable extinguishing agents

Extinguishing powder, foam or water jet. Fight larger fires with water jet or alcohol-resistant foam.

- · For safety reasons unsuitable extinguishing agents Water with a full water jet.
- · 5.2 Special hazards arising from the substance or mixture

Inhalation of combustion gases may cause serious health hazards.

Formation of flammable mixtures of vapours with air possible.

- · 5.3 Advice for firefighters
- · Protective equipment: Wear self-contained breathing apparatus.

(Contd. on page 4)



Page 4/13

Safety data sheet according to 1907/2006/EC, Article 31

Printing date 13.02.2023 Version number 12 (replaces version 11) Revision: 13.02.2023

Trade name: TRW DOT 4 Brake Fluid

(Contd. from page 3)

· Additional information

Remove goods in stock from incendiary zone, if possible. Use water to keep fire exposed containers cool.

SECTION 6: Accidental release measures

· 6.1 Personal precautions, protective equipment and emergency procedures

Avoid contact with the product.

Ensure adequate ventilation

Particular danger of slipping on leaked/spilled product.

6.2 Environmental precautions:

Prevent from spreading (e.g. by damming-in or oil barriers).

Do not allow to enter drainage system, surface or ground water.

Inform respective authorities in case product reaches water or sewage system.

· 6.3 Methods and material for containment and cleaning up:

Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders).

Dispose of contaminated material as waste according to section 13.

Complete cleaning with water.

6.4 Reference to other sections

See Section 7 for information on safe handling

See Section 8 for information on personal protection equipment.

See Section 13 for information on disposal.

SECTION 7: Handling and storage

· 7.1 Precautions for safe handling

Prevent formation of aerosols.

Keep containers tightly sealed.

Don't eat, drink or smoke while working.

Avoid contact with eyes and skin.

Information about protection against explosions and fires:

The product forms flammable fumes when heated.

- · 7.2 Conditions for safe storage, including any incompatibilities
- · Storage
- · Requirements to be met by storerooms and containers: Store only in the original container.
- · Information about storage in one common storage facility: Store away from oxidising agents.
- · Further information about storage conditions:

Keep container tightly sealed.

Store container in a well ventilated position.

Store under dry conditions.

· 7.3 Specific end use(s) Brake fluid

SECTION 8: Exposure controls/personal protection

- · 8.1 Control parameters
- · Components with limit values that require monitoring at the workplace:

WEL: workplace exposure limit OEL: Occupational Exposure Limit

(Contd. on page 5)



Page 5/13

Safety data sheet according to 1907/2006/EC, Article 31

Printing date 13.02.2023 Version number 12 (replaces version 11) Revision: 13.02.2023

