Safety Data Sheet

according to GSO ISO 11014:2013

Mintex Brake fluid Dot 4LV

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

1.1. Product identifier

Mintex Brake fluid Dot 4LV

Product code:

MBFESP4-1000B

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

Use of the substance/mixture

Hydraulic (functional) fluids

1.3. Details of the supplier of the safety data sheet

Company name:	TMD Friction Services GmbH	
Street:	Schlebuscher Str. 99	
Place:	D-51381 Leverkusen	
Telephone:	+49 (2171)703-0	
e-mail:	serviceline@tmdfriction.com	
Contact person:	Hr. Beier	Telephone: +49 (2171)9113-7373
e-mail:	serviceline@tmdfriction.com	
Internet:	www.tmdfriction.com	

1.4. Emergency telephone number:

GIZ Bonn: +49 (0)228-19240 (24/7)

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

UN-GHS (ST/SG/AC.10/30/Rev.5)

Hazard categories:
Reproductive toxicity: Repr. 2
Hazard Statements:
Suspected of damaging fertility or the unborn child.

2.2. Label elements

UN-GHS (ST/SG/AC.10/30/Rev.5)

Hazard components for labelling

Tris[2-[2-(2-methoxyethoxy)ethoxy]ethyl] orthoborate
2-(2-methoxyethoxy)ethanol; diethylene glycol monomethyl ether

Signal word: Warning

Pictograms:

Hazard statements

H361	Suspected of damaging fertility or the unborn child.

Precautionary statements

P101	If medical advice is needed, have product container or label at hand.
P102	Keep out of reach of children.
P203	Obtain, read and follow all safety instructions before use.
P280	Wear protective gloves/protective clothing/eye protection/face protection.

P318	IF exposed or concerned, get medical advice.
P405	Store locked up.
P501	Dispose of waste according to applicable legislation.

2.3. Other hazards

This material is combustible, but will not ignite readily.

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 - < 55 %
	250-418-4			
	Repr. 2; H361			
143-22-6	2-[2-(2-butoxyethoxy)ethoxy]ethanol; TEGBE; triethylene glycol monobutylether; butoxytriethylene glycol			1 - < 5 %
	205-592-6	603-183-00-0		
	Eye Dam. 1; H318			
9004-77-7	Polyethylene glycol butyl ether			1 - < 5 %
	500-012-0			
	Eye Irrit. 2; H319			
111-77-3	2-(2-methoxyethoxy)ethanol; diethylene glycol monomethyl ether			1 - < 5 %
	203-906-6	603-107-00-6		
	Repr. 2; H361			

Further Information

Specific concentration limit (SCL):
CAS No. 143-22-6:
Serious eye damage, Category 1 H318: >= 30 %
Eye irritation, Category 2 H319: 20 - < 30 %

CAS No. 9004-77-7
Eye irritation, Category 2 H319: >= 20 %

SECTION 4: First aid measures

4.1. Description of first aid measures

General information

When in doubt or if symptoms are observed, get medical advice. Never give anything by mouth to an unconscious person or a person with cramps.

After inhalation

Provide fresh air. Call a doctor if you feel unwell.

After contact with skin

Wash with plenty of water. Immediately remove any contaminated clothing, shoes or stockings. In case of skin reactions, consult a physician.
Clean with detergents. Avoid solvent cleaners.

After contact with eyes

After contact with the eyes, rinse with water with the eyelids open for a sufficient length of time, then consult an ophthalmologist immediately. Remove contact lenses, if present and easy to do. Continue rinsing.

After ingestion

Rinse mouth immediately and drink plenty of water. Observe risk of aspiration if vomiting occurs. Do NOT induce vomiting. Immediately call a doctor.
After ingestion large scale (Manufacturer): Immediately call a doctor. Alcohol (40 %) 90 - 120 mL (2 Mg/kg bw)

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

No information available.

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

Water mist, alcohol resistant foam, Dry extinguishing powder, Carbon dioxide (CO2).
Co-ordinate fire-fighting measures to the fire surroundings.

Unsuitable extinguishing media

Full water jet

5.2. Special hazards arising from the substance or mixture

This material is combustible, but will not ignite readily.
In case of fire may be liberated: Carbon monoxide, Carbon dioxide (CO2), Pyrolysis products, toxic.

5.3. Advice for firefighters

In case of fire: Wear self-contained breathing apparatus. Full protection suit

Additional information

Suppress gases/vapours/mists with water spray jet. Use water spray jet to protect personnel and to cool endangered containers. 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

General measures

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

For non-emergency personnel

Use personal protection equipment.

For emergency responders

Use personal protection equipment.

6.2. Environmental precautions

Do not allow to enter into surface water or drains. Prevent spread over a wide area (e.g. by containment or oil barriers). In case of gas escape or of entry into waterways, soil or drains, inform the responsible authorities.

6.3. Methods and material for containment and cleaning up

For containment

Absorb with liquid-binding material (e.g. sand, diatomaceous earth, acid- or universal binding agents).

For cleaning up

Clean with detergents. Avoid solvent cleaners.

Other information

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

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

Advice on protection against fire and explosion

Usual measures for fire prevention.

Advice on general occupational hygiene

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, drink, smoke, sniff.

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 exhaustion at critical locations.

Hints on joint storage

Do not store together with: Acid, alkali (Base), Oxidising agent, Reducing agent.

Further information on storage conditions

storage temperature: 18 - 23 °C

7.3. Specific end use(s)

Hydraulic (functional) fluids

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

8.2. Exposure controls

Appropriate engineering controls

Provide adequate ventilation as well as local exhaustion at critical locations.

