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Safety data sheet according to Regulation (EC) No 1907/2006, Article 31

Printing date 24.04.2024

Version number 6 (replaces version 5)

Revision: 24.04.2024

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

- · 1.1 Product identifier
- · Trade name: TRW DOT 5 Brake Fluid Silicone
- · Article number: PFB125
- 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 (0) 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
- The product is not classified, according to the GB CLP regulation.
- · 2.2 Label elements
- · Labelling according to Regulation (EC) No 1272/2008 Void
- · Hazard pictograms Void
- · Signal word Void
- · Hazard statements Void
- · Additional information:
- Safety data sheet available on request.
- · 2.3 Other hazards
- · Results of PBT and vPvB assessment
- · PBT: Not applicable.
- · vPvB: Not applicable.

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< 1%

SECTION 3: Composition/information on ingredients

- · 3.2 Mixtures
- · Description:

Mixture of components not requiring labelling. Added are corrosion and oxidation inhibitors.

· Dangerous components:

CAS: 126-73-8 EINECS: 204-800-2

tributyl phosphate Carc. 2, H351; () Acute Tox. 4, H302; Skin Irrit. 2, H315

Reg.nr.: 01-2119492859-14-X

· 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 Instantly remove any clothing contaminated by the product.
- · After inhalation

Take affected persons into the open air and position comfortably In case of persistent symptoms consult doctor.

After skin contact

Wash with water and soap.

If skin irritation continues, consult a doctor.

· After eye contact

Use eye protection.

Keep eye lids open and rinse them with ample amounts of clean running water for at least 15 minutes. Remove contact lenses if possible.

In case of permanent aches and pains please go and see the doctor.

After swallowing

Rinse out mouth and then drink plenty of water. In case of persistent symptoms consult doctor.

- 4.2 Most important symptoms and effects, both acute and delayed No further relevant information available.
- **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.
- 5.3 Advice for firefighters
- · Protective equipment: Wear self-contained breathing apparatus.
- · Additional information
- Remove goods in stock from incendiary zone, if possible.

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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.
- · For non-emergency personnel Evacuate personnel to safe area.
- · For emergency responders Put on suitable personal protective equipment.
- 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.
 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.
- **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.
 Ensure good ventilation/exhaustion at the workplace.
 Keep containers tightly sealed.
 Open and handle container with care.
 Avoid contact with eyes and skin.
- Information about protection against explosions and fires: The product forms flammable fumes when heated.

· Handling

The usual precautionary measures should be adhered to general rules for handling chemicals. Do not eat, drink or smoke while working.

- · 7.2 Conditions for safe storage, including any incompatibilities
- · Storage
- Requirements to be met by storerooms and containers: Store cool and dry in well sealed containers. Store only in the original container. Ensure sufficient ventilation.
 Information about storage in one common storage facility:
- Information about storage in one common storage facility:
 Store away from oxidising agents.
 Keep away from food, drink and animal feeding stuffs.
- Further information about storage conditions: Protect from humidity and keep away from water.
- · 7.3 Specific end use(s) Brake fluid

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SECTION 8: Exposure controls/personal protection

· 8.1 Control parameters

• Components with limit values that require monitoring at the workplace:

The product does not contain any relevant quantities of materials with critical values that have to be monitored at the workplace.

126-73-8 tributyl phosphate	
WEL (Great Britain)	Short-term value: 5 mg/m ³
	Long-term value: 5 mg/m ³
OEL (Ireland)	Long-term value: 5 mg/m ³
• 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 Do not eat, drink or smoke while working. Take off all contaminated clothing immediately. Wash hands during breaks and at the end of the work. Avoid contact with the eyes and skin.
- 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.

Chloroprene rubber, CR Nitrile rubber, NBR PVC gloves

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.