			(Contd. from p
	2,2'-oxybisetha		
WEL (Great Britain) Long-term value: 101 mg			• • •
OEL (Ireland) Long-term value: 100 mg		Long-term value: 100 mg	g/m³, 23 ppm
	Dowanol DM		
WEL (Gre	,	Long-term value: 50.1 mg	g/m³, 10 ppm
IOELV (E	uropean Union)	Long-term value: 50.1 mg Skin	g/m³, 10 ppm
OEL (Irela	ind)	Long-term value: 50.1 mg Sk, IOELV	g/m³, 10 ppm
112-34-5	2-(2-butoxyeth	oxy)ethanol	
WEL (Gre	at Britain)	Short-term value: 101.2 r Long-term value: 67.5 m	
IOELV (Eu	uropean Union)	Short-term value: 101.2 r Long-term value: 67.5 m	
OEL (Irela	ind)	Short-term value: 101.2 r Long-term value: 67.5 m IOELV	mg/m³, 15 ppm
DNELs			
143-22-6	2-[2-(2-butoxve	thoxy)ethoxy]ethanol	
Oral	- '	ner, long-term, systemic)	12.5 mg/kg bw/day (human)
30989-05-	,	nethoxyethoxy)ethoxy]e	, , ,
Oral	'	ner, long-term, systemic)	1.5 mg/kg bw/day (human)
Dermal	`	long-term, systemic)	4.2 mg/kg bw/day (human)
	,	ner, long-term, systemic)	1.5 mg/kg bw/day (human)
Inhalative	`	long-term, systemic)	14.8 mg/m³ (human)
	`	ner, long-term, systemic)	2.6 mg/m³ (human)
111-46-6	2,2'-oxybisetha		, ,
	-,,	nol	
Dermal	· •	Inol Iong-term, systemic)	43 mg/kg bw/day (human)
Dermal	DNEL (worker,		43 mg/kg bw/day (human) 21 mg/kg bw/day (human)
	DNEL (worker, DNEL (consum	long-term, systemic)	,
	DNEL (worker, DNEL (consum DNEL (worker,	long-term, systemic) ner, long-term, systemic)	21 mg/kg bw/day (human)
	DNEL (worker, DNEL (consum DNEL (worker, DNEL (consum	long-term, systemic) ner, long-term, systemic) long-term, systemic) ner, long-term, systemic)	21 mg/kg bw/day (human) 44 mg/m³ (human)
	DNEL (worker, DNEL (consum DNEL (worker, DNEL (consum DNEL (worker,	long-term, systemic) ner, long-term, systemic) long-term, systemic)	21 mg/kg bw/day (human) 44 mg/m³ (human) 12 mg/m³ (human)
Inhalative	DNEL (worker, DNEL (consum DNEL (worker, DNEL (consum DNEL (worker,	long-term, systemic) ner, long-term, systemic) long-term, systemic) ner, long-term, systemic) short-term, local) ner, long-term, local)	21 mg/kg bw/day (human) 44 mg/m³ (human) 12 mg/m³ (human) 60 mg/m³ (human)
Inhalative	DNEL (worker, DNEL (consum DNEL (worker, DNEL (consum DNEL (worker, DNEL (consum Butylpolyglyk	long-term, systemic) ner, long-term, systemic) long-term, systemic) ner, long-term, systemic) short-term, local) ner, long-term, local)	21 mg/kg bw/day (human) 44 mg/m³ (human) 12 mg/m³ (human) 60 mg/m³ (human)
Inhalative 9004-77-7 Oral	DNEL (worker, DNEL (consum DNEL (worker, DNEL (consum DNEL (worker, DNEL (consum Butylpolyglyk	long-term, systemic) ner, long-term, systemic) long-term, systemic) ner, long-term, systemic) short-term, local) ner, long-term, local) ol	21 mg/kg bw/day (human) 44 mg/m³ (human) 12 mg/m³ (human) 60 mg/m³ (human) 12 mg/m³ (human)
Inhalative 9004-77-7 Oral	DNEL (worker, DNEL (consum DNEL (consum DNEL (consum DNEL (consum DNEL (consum Butylpolyglyk DNEL (consum DOWANOL DMEL)	long-term, systemic) ner, long-term, systemic) long-term, systemic) ner, long-term, systemic) short-term, local) ner, long-term, local) ol	21 mg/kg bw/day (human) 44 mg/m³ (human) 12 mg/m³ (human) 60 mg/m³ (human) 12 mg/m³ (human)
Inhalative 9004-77-7 Oral 111-77-3 I	DNEL (worker, DNEL (consum DNEL (consum DNEL (consum DNEL (consum DNEL (consum Butylpolyglyk DNEL (consum Dowanol DM DNEL (consum DNEL	long-term, systemic) ner, long-term, systemic) long-term, systemic) ner, long-term, systemic) short-term, local) ner, long-term, local) ner, long-term, systemic) ner, long-term, systemic)	21 mg/kg bw/day (human) 44 mg/m³ (human) 12 mg/m³ (human) 60 mg/m³ (human) 12 mg/m³ (human) 16 mg/kg bw/day (human) 7.5 mg/kg bw/day (human)
9004-77-7 Oral 111-77-3 I	DNEL (worker, DNEL (consum DNEL (consum DNEL (consum DNEL (consum Butylpolyglyk DNEL (consum DNEL (consum DNEL (consum DNEL (consum DNEL (worker,	long-term, systemic) ner, long-term, systemic) ner, long-term, systemic) ner, long-term, systemic) short-term, local) ner, long-term, local) ner, long-term, systemic) ner, long-term, systemic) long-term, systemic)	21 mg/kg bw/day (human) 44 mg/m³ (human) 12 mg/m³ (human) 60 mg/m³ (human) 12 mg/m³ (human) 16 mg/kg bw/day (human) 7.5 mg/kg bw/day (human) 2.22 mg/kg bw/day (human)
9004-77-7 Oral 111-77-3 I	DNEL (worker, DNEL (consum DNEL	long-term, systemic) ner, long-term, systemic) long-term, systemic) ner, long-term, systemic) short-term, local) ner, long-term, local) ner, long-term, systemic) ner, long-term, systemic)	21 mg/kg bw/day (human) 44 mg/m³ (human) 12 mg/m³ (human) 60 mg/m³ (human) 12 mg/m³ (human) 16 mg/kg bw/day (human) 7.5 mg/kg bw/day (human)

