Safety Data Sheet

according to Regulation (EC) No 1907/2006

JMC Bremsflüssigkeit DOT5.1

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

1.1. Product identifier

JMC Bremsflüssigkeit DOT5.1

UFI: 4T20-J3NW-YH0C-SRGA

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

Use of the substance/mixture

brake fluids

1.3. Details of the supplier of the safety data sheet

Manufacturer

Company name:	Johannes J. Matthies GmbH & Co. KG
Street:	Hammerbrookstr. 97
Place:	D-20097 Hamburg
Telephone:	+ 49 (0) 40 2 37 21-0
e-mail:	info@matthies.de
Internet:	www.matthies.de

Supplier

Company name:	Larsson UK Ltd.
Street:	7 Alpha Court, Phoenix Parkway
Place:	GB-NN17 5DP Corby
Telephone:	+ 44 1536 265633
e-mail:	info@larsson.uk.com
Internet:	www.larsson.uk.com

1.4. Emergency telephone number:

+ 44 1536 265633

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

P101	If medical advice is needed, have product container or label at hand.
P102	Keep out of reach of children.
P201	Obtain special instructions before use.
P280	Wear protective gloves.
P308+P313	IF exposed or concerned: Get medical advice/attention.
P405	Store locked up.
P501	Dispose of waste according to applicable legislation.

Special labelling of certain mixtures

EUH208	Contains Dihydro-3-(tetrapropenyl)furan-2,5-dione. May produce an allergic reaction.

2.3. Other hazards

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

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			< 90 %
	250-418-4		01-2119462824-33	
	Repr. 2; H361d			
26544-38-7	Dihydro-3-(tetrapropenyl)furan-2,5-dione			< 0,1 %
	247-781-6		01-2119979080-37	
	Eye Irrit. 2, Skin Sens. 1A, Aquatic Chronic 4; H319 H317 H413			

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

Specific Conc. Limits, M-factors and ATE

CAS No	EC No	Chemical name	Quantity
	Specific Conc. Limits, M-factors and ATE		
30989-05-0	250-418-4	Tris [2- [2- (2-methoxyethoxy) ethoxy] ethyl] orthoborate	< 90 %
	dermal: LD50 = > 2000 mg/kg; oral: LD50 = > 2000 mg/kg		
26544-38-7	247-781-6	Dihydro-3-(tetrapropenyl)furan-2,5-dione	< 0,1 %
	dermal: LD50 = 6200 - 7500 mg/kg; oral: LD50 = 2900 mg/kg		

SECTION 4: First aid measures

4.1. Description of first aid measures

General information

Remove affected person from the danger area and lay down. In case of accident or unwellness, seek medical advice immediately (show directions for use or safety data sheet if possible).

After inhalation

Provide fresh air. If breathing is irregular or stopped, administer artificial respiration. When in doubt or if symptoms are observed, get medical advice.

After contact with skin

Take off contaminated clothing. @1501.B150410 When in doubt or if symptoms are observed, get medical advice.

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. When in doubt or if symptoms are observed, get medical advice.

After ingestion

Rinse mouth immediately and drink plenty of water. Do NOT induce vomiting. Observe risk of aspiration if vomiting occurs. Immediately call a doctor.

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

Following inhalation: No information available.
Following skin contact: May cause an allergic skin reaction. erythema (redness).
After eye contact: Causes eye irritation. erythema (redness).
Following ingestion: Gastrointestinal complaints, Nausea, Vomiting.

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

Extinguishing powder. Water mist. Carbon dioxide. alcohol resistant foam.
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

Non-flammable. Heating causes rise in pressure with risk of bursting.
In case of fire may be liberated: Carbon dioxide (CO_2), Carbon monoxide, BOx, Pyrolysis products, toxic.

5.3. Advice for firefighters

Wear a self-contained breathing apparatus and chemical protective clothing. Full protection suit.

Additional information

Evacuate area. Use water spray jet to protect personnel and to cool endangered containers. 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

General measures

Remove persons to safety. Evacuate area. Do not breathe gas/vapour/aerosol. Avoid contact with skin, eyes and clothes.

For non-emergency personnel

Provide adequate ventilation. 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. 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

Stop leak if safe to do so. Prevent spread over a wide area (e.g. by containment or oil barriers).