Individual protection measures, such as personal protective equipment

Eye/face protection

Wear eye protection/face protection. Eye glasses with side protection

Hand protection

Tested protective gloves must be worn
penetration time (maximum wearing period): > 480 min.
Suitable material: Butyl caoutchouc (butyl rubber)
Thickness of glove material: 0,3 mm
Suitable material: NBR (Nitrile rubber)
Thickness of glove material: 0,2 mm
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.

Skin protection

Use of protective clothing.

Respiratory protection

In case of inadequate ventilation wear respiratory protection.

Thermal hazards

No information available.

Environmental exposure controls

Do not allow to enter into surface water or drains.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state:	Liquid
Colour:	amber
Odour:	characteristic
Odour threshold:	not determined

Changes in the physical state

Melting point/freezing point:	< -50 °C
Boiling point or initial boiling point and boiling range:	> 260 °C
Flash point:	> 120 °C

Flammability

Solid/liquid:	> 280 °C
Gas:	not applicable

Explosive properties

The product is not: Explosive.

Lower explosion limits:	not determined
Upper explosion limits:	not determined
Auto-ignition temperature:	not determined

Self-ignition temperature

Solid:	not applicable
Gas:	not applicable
Decomposition temperature:	300 °C

Oxidizing properties

The product is not: oxidising.

pH-Value:	7 - 10,5
Viscosity / dynamic:	not determined
Viscosity / kinematic: (at 20 °C)	5 - 10 mm²/s
Water solubility:	miscible

Solubility in other solvents

not determined

Partition coefficient n-octanol/water:	1,5
Vapour pressure: (at 20 °C)	1,0 hPa
Density:	1,02 - 1,07 g/cm³
Relative vapour density:	not determined

9.2. Other information

Other safety characteristics

Evaporation rate: (n-butyl acetate=100) 0,01

Further Information

No information available.

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 hazardous reaction when handled and stored according to provisions.

10.4. Conditions to avoid

Keep away from heat.

10.5. Incompatible materials

Acid, alkali (Base), Oxidising agent, Reducing agent.

10.6. Hazardous decomposition products

In case of fire may be liberated: Carbon monoxide, Carbon dioxide (CO2), Pyrolysis products, toxic.

SECTION 11: Toxicological information

Information on Toxicological Effects

Acute toxicity

Based on available data, the classification criteria are not met.
Acute toxicity: no classification. May cause damage to kidneys through prolonged or repeated exposure in contact with skin. May cause damage to kidneys through prolonged or repeated exposure if swallowed.

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 fertility or the unborn child. (Tris[2-[2-(2-methoxyethoxy)ethoxy]ethyl] orthoborate; 2-(2-methoxyethoxy)ethanol; diethylene glycol monomethyl ether)
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.

Information on likely routes of exposure

oral, dermal, inhalative.

Practical experience

Acute toxicity: no classification.
Practical experience/human evidence:Absorption large scale (Manufacturer): May cause damage to organs. (kidneys)

depression of central nervous system, Gastrointestinal complaints, Headache, Vomiting.

11.2. Information on other hazards

Endocrine disrupting properties

No information available.

Other information

No information available.

SECTION 12: Ecological information

12.1. Toxicity

The product is not: Ecotoxic.

12.2. Persistence and degradability

Product is biodegradable. (OECD 302B)

12.3. Bioaccumulative potential

Based on the n-octanol/water partition coefficient accumulation in organisms is not expected. (<= 2)

12.4. Mobility in soil

Soluble in: Water. If product enters soil, it will be mobile and may contaminate groundwater.

12.5. Results of PBT and vPvB assessment

The substances in the mixture do not meet the PBT/vPvB criteria according to REACH, annex XIII.

12.6. Endocrine disrupting properties

No information available.

Further information

Avoid release to the environment.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Disposal recommendations

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

Contaminated packaging

Handle contaminated packages in the same way as the substance itself.

SECTION 14: Transport information

UN Recommendations on the Transport of Dangerous Goods - Model Regulations

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 information available.

14.7. Maritime transport in bulk according to IMO instruments

not applicable

SECTION 15: Regulatory information

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

National regulatory information

Additional information

Observe in addition any national regulations!

SECTION 16: Other information

Abbreviations and acronyms

ACGIH: American Conference of Governmental Industrial Hygienist
ATE: Acute toxicity estimate
BCF: Bio-concentration factor
CAS: Chemical Abstracts Service
DGR: Dangerous Goods Regulations
DNEL: Derived No Effect Level
DMEL: Derived Minimal Effect Level
PNEC: Predicted No Effect Concentration
EC50: Effective Concentration 50%
EL50: Effect loading, 50%
ErC50: Effective Concentration 50%, growth rate
GHS: Globally Harmonized System of Classification and Labelling of Chemicals
PBT: persistent, bioaccumulative, toxic
vPvB: very persistent, very bioaccumulative
IATA: International Air Transport Association
IBC: Intermediate Bulk Container
ICAO: International Civil Aviation Organization
IMDG: International Maritime Code for Dangerous Goods
LC50: Lethal concentration, 50%
LD50: Lethal dose, 50%
LL50: Lethal loading, 50%
MARPOL: International Convention for the Prevention of Marine Pollution from Ships
NOEC: No Observed Effect Concentration
OEL: Occupational Exposure Limit
PEL: Permissible Exposure Limit
REL: Recommended Exposure Limit
STEL: Short-Term Exposure Limit
TWA: Time weighted average
UN: United Nations

Further Information

The information is based on the present level of our knowledge. It does not, however, give assurance 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.)