GB —



Page 6/13

Safety data sheet according to 1907/2006/EC, Article 31

Printing date 13.02.2023 Version number 12 (replaces version 11) Revision: 13.02.2023

Trade name: TRW DOT 4 Brake Fluid

				(Contd. from page
	2-(2-butoxyethoxy)ethanol			
Oral	DNEL (consumer, long-term	,	6.25 mg/kg bw/day (human)	
Inhalative DNEL (worker, short-term, lo		,	101.2 mg/m³ (human)	
DNEL (worker, long-term, lo		cal)	67.5 mg/m³ (human)	
PNECs				
143-22-6	2-[2-(2-butoxyethoxy)ethox	y]ethanol		
PNEC aqu	ua (freshwater)	2 mg/L (.)		
PNEC aqu	ua (marine water)	0.2 mg/L (.)		
PNEC ST	P - Sewage Treatment Plant	200 mg/L (.))	
PNEC soil		0.47 mg/kg	soil dw (.)	
PNEC sec	diment (freshwater)	7.7 mg/kg s	edim. dw (.)	
PNEC sec	liment (marine water)	0.77 mg/kg	sedim. dw (.)	
PNEC ora	I	111 mg/kg f	food (.)	
9004-77-7	Butylpolyglykol			
PNEC aqu	ua (freshwater)	4.5 mg/L (.)		
PNEC aqu	ua (marine water)	0.31 mg/L (.)		
PNEC ST	P - Sewage Treatment Plant	500 mg/L (.))	
PNEC soil		1.32 mg/kg soil dw (.)		
PNEC sec	liment (freshwater)	6.6 mg/kg sedim. dw (.)		
PNEC sec	liment (marine water)	0.66 mg/kg sedim. dw (.)		
PNEC ora	I	111 mg/kg f	food (.)	
111-77-3 I	Dowanol DM			
PNEC aqu	ua (freshwater)	12 mg/L (.)		
PNEC aqu	ua (marine water)	1.2 mg/L (.)		
PNEC ST	P - Sewage Treatment Plant	10,000 mg/l	L (.)	
PNEC soil		2.44 mg/kg	soil dw (.)	
		12 mg/L (.)		
112-34-5 2-(2-butoxyethoxy)ethanol				
PNEC aqu	ua (freshwater)	1.1 mg/L (.)		
PNEC aqua (marine water) 0.11 mg		0.11 mg/L (.)	
PNEC soil		0.32 mg/kg	soil dw (.)	
PNEC sec	liment (freshwater)	4.4 mg/kg s	edim. dw (.)	
PNEC sec	liment (marine water)	0.44 mg/kg	sedim. dw (.)	
	ua (intermittent releases)	11 mg/L (.)	•	
		56 mg/kg fo	od (.)	

- · Additional information: The lists that were valid during the compilation were used as basis.
- · 8.2 Exposure controls
- · Individual protection measures, such as personal protective equipment
- General protective and hygienic measures

Take off all contaminated clothing immediately.