For cleaning up

Absorb with liquid-binding material (sand, diatomaceous earth, acid- or universal binding agents).
Handling larger quantities: Collect spillage. Use explosion-proof electrical equipment.

Other information

Collect in closed and suitable containers for 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/fumes/vapour/spray. Use personal protection equipment. Obtain special instructions before use. Do not handle until all safety precautions have been read and understood.

Advice on protection against fire and explosion

Usual measures for fire prevention.

Further information on handling

Do not mix with: SECTION 10: Stability and reactivity (Incompatible materials).

7.2. Conditions for safe storage, including any incompatibilities

Requirements for storage rooms and vessels

Keep locked up. Store in a well-ventilated place. Store in a cool dry place. Keep container tightly closed. Keep/Store only in original container. Provide for retaining containers, e.g. floor pan without outflow.

Hints on joint storage

Do not store together with: Oxidizing agent., Strong acid, Strong alkali.

Further information on storage conditions

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

7.3. Specific end use(s)

brake fluids

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

8.2. Exposure controls

Appropriate engineering controls

If handled uncovered, arrangements with local exhaust ventilation have to be used.

Protective and hygiene measures

Remove contaminated, saturated clothing immediately. Wash contaminated clothing before reuse. Avoid contact with eyes and skin. Wash hands and face before breaks and after work and take a shower if necessary. When using do not eat, drink, smoke, sniff. Do not breathe gas/fumes/vapour/spray.

Eye/face protection

Wear eye/face protection. (DIN EN 166)

Hand protection

Handling larger quantities: Wear suitable gloves. (EN ISO 374)
Suitable material: NBR (Nitrile rubber)
Breakthrough time:: 480 min
Thickness of the glove material: > 0,3 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

Wear suitable protective clothing.

Thermal hazards: Wear suitable protective clothing.

Respiratory protection

Respiratory protection necessary at: insufficient ventilation, exceeding exposure limit values.(EN 140/ 136)
Filtering device with filter or ventilator filtering device of type: A (DIN EN 141)
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. (EN 137)

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:	not determined
Odour:	not determined
Odour threshold:	not determined
pH-Value:	7 - 10
Changes in the physical state	
Melting point:	< -50 °C
Boiling point or initial boiling point and boiling range:	> 260 °C
Flash point:	not determined
Flammability	
Solid/liquid:	not applicable
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:	not determined
Oxidizing properties	
Not oxidising.	
Vapour pressure:	not determined
Density (at 20 °C):	1,02 - 1,09 g/cm³
Water solubility:	not determined
Solubility in other solvents	
not determined	
Partition coefficient n-octanol/water:	not determined
Viscosity / dynamic:	not determined
Viscosity / kinematic: (at 20 °C)	15 mm²/s
Relative vapour density:	not determined
Evaporation rate:	not determined

9.2. Other 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 information available.

10.4. Conditions to avoid

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

10.5. Incompatible materials

Oxidizing agent., Strong acid, Strong alkali.

10.6. Hazardous decomposition products

In case of fire may be liberated: Carbon dioxide (CO_2), Carbon monoxide, BOx, Pyrolysis products, toxic.

SECTION 11: Toxicological information

11.1. Information on hazard classes as defined in Regulation (EC) No 1272/2008

Toxicocinetics, metabolism and distribution

No information available.

Acute toxicity

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

CAS No	Chemical name				
	Exposure route	Dose	Species	Source	Method
30989-05-0	Tris [2- [2- (2-methoxyethoxy) ethoxy] ethyl] orthoborate				
	oral	LD50 > 2000 mg/kg	Rat	Manufacturer	OECD 401
	dermal	LD50 > 2000 mg/kg	Rat	Manufacturer	OECD 402
26544-38-7	Dihydro-3-(tetrapropenyl)furan-2,5-dione				
	oral	LD50 2900 mg/kg	Rat	Manufacturer	
	dermal	LD50 6200 - 7500 mg/kg	Rabbit	Manufacturer	

Irritation and corrosivity

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

Sensitising effects

Contains Dihydro-3-(tetrapropenyl)furan-2,5-dione. May produce an allergic reaction.

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.

11.2. Information on other hazards

Other information

No information available.

SECTION 12: Ecological information

12.1. Toxicity

The product is not: Ecotoxic.