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SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical µ	properties
General Information	
Colour:	purple
Odour:	Light
Odour threshold:	Not determined.
Melting point/freezing point:	< -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	Not applicable.
Lower:	Not determined.
Flash point:	> 150 °C (IP 35)
Auto-ignition temperature:	> 400 °C (ASTM D 286)
Decomposition temperature:	> 400 °C
SADT	
рН	Not determined.
Viscosity:	
Kinematic viscosity at 20 °C	35 - 50 mm²/s (ASTM D 445)
dynamic:	Not determined.
Solubility	
Water:	Not miscible or difficult to mix
Partition coefficient n-octanol/water (log value)	Not determined.
Vapour pressure at 20 °C:	< 2 hPa
	< 2 IIFd
Density and/or relative density	0.045 = 0.065 = a/am3 (DIN 51757)
Density at 20 °C	0.945 - 0.965 g/cm³ (DIN 51757)
9.2 Other information	
Appearance:	
Form:	Fluid
Important information on protection of health	
and environment, and on safety.	
Self-inflammability:	Product is not selfigniting.
Explosive properties:	Product is not explosive.
Solvent content:	0.0.9/
Organic solvents:	0.9 %
Change in condition	Net determined
Evaporation rate	Not determined.
Information with regard to physical hazard	
classes	
Explosives	Void
	VOID
Flammable gases	Void
Flammable gases Aerosols	Void
Flammable gases Aerosols Oxidising gases	Void Void
Flammable gases Aerosols Oxidising gases Gases under pressure	Void Void Void
Flammable gases Aerosols Oxidising gases Gases under pressure Flammable liquids	Void Void Void
Flammable gases Aerosols Oxidising gases Gases under pressure Flammable liquids Flammable solids	Void Void Void Void
Flammable gases Aerosols Oxidising gases Gases under pressure Flammable liquids	Void Void Void

ZF Friedrichshafen AG Löwentaler Straße 20, 88046 Friedrichshafen, Germany www.zf.com/contact (Contd. on page 6)



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· Pyrophoric solids	Void		
· Self-heating substances and mixtures	Void		
· Substances and mixtures, which emit flammable			
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 and stored according to specifications.

- 10.3 Possibility of hazardous reactions No dangerous reactions known
- 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. Strong acids and alkali
 Can attack paints and coatings as well as some platics and rubber.

• **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:			
126-73-8 tributyl phosphate			
Oral	LD50	1,552 mg/kg (Rat)	
Dermal	LD50	> 3,100 mg/kg (rabbit)	
Inhalative	LC50	> 4,242 mg/l/4h (Rat) (OECD 403)	
· Serious e	 Skin corrosion/irritation Long-term skin contact may cause skin irritation and/or dermatitis. Serious eye damage/irritation Splashes can cause temporary 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. 			

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

• *Reproductive toxicity* 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.

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• Additional toxicological information:

· Repeated dose toxicity

126-73-8 tributyl phosphate

Oral NOAEL (90d) 75 mg/kg bw/day (Rat) (EPA OTS 798.2650)

• 11.2 Information on other hazards

· Endocrine disrupting properties

None of the ingredients is listed.

SECTION 12: Ecological information

· 12.1 Toxicity

· Aquatic toxicity:		
126-73-8 tributyl phosphate		
EC50	12.8 mg/l/24h (Daphnia magna)	
EC50 (static)	1.3 mg/l/48h (Oryzias latipes)	
EC50	1.1 mg/l/72h (Desmodesmus subspicatus)	
 Other information: There are no data available about the preparation. Behaviour in environmental systems: Components: A product that has flown out can lead to the formation of a film on the water surface which reduces the oxygen exchange and results in the organisms dying-off. 12.3 Bioaccumulative potential Does not accumulate in organisms 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:

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 waste catalogue

16 00 00WASTES NOT OTHERWISE SPECIFIED IN THE LIST16 01 00end-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)



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16 01 13* brake fluids

· 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.

· 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 IMO 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 • Poisons Act

 Regulated explosives precursors 	
None of the ingredients is listed.	
· Regulated poisons	
None of the ingredients is listed.	
· Reportable explosives precursors	
None of the ingredients is listed.	
· Reportable poisons	
None of the ingredients is listed.	
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· 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.

· 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.

· Relevant phrases

H302 Harmful if swallowed. H315 Causes skin irritation. H351 Suspected of causing cancer.

· 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.

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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) 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 Skin Irrit. 2: Skin corrosion/irritation - Category 2 Carc. 2: Carcinogenicity - Category 2 * Data compared to the previous version altered. GB