Wash hands during breaks and at the end of the work.

Avoid contact with the eyes.

(Contd. on page 7)



Page 7/13

Safety data sheet according to 1907/2006/EC, Article 31

Printing date 13.02.2023 Version number 12 (replaces version 11) Revision: 13.02.2023

Trade name: TRW DOT 4 Brake Fluid

(Contd. from page 6)

· Breathing equipment:

Not necessary if room is well-ventilated.

Use breathing protection only when aerosol or mist is formed. Filter A/P2.

- · *Hand protection* Use gloves of stable material (i.e. nitril rubber).
- · Material of gloves

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.

Butyl rubber, BR Nitrile rubber, NBR

Recommended thickness of the material: ≥ 0.4 mm

Penetration time of glove material

The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

· Eye/face protection



Tightly sealed safety glasses.

SECTION 9: Physical and chemical properties

· 9.1 Information on basic physical and chemical properties

· General Information

· *Colour:* Amber coloured

· *Odour:* Mild

Odour threshold:
 Melting point/freezing point:
 Not determined.
 < -50 °C (SAE J 1703)

· Boiling point or initial boiling point and boiling

range > 260 °C (SAE J 1703)

· *Flammability* Not applicable.

· Lower and upper explosion limit

• Lower: Not determined. • Flash point: > 100 °C (IP 35)

• Ignition temperature: > 300 °C (ASTM D 286)

• **Decomposition temperature:** Not determined.

· SADT

• **pH at 20 °C** 7 - 10.5 (SAE J 1703)

· Viscosity:

Kinematic viscosity
 dynamic at 20 °C:
 Not determined.
 7 mPas (ASTM D 445)

• Solubility
• Water: Fully miscible

· Partition coefficient n-octanol/water (log value) < 2 log POW

111-77-3 Dowanol DM -0,68

Vapour pressure at 20 °C: < 2 hPa

(Contd. on page 8)



Page 8/13

Safety data sheet according to 1907/2006/EC, Article 31

Printing date 13.02.2023 Version number 12 (replaces version 11) Revision: 13.02.2023

Trade name: TRW DOT 4 Brake Fluid

(Contd. from page 7)

	(Conta. from page 7)				
· Density and/or relative density					
· Density at 20 °C	1.02 - 1.07 g/cm ³ (DIN 51757)				
· Vapour density	Not determined.				
· 9.2 Other information					
· Appearance:					
· Form:	Fluid				
· Important information on protection of health	1 1010				
and environment, and on safety.					
Self-inflammability:	Product is not selfigniting.				
· Explosive properties:	Product is not explosive.				
· Solvent content:	•				
· Organic solvents:	13.8 %				
· Change in condition					
· Evaporation rate	Not determined.				
· Information with regard to physical hazard	· Information with regard to physical hazard				
classes					
· Explosives	Void				
· Flammable gases	Void				
· Aerosols	Void				
· Oxidising gases	Void				
· Gases under pressure	Void				
Flammable liquids	Void				
Flammable solids	Void				
· Self-reactive substances and mixtures	Void				
· Pyrophoric liquids	Void				
· Pyrophoric solids	Void				
· Self-heating substances and mixtures	Void				
· Substances and mixtures, which emit flammab					
gases in contact with water	Void				
· Oxidising liquids	Void				
· Oxidising solids	Void				
· Organic peroxides	Void				
· Corrosive to metals	Void				
· Desensitised explosives	Void				

SECTION 10: Stability and reactivity

- · 10.1 Reactivity No further relevant information available.
- 10.2 Chemical stability
- · Thermal decomposition / conditions to be avoided:

No decomposition if used according to specifications.

10.3 Possibility of hazardous reactions

Possible formation of peroxide

Reacts with light alloys to form hydrogen

- 10.4 Conditions to avoid Brake fluids should never be contaminated with any other substance.
- · 10.5 Incompatible materials: Avoid contact with strong oxidizing agents.

