

**Safety Data Sheet**

according to Regulation (EC) No 1907/2006

**JMC Bremsflüssigkeit DOT4 Plus**

Revision date: 14.01.2022

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**SECTION 1: Identification of the substance/mixture and of the company/undertaking****1.1. Product identifier**

JMC Bremsflüssigkeit DOT4 Plus

UFI: T720-03U4-TH0W-5CDV

**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.

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**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.                                   |
| P202      | Do not handle until all safety precautions have been read and understood. |
| 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. When in doubt or if symptoms are observed, get medical advice.

**After inhalation**

Provide fresh air. If breathing is irregular or stopped, administer artificial respiration.

**After contact with skin**

Wash with plenty of soap and water.

The product is not: Irritant — skin irritation and eye damage (dermal).

**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. In case of eye irritation consult an ophthalmologist.

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**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**

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**

Extinguishing powder. Water spray jet. Carbon dioxide.

In case of major fire and large quantities: Water spray jet, 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.

In case of fire may be liberated: Carbon dioxide (CO<sub>2</sub>), Carbon monoxide, BO<sub>x</sub>, Pyrolysis products, toxic.

**5.3. Advice for firefighters**

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

**Additional information**

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**

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.

**6.3. Methods and material for containment and cleaning up****For containment**

Stop leak if safe to do so.

**For cleaning up**

Absorb with liquid-binding material (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**

Provide adequate ventilation. Vapours/aerosols must be exhausted directly at the point of origin. Use personal

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protection equipment.

**Advice on protection against fire and explosion**

Keep away from sources of ignition - No smoking.

**7.2. Conditions for safe storage, including any incompatibilities****Requirements for storage rooms and vessels**

Keep/Store only in original container. Keep container tightly closed.

**Hints on joint storage**

Do not store together with: Oxidizing agent., Alkali (lye). Acids.

**Further information on storage conditions**

Store in a cool dry place. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources.

No smoking. Protect from direct sunlight.

**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. 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**

Wear suitable gloves. (EN ISO 374)

Suitable material: NBR (Nitrile rubber)

Breakthrough time:: 480 min

Thickness of the glove material: &gt; 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.

**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)

**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

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|   |                               |
|---|-------------------------------|
| Colour:   | not determined                |
| Odour:  | not determined                |
| Odour threshold:  | not determined                |
| pH-Value (at 20 °C):                                      | 7 - 10,5                      |
| <b>Changes in the physical state</b>                      |                               |
| Melting point:  | < -50 °C                      |
| Boiling point or initial boiling point and boiling range: | > 260 °C                      |
| Flash point:  | not determined                |
| <b>Flammability</b>                                       |                               |
| Solid/liquid:   | not applicable                |
| Gas:  | not applicable                |
| <b>Explosive properties</b>                               |                               |
| The product is not: Explosive.                            |                               |
| Lower explosion limits:                                   | not determined                |
| Upper explosion limits:                                   | not determined                |
| Auto-ignition temperature:                                | not determined                |
| <b>Self-ignition temperature</b>                          |                               |
| Solid:  | not applicable                |
| Gas:  | not applicable                |
| Decomposition temperature:                                | not determined                |
| <b>Oxidizing properties</b>                               |                               |
| Not oxidising.  |                               |
| Vapour pressure:  | not determined                |
| Density (at 20 °C):                                       | 1,02 - 1,09 g/cm <sup>3</sup> |
| Water solubility:   | completely miscible           |
| <b>Solubility in other solvents</b>                       |                               |
| not determined  |                               |
| Partition coefficient n-octanol/water:                    | not determined                |
| Viscosity / dynamic:                                      | not determined                |
| Viscosity / kinematic:<br>(at 20 °C)                      | 15 mm <sup>2</sup> /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 information available.

**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**

Protect from direct sunlight. Keep away from heat.

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**10.5. Incompatible materials**

Oxidizing agent., Alkali (lye). Acids.

**10.6. Hazardous decomposition products**In case of fire may be liberated: Carbon dioxide (CO<sub>2</sub>), Carbon monoxide, BOx, Pyrolysis products, toxic.**SECTION 11: Toxicological information****11.1. Information on hazard classes as defined in Regulation (EC) No 1272/2008****Toxicokinetics, 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.

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| 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 > 222,2 mg/l  | 96 h      | Oncorhynchus mykiss (Rainbow trout) | Manufacturer | OECD 203 |
|            | Acute algae toxicity                                      | ErC50 > 224,4 mg/l | 72 h      | Pseudokirchneriella subcapitata     | Manufacturer | OECD 201 |
|            | Acute crustacea toxicity                                  | EC50 > 211,2 mg/l  | 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.

**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**

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

Recommended material: Water (with cleaning agent)

**SECTION 14: Transport information****Land transport (ADR/RID)**

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|  |  |
|--|--|
| <b>14.1. UN number:</b>                  | No dangerous good in sense of this transport regulation. |
| <b>14.2. UN proper shipping name:</b>    | No dangerous good in sense of this transport regulation. |
| <b>14.3. Transport hazard class(es):</b> | No dangerous good in sense of this transport regulation. |
| <b>14.4. Packing group:</b>              | No dangerous good in sense of this transport regulation. |

**Inland waterways transport (ADN)**

|  |  |
|--|--|
| <b>14.1. UN number:</b>                  | No dangerous good in sense of this transport regulation. |
| <b>14.2. UN proper shipping name:</b>    | No dangerous good in sense of this transport regulation. |
| <b>14.3. Transport hazard class(es):</b> | No dangerous good in sense of this transport regulation. |
| <b>14.4. Packing group:</b>              | No dangerous good in sense of this transport regulation. |

**Marine transport (IMDG)**

|  |  |
|--|--|
| <b>14.1. UN number:</b>                  | No dangerous good in sense of this transport regulation. |
| <b>14.2. UN proper shipping name:</b>    | No dangerous good in sense of this transport regulation. |
| <b>14.3. Transport hazard class(es):</b> | No dangerous good in sense of this transport regulation. |
| <b>14.4. Packing group:</b>              | No dangerous good in sense of this transport regulation. |

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

|  |  |
|--|--|
| <b>14.1. UN number:</b>                  | No dangerous good in sense of this transport regulation. |
| <b>14.2. UN proper shipping name:</b>    | No dangerous good in sense of this transport regulation. |
| <b>14.3. Transport hazard class(es):</b> | No dangerous good in sense of this transport regulation. |
| <b>14.4. Packing group:</b>              | 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): &lt; 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

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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.)*