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	Oncorhynchus mykiss (Rainbow trout)	Manufacturer	OECD 203
	Acute algae toxicity	ErC50 mg/l	> 224,4	72 h	Pseudokirchneriella subcapitata	Manufacturer	OECD 201
	Acute crustacea toxicity	EC50 mg/l	> 211,2	48 h	Daphnia magna (Big water flea)	Manufacturer	OECD 202

12.2. Persistence and degradability

The product has not been tested.

CAS No	Chemical name			
	Method	Value	d	Source
	Evaluation			
26544-38-7	Dihydro-3-(tetrapropenyl)furan-2,5-dione			
	OECD 301D	9,9 %	28	Manufacturer
	Not readily biodegradable (according to OECD criteria)			

12.3. Bioaccumulative potential

The product has not been tested.

Partition coefficient n-octanol/water

CAS No	Chemical name	Log Pow
30989-05-0	Tris [2- [2- (2-methoxyethoxy) ethoxy] ethyl] orthoborate	-4,37
26544-38-7	Dihydro-3-(tetrapropenyl)furan-2,5-dione	>= 4,39

12.4. Mobility in soil

The product has not been tested.

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.

12.7. Other adverse effects

No information available.

Further information

Do not allow to enter into surface water or drains.

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.
The waste code has to be identified in agreement with the disposal company or the competent authority.

List of Wastes Code - contaminated packaging

150110 WASTE PACKAGING; ABSORBENTS, WIPING CLOTHS, FILTER MATERIALS AND PROTECTIVE CLOTHING NOT OTHERWISE SPECIFIED; packaging (including separately collected municipal packaging waste); packaging containing residues of or contaminated by hazardous substances; hazardous waste

Contaminated packaging

Hazardous waste according to Directive 2008/98/EC (waste framework directive). 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 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

EU regulatory information

Restrictions on use (REACH, annex XVII):

Entry 3

2010/75/EU (VOC):	< 100 %
Information according to 2012/18/EU (SEVESO III):	Not subject to 2012/18/EU (SEVESO III)

Additional information

2011/65/EU: Ingredient: none.

National regulatory information

Employment restrictions:	Observe restrictions to employment for juveniles 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 hazard class (D):	1 - slightly hazardous to water

15.2. Chemical safety assessment

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

SECTION 16: Other information

Abbreviations and acronyms

CLP: Classification, labelling and Packaging
REACH: Registration, Evaluation and Authorization of Chemicals
GHS: Globally Harmonised System of Classification, Labelling and Packaging of Chemicals
UN: United Nations
CAS: Chemical Abstracts Service
DNEL: Derived No Effect Level
DMEL: Derived Minimal Effect Level
PNEC: Predicted No Effect Concentration
ATE: Acute toxicity estimate
LC50: Lethal concentration, 50%
LD50: Lethal dose, 50%
LL50: Lethal loading, 50%
EL50: Effect loading, 50%
EC50: Effective Concentration 50%
ErC50: Effective Concentration 50%, growth rate
NOEC: No Observed Effect Concentration
BCF: Bio-concentration factor
PBT: persistent, bioaccumulative, toxic
vPvB: very persistent, very bioaccumulative
ADR: Accord européen sur le transport des marchandises dangereuses par Route
(European Agreement concerning the International Carriage of Dangerous Goods by Road)
RID: Regulations concerning the international carriage of dangerous goods by rail
ADN: European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways
(Accord européen relatif au transport international des marchandises dangereuses par voies de navigation intérieures)
IMDG: International Maritime Code for Dangerous Goods
EmS: Emergency Schedules
MFAG: Medical First Aid Guide
IATA: International Air Transport Association
ICAO: International Civil Aviation Organization
MARPOL: International Convention for the Prevention of Marine Pollution from Ships
IBC: Intermediate Bulk Container
VOC: Volatile Organic Compounds
SVHC: Substance of Very High Concern
For abbreviations and acronyms, see table at http://abbrev.esdscom.eu

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)

H317	May cause an allergic skin reaction.
H319	Causes serious eye irritation.
H361d	Suspected of damaging the unborn child.
H413	May cause long lasting harmful effects to aquatic life.
EUH208	Contains Dihydro-3-(tetrapropenyl)furan-2,5-dione. May produce an allergic reaction.

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.)