(Contd. on page 9)



Page 9/13

Safety data sheet according to 1907/2006/EC, Article 31

Printing date 13.02.2023 Version number 12 (replaces version 11) Revision: 13.02.2023

Trade name: TRW DOT 4 Brake Fluid

(Contd. from page 8)

· 10.6 Hazardous decomposition products:

None in case of intended use and storage in compliance with instructions.

SECTION 11: Toxicological information

- · 11.1 Information on hazard classes as defined in Regulation (EC) No 1272/2008
- · Acute toxicity Based on available data, the classification criteria are not met.

· LD/LC50 values that are relevant for classification:			
143-22-6 2	2-[2-(2-	-butoxyethoxy)ethoxy]ethanol	
Oral	LD50	5,170 mg/kg (rat)	
Dermal	LD50	3,540 mg/kg (rabbit)	
30989-05-	0 Tris[2-[2-(2-methoxyethoxy)ethoxy]ethyl] orthoborate	
Oral	LD50	> 2,000 mg/kg (rat) (OECD 401)	
Dermal	LD50	> 2,000 mg/kg (rat) (OECD 402)	
111-46-6 2	2,2'-ox	ybisethanol	
Oral	LD50	16,500 mg/kg (rat)	
Dermal	LD50	13,300 mg/kg (rabbit)	
9004-77-7	Butyl	polyglykol	
Oral	LD50	> 2,000 mg/kg (rat) (OECD 401)	
Dermal	LD50	3,540 mg/kg (rabbit)	
111-77-3	Dowan	ol DM	
Oral	LD50	7,128 mg/kg (mouse) (OECD 201)	
Dermal	LD50	9,404 mg/kg (rabbit) (OECD 402)	
Inhalative	LC0	> 1.2 mg/l/6h (rat) (OECD 403)	
112-34-5 2	112-34-5 2-(2-butoxyethoxy)ethanol		
Oral	LD50	5,660 mg/kg (rat)	
Dermal	LD50	2,764 mg/kg (rabbit) (OECD 402)	
Inhalative	LC0	67.5 mg/l/0.5h (human)	

- · Skin corrosion/irritation Based on available data, the classification criteria are not met.
- · Serious eye damage/irritation

Causes serious eye irritation.

- · Respiratory or skin sensitisation Based on available data, the classification criteria are not met.
- · Germ cell mutagenicity Based on available data, the classification criteria are not met.
- · Carcinogenicity Based on available data, the classification criteria are not met.
- · Reproductive toxicity

Suspected of damaging fertility or the unborn child.

- · 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 toxicological information:
- · Acute effects (acute toxicity, irritation and corrosivity)

There are analysis results available for this product or a product with a comparable composition which show an eye irritation but not an eye corrosion. This product is classified and labelled according to the analysis results.

(Contd. on page 10)



Page 10/13

Safety data sheet according to 1907/2006/EC, Article 31

Printing date 13.02.2023 Version number 12 (replaces version 11) Revision: 13.02.2023

Trade name: TRW DOT 4 Brake Fluid

(Contd. from page 9)

· Repeated dose toxicity

Repeated oral intake can cause kidney damage.

143-22-6 2	143-22-6 2-[2-(2-butoxyethoxy)ethoxy]ethanol		
Oral	NOAEL (90d)	500 mg/kg bw/day (rat)	
111-77-3 I	Dowanol DM		
Oral	NOAEL (28d)	900 mg/kg bw/day (rat) (OECD 407)	
Dermal	NOAEL (90d)	40 mg/kg bw/day (guinea pig) (OECD 411)	
Inhalative	NOAEC (90d)	> 1,060 mg/m³ (rat) (OECD 413)	
112-34-5 2	2-(2-butoxyeth	oxy)ethanol	
Oral	NOAEL (90d)	250 mg/kg bw/day (rat) (OECD 408)	
Dermal	NOAEL (90d)	2,000 mg/kg bw/day (rat) (OECD 411)	
Inhalative	NOAEC (90d)	94 mg/m³ (rat) (OECD 413)	
		Vapour	

- · CMR effects (carcinogenity, mutagenicity and toxicity for reproduction)
 Repr. 2
- 11.2 Information on other hazards
- Endocrine disrupting properties

None of the ingredients is listed.

* SECTION 12: Ecological information

· 12.1 Toxicity

· Aquatic toxicity:		
143-22-6 2-[2-(2-butoxyethoxy)ethoxy]ethanol		
EC50 (static)	2,210 mg/l/48h (Daphnia magna) (EU C.2)	
EC0 (static)	2,150 mg/l/96h (Leuciscus idus) (DIN 38 412-L15)	
LC50	2,400 mg/l/96h (Pimephales promelas)	
	2,200 - 4,600 mg/l/96h (Leuciscus idus) (DIN 38412-15)	
EC50 (static)	840 mg/l/72h (Desmodesmus subspicatus) (OECD 201)	
NOEC (static)	1,000 mg/l/96h (Leuciscus idus) (DIN 38 412-L15)	
30989-05-0 Tris	[2-[2-(2-methoxyethoxy)ethoxy]ethyl] orthoborate	
EC50	> 211.2 mg/l/48h (Daphnia magna) (OECD 202)	
LC50	> 222.2 mg/l/96h (Oncorhynchus mykiss) (OECD 203)	
EC50	> 224.4 mg/l/72h (Pseudokirchneriella subcapitata) (OECD 201)	
111-46-6 2,2'-oxybisethanol		
EC50	62,630 mg/l/48h (Daphnia magna)	
LC50 (dynamic)	75,222 mg/l/96h (Pimephales promelas)	
9004-77-7 Butylpolyglykol		
EC50	> 3,200 mg/l/48h (Daphnia magna) (OECD 202)	
LC50	> 1,800 mg/l/96h (Scophthalmus maximus) (OECD 203)	
EC50	391 mg/l/72h (Skeletonema costatum) (ISO 10253)	
	(Contd. on page 11)	

GB —



Page 11/13

Safety data sheet according to 1907/2006/EC, Article 31

Printing date 13.02.2023 Version number 12 (replaces version 11) Revision: 13.02.2023

Trade name: TRW DOT 4 Brake Fluid

(Contd. from page 1			
111-77-3 Dowar	111-77-3 Dowanol DM		
EC50 (static)	1,192 mg/l/48h (Daphnia magna)		
EC50 (static)	> 1,000 mg/l/96h (Selenastrum capricornutum) (OECD 201)		
LC50 (static)	5,741 mg/l/96h (Pimephales promelas)		
112-34-5 2-(2-bu	112-34-5 2-(2-butoxyethoxy)ethanol		
EC50 (static)	> 100 mg/l/48h (Daphnia magna) (OECD 202)		
EC50 (static)	> 100 mg/l/96h (Desmodesmus subspicatus) (OECD 201)		
LC50 (static)	1,300 mg/l/96h (Lepomis macrochirus) (OECD 203)		

- · 12.2 Persistence and degradability Easily biodegradable
- · Other information: There are no data available about the preparation.
- · 12.3 Bioaccumulative potential

Due to the distribution coefficient n-octanol/water an accumulation in organisms is not expected.

- · 12.4 Mobility in soil No further relevant information available.
- · 12.5 Results of PBT and vPvB assessment
- · PBT: Not applicable.
- · vPvB: Not applicable.
- 12.6 Endocrine disrupting properties

The product does not contain substances with endocrine disrupting properties.

- 12.7 Other adverse effects
- · Additional ecological information:
- · General notes:

Water hazard class 1 (German Regulation) (Self-assessment): slightly hazardous for water. Do not allow undiluted product or large quantities of it to reach ground water, water bodies or sewage system.

SECTION 13: Disposal considerations

- · 13.1 Waste treatment methods
- · Recommendation

Must not be disposed of together with household garbage. Do not allow product to reach sewage system. The waste code numbers mentioned are recommendations based on the probable use of the product.

· European	n waste catalogue	
16 00 00	WASTES NOT OTHERWISE SPECIFIED IN THE LIST	
16 01 00	end-of-life vehicles from different means of transport (including off-road machinery) and wastes from dismantling of end-of-life vehicles and vehicle maintenance (except 13, 14, 16 06 and 16 08)	
16 01 13*	brake fluids	
HP4	Irritant - skin irritation and eye damage	
HP10	Toxic for reproduction	

Uncleaned packagings:

Recommendation:

Disposal must be made according to official regulations.

Dispose of packaging according to regulations on the disposal of packagings.

Non contaminated packagings can be used for recycling.

Cleaned packing materials have to be admitted to local recycling circuits.

(Contd. on page 12)



Page 12/13

Safety data sheet according to 1907/2006/EC, Article 31

Printing date 13.02.2023 Version number 12 (replaces version 11) Revision: 13.02.2023

Trade name: TRW DOT 4 Brake Fluid

(Contd. from page 11)

· Recommended cleaning agent: Water, if necessary with cleaning agent.

SECTION 14: Transport information

· 14.1 UN number or ID number · ADR/RID, ADN, IMDG, IATA	Void
· 14.2 UN proper shipping name · ADR/RID, ADN, IMDG, IATA	Void
· 14.3 Transport hazard class(es)	
· ADR/RID, ADN, IMDG, IATA · Class	Void
· 14.4 Packing group · ADR/RID, IMDG, IATA	Void
· 14.5 Environmental hazards: · Marine pollutant:	No
· 14.6 Special precautions for user	Not applicable.
· 14.7 Maritime transport in bulk according to IN instruments	Not applicable.
· Transport/Additional information:	Not dangerous according to the above specifications.
· UN "Model Regulation":	Void

SECTION 15: Regulatory information

- · 15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture
- · Chemical safety assessment
- · Named dangerous substances ANNEX I None of the ingredients is listed.
- · REGULATION (EU) 2019/1148
- · Annex I RESTRICTED EXPLOSIVES PRECURSORS (Upper limit value for the purpose of licensing under Article 5(3))

None of the ingredients is listed.

· Annex II - REPORTABLE EXPLOSIVES PRECURSORS

None of the ingredients is listed.

- · National regulations
- · Water hazard class: Water hazard class 1 (Self-assessment): slightly hazardous for water.
- 15.2 Chemical safety assessment: A Chemical Safety Assessment has not been carried out.

SECTION 16: Other information

These data are based on our present knowledge. However, they shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

(Contd. on page 13)



Page 13/13

Safety data sheet according to 1907/2006/EC, Article 31

Version number 12 (replaces version 11) Printing date 13.02.2023 Revision: 13.02.2023

Trade name: TRW DOT 4 Brake Fluid

(Contd. from page 12)

· Relevant phrases

H302 Harmful if swallowed.

H318 Causes serious eye damage.

H319 Causes serious eye irritation.

H360D May damage the unborn child.

H361 Suspected of damaging fertility or the unborn child.

· Department issuing data specification sheet:

DEKRA This Safety Data Sheet has been drawn up in cooperation with:

DEKRA Assurance Services GmbH, Hanomagstr. 12, D-30449 Hanover, Germany,

phone: (+49) 511 42079 - 0, reach@dekra.com.

© DEKRA Assurance Services GmbH. Changing this documents is subject to explicit acceptance by DEKRA Assurance Services GmbH.

Abbreviations and acronyms:

ADR: Accord relatif au transport international 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 Harmonised 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 (division of the American Chemical Society)

DNEL: Derived No-Effect Level (UK REACH)

PNEC: Predicted No-Effect Concentration (UK REACH)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

PBT: Persistent, Bioaccumulative and Toxic vPvB: very Persistent and very Bioaccumulative

Acute Tox. 4: Acute toxicity - Category 4

Eye Dam. 1: Serious eye damage/eye irritation - Category 1

Eye Irrit. 2: Serious eye damage/eye irritation – Category 2

Repr. 1B: Reproductive toxicity – Category 1B Repr. 2: Reproductive toxicity – Category 2

* Data compared to the previous version altered.

GB -